INDEX

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during a year 2018-19					
Sr. No	**Name of the teacher**	**Title of the book/chapters published**	**Title of the paper**	**Title of the proceedings of the conference**	**Name of the conference**
1	Chandrakant L Prabhune	Lecture Notes in Mechanical Engineering. Springer, Singapore.	Development of 12 Channel Temperature Acquisition System for Heat Exchanger Using MAX6675 and Arduino Interface	NA	Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018). Singapore.
2	Parmeshwar P Ritapure,	TRIBOINDIA-2018, SSRN	Effect of Graphite Addition on Mechanical Properties and Elevated Temperature Tribological Behaviour of Aluminium.Zinc Alloy	Proceedings of TRIBOINDIA-2018 An International Conference on Tribology	International Conference on Tribology, TRIBOINDIA-2018 organized by VJTI Mumbai and Tribology society of India
3	Ajit M. Kate	NA	Design and Implementation of Ecofriendly vehicle and its Impact on Environment	Proceedings of the International Conference on Communication and Electronics Systems (ICCES 2018)	International Conference on Communication and Electronics Systems

Head of Department

Dept of Mechanical Engineering
ZES's Zeal College of Engineering & Research Pune-41

Head of Department
Dept. of Mechanical Engineering
ZES's Zeal College of Engineering & Research, Pune-411041

Lecture Notes in Mechanical Engineering

U. Chandrasekhar
Lung-Jieh Yang
S. Gowthaman *Editors*

Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018)

Volume 1

Springer

Development of 12 Channel Temperature Acquisition System for Heat Exchanger Using MAX6675 and Arduino Interface

Sandeep P. Nalavade, Abhishek D. Patange, Chandrakant L. Prabhune, Sharad S. Mulik and Mahesh S. Shewale

1 Introduction

A temperature acquisition performs a significant role in analyzing the performance of heat exchanger equipment used widely in chemical process industry, refrigeration, and air conditioning, etc. [1, 2]. The performance of this heat exchanger device solely depends upon the accurate measurement of temperature of working fluids as well as temperature of surface wall. The rate of heat transfer can be expressed by taking the difference between inlet and exit temperature of working fluid, whereas the heat transfer coefficient and Nusselt number correlate to the difference between surface wall temperature and mean bulk fluid temperature. Also, profile of surface wall temperature between inlet and exit section can be plotted axially [3–5]. Commercial stand-alone data loggers are expensive and are mostly inflexible for adapting in academic research projects and are not tethered to a computer to acquire real-time data [6]. To overcome these limitations, we describe in-house design, development, calibration, and implementation of a 12-channel temperature acquisition system using MAX6675 and Arduino Mega 2560 microcontroller.

S. P. Nalavade
Dr. D. Y. Patil Institute of Technology, Pimpri, Pune, India

A. D. Patange (✉)
Vellore Institute of Technology, Chennai, India
e-mail: abhipatange93@gmail.com

C. L. Prabhune
Zeal College of Engineering & Research, Pune, India

S. S. Mulik
G. H. Raisoni College of Engineering & Management, Pune, India

M. S. Shewale
IUPUI, Indianapolis, IN, USA

U. Chandrasekhar et al. (eds.), *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering (I-DAD 2018)*, Lecture Notes in Mechanical Engineering, https://doi.org/10.1007/978-981-13-2697-4_13

Search Results
TRIBOINDIA-2018 An International Conference on Tribology (Archive)

Sort by: Date Posted, Descending

Viewing: 1 - 50 of 88 papers

1. Life Prediction of Bearing by Using Adaboost Regressor (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3398399)

Proceedings of TRIBOINDIA-2018 An International Conference on Tribology

Number of pages: 8

Posted: 09 Jun 2019

Working Paper Series

Sangram Patil (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=2899468), Aum Patil (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3558083) and Vikas M. Phalle (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=2899392)

Veermata Jijabai Technological Institute (VJTI), Students, Veermata Jijabai Technological Institute (VJTI) and Veermata Jijabai Technological Institute (VJTI) - Department of Mechanical Engineering

Downloads:
103

2. Fault Diagnosis of Bevel Gear by Using Random Forest and Adaptive Boosting Technique (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3398702)

Proceedings of TRIBOINDIA-2018 An International Conference on Tribology

Number of pages: 4

Posted: 06 Jun 2019

Working Paper Series

Vishwadeep Handikherkar (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=2899478) and Vikas M. Phalle (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=2899392)

Veermata Jijabai Technological Institute (VJTI), Mechanical Engineering Department and Veermata Jijabai Technological Institute (VJTI) - Department of Mechanical Engineering

Downloads:
12

31. Air – Oil Lubrication for Work Roll Bearing to Optimise Mills Breakdown (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3331445)

Proceedings of TRIBOINDIA-2018 An International Conference on Tribology

Number of pages: 5

Posted: 15 Feb 2019

Working Paper Series

Chiranjan Mandal (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365413), N Mondal (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365414), P Sahana (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365416), Rakesh . (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365418) and R Prasad (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365420)

R&D Centre for Iron & Steel, EM&T, R&D Centre for Iron & Steel, EM&T, Doranda, Ranchi-834002, R&D Centre for Iron & Steel, EM&T, Doranda, Ranchi-834002, R&D Centre for Iron & Steel, EM&T, Doranda, Ranchi-834002 and Bokaro Steel Plant

Downloads:
162

32. Centrifugal Slurry Pump Performance and Wear Study- A Critical Review (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3331441)

Proceedings of TRIBOINDIA-2018 An International Conference on Tribology

Number of pages: 6

Posted: 14 Feb 2019

Working Paper Series

Mohit Makwana (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365404) and Dr.B.M. Sutaria (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3365406)

Mechanical Engineering Department, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat-395007, India and Mechanical Engineering Department, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat-395007, India

Downloads:
210

33. Effect of Graphite Addition on Mechanical Properties and Elevated Temperature Tribological Behaviour of Aluminium Zinc Alloy (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3332400)

Proceedings of TRIBOINDIA-2018 An International Conference on Tribology

Number of pages: 9

Posted: 12 Feb 2019

Working Paper Series

Parmeshwar Ritapure (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3336393) and Dr. Y. R. Kharde (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3367784)

Amrutvahini College of Engineering (AVCOE) and Mechanical Engineering, PREC Loni, Ahmednagar(MH), 413736, India

Downloads:
50

34. Condition Based Maintenance Program for Combined Cycle Power Plant (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3331440)

Proceedings of TRIBOINDIA-2018 An International Conference on Tribology

Number of pages: 7

Posted: 11 Feb 2019

Working Paper Series

Swarup Paul (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=3338568)

Department of Production Engineering. NIT Agartala, Tripura 799046, India

Downloads:
151

An International Conference on Tribology,
TRIBOINDIA-2018
13th -15th December 2018, VJTI, Mumbai, India

Effect of Graphite Addition on Mechanical Properties and Elevated Temperature Tribological Behaviour of Aluminium Zinc Alloy

P. P. Ritapure[a], Dr. Y. R. Kharde[b]

[a]Research Scholar, AVCOE Sangamner (MH), 422605, India
[b]Professor, Mechanical Engineering, PREC Loni, Ahmednagar(MH), 413736, India
[a]Faculty, Mechanical Engineering, ZCOER, Pune (MH), 411041, India

A B S T R A C T

The objective of this experimental work was to study the sliding wear behavior of aluminum-zinc alloy based metal matrix composite (MMC) reinforced with the varying weight percentage of graphite particulate (1, 3 and 5wt%). The composites were manufactured using stir casting technique. The sliding wear studies of the fabricated composites have been conducted as per Taguchi's L_{27} orthogonal arrays at different sliding speed (1.05-3.14 m/s), applied Pressure (0.37-1.14MPa), temperatures (30-90^{0}C) and fixed sliding distance (2000m) using a pin on disc tribometer. The microstructure examination of the worn out surfaces of composites specimens was carried out using a scanning electron microscope (SEM). As wear is a complicated phenomenon, an artificial neural network (ANN) technique was used for better prediction of the wear behavior of composites. The analysis of variance (ANOVA) and signal to noise ratio indicate that the temperature is most responsible control factor for the wear loss of composite specimen, followed by the load, speed and reinforcement. The minimum wear was observed for the composite with 3% reinforcement of graphite and least value of temperature, load, sliding speed. The correlation between response and control factor is obtained by multiple regression analysis using MINITAB software. The experimental wear results are matches with the wear results obtained from predictive Taguchi's model and ANN model. Less worn out surface and shallow grooves were observed in the composites with 3% reinforcement of graphite.

Keywords: Composite, Stir casting, Scanning electron microscope, artificial neural network, MINITAB, Sliding wear, Taguchi orthogonal array

1. Introduction

Zinc Aluminium alloy based metal matrix composites are currently finding improved utility in many engineering applications such as engine bearing, cylinder liners, piston and piston rings due to their potential benefits over monolithic alloys [16-30]. Zinc aluminium (ZA) alloys were found to be superior bearing materials as compared with traditional materials such as bronze, cast iron, SAE 660 and steel as far as their high resistance to wear, high tensile and fatigue strength, high load carrying capacity and hardness, low coefficient of friction, low density, low cost and high resistance to corrosion concerned [1-8]. These unique properties enabled ZA alloys as an excellent tribo-material. However, (Temel & Ali, 2004) observed that ZA alloys suffer from dimensional instability and lower ductility [5]. Also, the elevated temperature properties of ZA alloys are unsatisfactory hence their broader applications are limited [9, 26-27]. These drawbacks of ZA alloys were reduced by replacing zinc with aluminium [11-15], by reinforcement to the alloy. The Al-40Zn-3Cu and Al-40Zn-3Cu-2.5Si alloy shown almost same wear resistance and strength of the ZA alloy, but their elongation to fracture was observed much higher than the ZA alloy [13-15]. (Osman & Savaskan, 2010) found that the Al-25Zn-3Cu alloy was more stable than the ZA alloy [13]. (Temel, Osman & Yasin, 2009) found that the Al-25Zn alloy has the highest tensile strength, hardness and wear resistance among all the aluminium based binary alloy. Tribological and mechanical properties of ZA alloys were enriched by reinforcement of SiC [18, 20], Al_2O_3[27], glass fiber [17, 21],

Proceedings of the International Conference on Communication and Electronics Systems (ICCES 2018)
IEEE Xplore Part Number:CFP18AWO-ART; ISBN:978-1-5386-4765-3

Design and Implementation of Ecofriendly vehicle and its Impact on Environment

Prashant Kumar[1], Dr. Sanjay A. Deokar[2], Dr.Ajit M. Kate[3]
[1, 2]Department of Electrical Engineering
[3]Department of Mechanical Engineering
[1, 2, 3]Zeal College of Engineering and Research
Pune, India
Prashant2685@gmail.com

***Abstract*—Wheel has been one of the greatest inventions in human civilization. It's said that life run on wheels as today automobiles are an important part in running the world. As technology has advanced the two wheelers and four wheelers have become an easy mode of transportation for every household. Due to this, fuel consumption has increased beyond its limit usage and we are facing a situation where we have to think about the sustainability of our future generation. These wheels need to run on energy source other than the conventional fuels. Solar energy is greater source of non-renewable energy. We can harness the solar energy to run the vehicles. In this paper our main objective is to create a prototype of a solar based vehicle which is a tricycle. The solar vehicle can be a cost effective and environment friendly solution for daily usage of mode of transportation. The prototype consists of a charge controller, solar panel, DC hub motor and battery.**

Keywords— batter; controller; hub motor; renewable energy; tricycle

I. INTRODUCTION

The solar vehicle designed in this paper has an objective to be used as a public vehicle. Photovoltaic cells are the single source of energy for the solar vehicle. The photovoltaic cells convert solar energy into electrical energy. The electrical energy is then used to drive motor of vehicle. The battery in this vehicle is used as backup energy source.

In this project we are using following components [1-5].

1. Solar panel
2. Batteries
3. Charge controller
4. Hub motor

II. CONSTRUCTION AND DESCRIPTION OF COMPONENTS

These are the components which are used to design a solar vehicle

1. Solar panel
2. Hub motor
3. Batteries
4. Charge Controller
5. Driver

1. Solar Panel

Solar panel uses light energy (photons) from sun to generate electricity through the photovoltaic effect. Electrical connections are made in series to achieve desired output voltage. It is also connected in parallel to achieve the rated current capacity of panel. Solar power generates electricity which is used to charge the batteries. The energy from sunlight is absorbed by the solar panel. The solar panel has an array of solar cells which convert the absorbed energy to electrical energy by the phenomenon of photovoltaic effect. [4-5],[6-9].

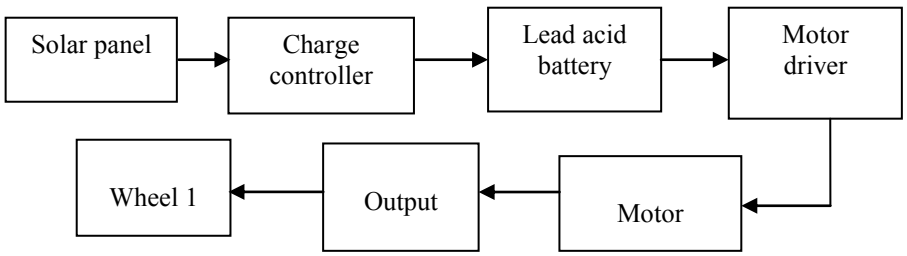


Fig.1. Block diagram

INDEX

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during a year 2018-19

Sr. No	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference
1	Dr. S.A.Ubale		Block Level Design For Secure Data Sharing In Cloud Computing	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
2	Prof. Rahul Bhole		A Study of Apache Kafka in Big Data Stream Processing	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
3	Prof. Amar Chadchankar		Cloud Computing based Television System	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
4	Prof. Sneha Vanjari		Efficient Exploration of Algorithm in scholorly Big data	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
5	Prof. Pranalini Joshi		Generation of Brand/Product Reputation Using Twitter Data	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology

6	Prof. Shital Bachpalle		Integration of Sensors for Location Tracking using Internet of Things	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
7	Prof.Amruta Vikas Patil		Search Engine Optimization Technique Importance	2018 IEEE Global Conference on Wireless Computing and Networking (GCWCN)	International Conference on Information, Communication, Engineering and Technology
8	Prof.Amruta Vikas Patil		SEO: On-Page + Off-Page Analysis	2018 International Conference on Information, Communication, Engineering and Technology (ICICET)	International Conference on Information, Communication, Engineering and Technology

ZES's Zeal College of Engineering & Research, Dept. of Information Technology, Narhe, Pune-41

HOD
Dept. of Information Tech. Engg.
ZES's Zeal College
of Engineering & Research,
Narhe, Pune - 411 041

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Block Level Design for Secure Data Sharing in Cloud Computing

Dr. Ubale Swapnaja
Dept. of Information Technology
ZCOER, Pune
swapnaja.ubale@zealeducation.com

Ghadge Mayuri B.
Dept. of Computer Engineering
ZCOER, Pune
mkadlag88@gmail.com

Dr. Apte Sulabha S.
Dept. of Computer Engineering
SVERI's college of Engineering,
Pandharpur

***Abstract*—The approach of the dispersed registering makes ac- cumulating outsourcing transform into an extending design, which progresses the ensured remote data looking at a principal subject that appeared in the examination composing. The existing framework is utilizing the ensured (secure) recompense channel for information sharing. This execution is troublesome for training. All things considered, the current framework is experiencing conspiracy assault and uncertain key dissemination with a solitary cloud. There is no confirmation of the information privacy and openness. In the proposed framework block level data sharing in dynamic groups. The System is proposing a sheltered path for key dispersion without utilizing any secured correspondence channels and the client can securely get their private keys cloud server supplier utilizing KASE ideas .In this paper as proposed framework we utilize the symmetric adjusted fragmented piece plan (SBIBD),we display a novel square outline based key understanding convention that backings different members, which can adaptably broaden the quantity of members in a cloud situation as indicated by the structure of the square plan.**

***Index Terms*—Key Updating Protocol, Symmetric Balanced Incomplete Block Design (SBIBD), Dynamic Group Sharing, Key-Aggregate Searchable Encryption(KASE).**

I. INTRODUCTION

In the current past with the coming of quick systems administration advancements, there has a significant increment in the speed of the Internet and the level of network. Moreover, with the advancement in internet applications, for example, video conferencing, online joint workspaces, a mass talk, multi-client recreations and online interpersonal interaction applications, various potential outcomes for assemble interchanges have been made. Gathering members share basic interests and offer the duty of secure gathering correspondence.

In recent decades cloud computing and cloud storage has become popular. Each unit ever-changing the tactic which tend to measure and greatly improve. Now due to limited number of storage resources and need of easy to get and use of storage space, people prefer to store all kinds of knowledge in cloud servers, that's in addition more suitable for corporations and organizations to keep away from overhead of deploying and maintaining instrumentation use when data unit hold on domestically. The cloud server provides easily accessible storage space. That fitting well with need of person or group of person working together. Public storage facilities are easy to get. Data stored on public cloud may contain some valuable information so it need to protected.

A cloud system is also suffer from attacks by every malicious users and cloud service provider. Data sharing in cloud computing can provide flexible way of information exchange. Also provide greatest level of storage and computational resources to individuals and enterprises. Cloud computing also intimate many security and privacy features, such as data consistency, accuracy, authorized access, trustworthy, continue operating in event of same failure and like so. In is necessary to confirm the safety of the keep information within the cloud. Key agreement protocol is the basic cryptography element, which can provide secure communication among multiple participants in cloud environment. In cryptography, a key agreement protocol is protocol within which 2 or a lot of parties will agree on a key in such the simplest way that each influences the end result. By using the key agreement protocol, the participants of communication will firmly send and receive messages from one another. They agree upon common conference key share between them. Specifically, a secure key agreement protocol is wide utilized in interactive communication environments with high security needs.

A. Motivation

A cloud system may be suffer from attacks from both malicious users and cloud service provider. It is necessary to protect the stored data in the cloud. Which may contain some sensitive information. Several schemes were used to protect the outsourced data. But these schemes only provide protection to application consist of single data owner. In some applications, multiple data owners are involve. They share their data in a group manner. They wish secure communication between them. Therefore, a protocol that supports secure group data sharing under cloud computing is needed. Propose a scheme that provides the security, data sharing in dynamic group and data can access the from dynamic group. To calculated the fault tolerances and fault detection of user side if hacker hack any file of owner tolerance level increases.

B. Objective

1) To detected the fake user from application.
2) Data are divided into block level from user data.
3) Data security.
4) Achieve fault tolerance.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

II. REVIEW OF LITERATURE

Information partaking in distributed computing enables numerous members to unreservedly share the gathering information, that enhances the power of work in helpful situations and has across the board potential applications. Be that as it may, an approach to ensure the security of information sharing inside and share the outsourced learning in an exceedingly assemble way square measure impressive difficulties. Note that key assertion conventions have contended an extremely important part in secure and practical gathering information partaking in distributed computing. By exploiting the symmetric adjusted fragmented square style (SBIBD), introduce a novel piece configuration based key assertion convention that backings numerous members, which may adaptability broaden the amount of members in an exceedingly cloud surroundings the structure of the piece outline[1].

Hybrid cloud is broadly utilized cloud design in huge organizations that can outsource information public cloud, while as yet supporting different customers like cell phones. Be that as it may, such open cloud information outsourcing raises genuine security concerns, for example, how to safeguard information privacy and how to manage get to strategies to the information put away out in the open cloud. Hybrid cloud design that backings information sharing safely and effectively, even with asset restricted gadgets, where private cloud fills in as an entryway between people in general cloud and the information client. Under such engineering, propose an enhanced development of quality based encryption that has the capacity of appointing encryption/decoding calculation, which accomplishes adaptable services in cloud and protection safeguarding in information use even with cell phones. Broad investigations demonstrate the plan can additionally diminish the computational cost and space overhead at the client side, which is very proficient for the client with constrained cell phones. During the time spent assigning the majority of the encryption/unscrambling calculation to private cloud, the client can not reveal any data to the private cloud. An attribute-based encryption technique is used, which provides flexible access control in the cloud and privacy-preserving in data utilization. This scheme is able to resist some attacks between private cloud and data user by employing anonymous key agreement but in this approach only AES algorithms is applied on the data[2].

Authentication and key foundation are basic building hinders for securing electronic correspondence. Cryptographic calculation for encryption and respectability can't play out their capacity unless secure keys have been set up and the clients know which parties offer such keys. It is fundamental that conventions for giving and key foundation are fit for their motivation. Proposes another and productive key foundation convention in asymmetric (public key) setting that depends on two pass key assertion convention which comprises of three stages; Transfer Phase and Verification Phase and Key Generation Phase. This convention is solid against potential attacks with low unpredictability, likewise it give confirmation between the two elements previously trading the session key. It serves the authentication process between two parties before exchanging the session keys. Data integrity cannot be performed and user know which parties share such keys[3]. With the quick advancement of distributed computing, distributed storage has been acknowledged by an expanding number of associations and people, in that filling in as a helpful and on-request outsourcing application. Notwithstanding, after losing nearby control of information, it turns into a pressing requirement for clients to check whether cloud specialist co-ops have put away their information safely. Thus, numerous analysts have dedicated themselves to the outline of reviewing conventions coordinated at outsourced information. Propose a proficient open evaluating convention with worldwide and examining square less confirmation and in addition group inspecting, where information flow are considerably more productively bolstered than is the situation with the cutting edge. Note that the novel dynamic structure in our convention comprises of a doubly connected information table and an area exhibit. In addition, with such a structure computational and correspondence overheads can be diminished generously. In addition, numerical examination and genuine trial comes about show that the proposed convention accomplishes a given effectiveness in practice. Efficient public auditing protocol with global and sampling block less verification and batch auditing, but using this scheme only structured data can be stored on the dynamic group[4].

Capacity cloud information stockpiling has given huge advantages by enabling clients to store monstrous measure of information on request in a financially savy way. To secure the information store on cloud, cryptographic role based access control plans have been created to guarantee that information must be gotten to by the individuals who are permitted by get to agreements. These cryptographic methodologies don't address the issues of trust. The trust models give a way to deal with the proprietors and parts to decide the reliability of individual parts and clients separately in the RBAC framework. The proposed trust models consider part legacy[5].

Clients dither to submit negative criticism in notoriety frameworks because of the dread of striking back from the beneficiary client. A security safeguarding notoriety convention ensures clients by concealing their individual input and uncovering just the notoriety score. Introduce a protection saving notoriety convention for the malevolent ill-disposed model. The malevolent clients in this model effectively endeavor to take in the private input estimations of legitimate clients and also to disturb the convention. Our convention does not require concentrated substances, trusted outsiders, or particular stages, for example, unknown systems and put stock in equipment. Also, our convention is proficient. It requires a trade of messages, where and are the quantity of clients in the convention and the earth, individually [6].

Provable information possession (PDP) guaranty the confidentiality of information outsource over cloud. Proficient PDP plot for conveyed data stockpiling help the versatility of management and information handling. Agreeable PDP (CPDP) conspires in light of homomorphism confirmable reaction and hash list chain of command. Security with respect to multi-saying zero learning verification framework which can fulfill culmination, information soundness and zero-information properties [7].

Provable data possession technique provide integrity of data outsource over cloud services. Cooperative verifiable data possession in hybrid clouds handle scaling of services and data movement, in which existence of multiple data service providers which cooperatively store up and sustain the clients data. For verification of this method requires a small, constant amount of overhead, so minimum communication complication[8].

Multiple-replica attestable data possession scheme that enables a client authenticate through challenge response. Each distinct replica is generated at challenge. Storage system stored single replica storage space t times. MRPDP extends data ownership proofs scheme. Handle a file in distributed client/data server storage.MR-PDP to stored t replicas. Single-replica PDP format with single replica store t replicas separately in dissimilar files. So MR-PDP is efficient and less complex. It also generates further replicas on requirement with very small expense when some of the necessary replicas are fails[9].

III. SYSTEM OVERVIEW/SYSTEM ARCHITECTURE

In Block level Design there are many important roles in application such as the user which register with dynamic group and search the data and data owner upload the data with group while uploading cloud server provider double encryption and data are divided into different block and that block are divided by size of file.

A. Proposed system Architecture

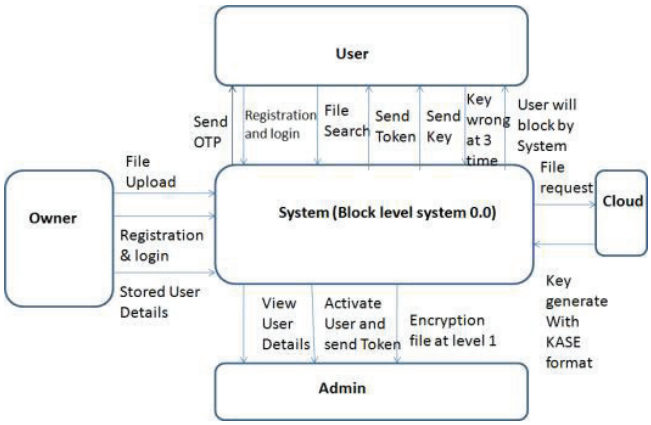


Fig. 1. System Architecture

Consist of

1) Data Owner: Owner responsible to upload the Data in Dynamic Group. And Check the set the value of Fault Tolerances and Detect the User.
2) User: User Search the Data from application in dynamic Group.
3) Admin: Admin activated the user and applied the Encryption at content level.
4) Cloud Server Provider: CSP Applied the KASE concept and applied the Encryption at second level (File Level).

B. Implementation Status

User enters in application by registration and login. Then admin activate the user and give the specific token. After entering the token user can login successfully. After login user search the owner file and cloud services provider give the key in format of KASE. If user enter the wrong key then level of fault tolerances is increases and if level goes up to 3 then owner knows the user information and if owner block that user then after words user can be blocked from particular owner or system so the user will not able to get file of particular owner. Therefore, system ensures security constraints. When the data owner upload the data from cloud then that file goes to admin, then admin check the data and done the first level encryption and generated the key and that encryption file send to the cloud server provider, CSP get the File and key and done the seconds level encryption.

C. Advantages of Proposed System

1) Fault Detection from user side.
2) Fault Tolerances acheive. Fault tolerance value set by Data Owner.
3) Provide two level securities.
4) Decreases the Complexity of hacking the Data from Cloud.
5) Provide secure data sharing using two level encryption.

D. Software Requirements and Specification

- Operating system: Window 7
- Coding Language : Java (Jdk 1.7)
- Platform : Eclipse
- Server : Apache tomcat 7
- Database :MYSQL 5

Operating system use are window 7,8,10. The Language used to implementation is java which required the JDK (Java SE Development kit). JDK have many version such as the 1.2, 1.3 and up to 1.7. Platform which used for JDK is eclipse. To run the code in eclipse required the server as the Apache tomcat 7.Data base used as the MYSQL version 5.

IV. MATHEMATICAL MODEL

Let us consider S= (DO,U,A,C,S1,G,DG,D,FT)Where Do,U,A,C,S1,G,DG,D,FT are the element of the Set

1) Do=Data Owner
2) U= User
3) A=Admin
4) C=Cloud Server provider
5) S1=Search File
6) G=Get Key from user
7) DG= Dynamic Group
8) D=Download the File using key
9) FT=Fault Tolerances

Do Upload the Data in DG.

Admin activated the user and Encryption at level.

FT value are decided by the Data Owner.

V. ALGORITHMS

A. Generation of a (v,k+1,1) design

To support a group data sharing scheme for Multiple participants apply an SBIBD. Our system design an algorithms to construct the (v,k+1,1) design to establish the group data sharing model for v participants can perform the key agreements protocol. In this v denote number of participants and number of block. Every block consist of k+1 participants and every participants appears k+1 time in these block.

Algorithm:

$$fori = 0; i <= k; i++do \quad (1)$$

$$forj = 0; j <= k; j++do \quad (2)$$

$$if\, j == 0 then \quad (3)$$

$$B(i, j) = 0; else \quad (4)$$

$$B(i, j) = ik + j; \quad (5)$$

$$endif \quad (6)$$

$$endfor \quad (7)$$

$$endfor \quad (8)$$

$$fori = k + 1; i <= (k^2) + k; i++do \quad (9)$$

$$forj = 0; j <= k; j++do \quad (10)$$

$$if\, j == 0 then \quad (11)$$

$$B(i, j) = [(i - 1)/k] \quad (12)$$

$$Else \quad (13)$$

$$B(i, j) = jk + 1 + MODk((i - j + (j - 1)[(i - 1)/k]) \quad (14)$$

$$Endif \quad (15)$$

$$Endf\, or \quad (16)$$

$$Endf\, or \quad (17)$$

B. The Reconstruction of Block:

The structure B of the (v; k + 1; 1)- design is constructed for v participants, should have the property that each block Bi embraces participant i. Here, Bi is the ith block of the structure of the (v; k + 1; 1)-design, and the order of the appearance of these v blocks is represented by i. If the structure B constructed by above algorithm does not have the required property then some transformations of the structure of B are needed. Reconstruction algorithm can be employed to accomplish the re-construction of B to E after the structure of B is created by Generation of(v, k+1, 1)design.

Algorithm:

$$E(0) = B(0); \quad (18)$$

$$Fort = 1; t <= k; t++do \quad (19)$$

$$E(t) = B(tk + 1) \quad (20)$$

$$B(tk + 1)[Flag] = 1; \quad (21)$$

$$E(Et, 1) = B([Et, t - 1/k]) \quad (22)$$

$$B(tk + 1)[flag] = 1 \quad (23)$$

$$Endfor \quad (24)$$

$$Fori = k + 1; i <= k^2 + k; i++do \quad (25)$$

$$IfB(i)[Flag] != 1 then \quad (26)$$

$$E((Bi), [i + 1/K]) = Bi \quad (27)$$

$$Endif \quad (28)$$

$$EndFor \quad (29)$$

VI. CONCLUSION AND FUTURE WORK

As an improvement in the innovation of the internet and cryptography, aggregate information partaking in distributed computing has opened up another region of helpfulness to PC systems. With the assistance of the gathering key assertion convention, the security and effectiveness of gathering information in cloud platform can be incredibly moved forward. In particular, the outsourced information of the information proprietors encoded by the normal meeting key are shielded from the attack of enemies. Contrasted and gathering key dissemination, the meeting key understanding has characteristics of higher well being and dependability. Meeting key understanding requests a lot of data communication in the framework and more computational cost. To battle the issues in the meeting key assertion, the SBIBD is utilized in the convention plan. In future, system can be extended to provide various properties (anonymity, traceability) to make it applicable for a variety of environments.

REFERENCES

[1] Jian Shen and Tianqi Zhou, and Debiao He,"Block Design-based Key Agreement for GroupData Shar- ing in Cloud Computing" IEEE Transactions on Dependable and Secure Computing 2017.

[2] Xuejiao Liu and Yingjie Xia, "A Secure and Ef- ficient Data Sharing Framework with Delegated Capabilities in Hybrid Cloud" International Sym- posium on Security and Privacy in Social Networks and Big Data 2015.

[3] Law, A. Menezes, M. Qu, J. Solinas, and S. Van- stone,"An Efficient Protocol For Authenticated Key Agreement" 28th National Radio Science Confer- ences 2011.

[4] J. Shen, J. Shen, X. Chen, X. Huang, and W. Susilo, "An efficient public auditing protocol with novel dy- namic structure for cloud data" IEEE Transactions on Information Forensics and Security, 2017, doi: 10.1109/TIFS.2017.2705620.

[5] Lan Zhou,Vijay Varadharajan,and Michael Hitchens,"Trust Enhanced Cryptographic Role- based Access Control for Secure Cloud Data Storag" IEEE Transactions on Information Forensics and Security, vol. 10, no. 11, pp. 23812395, 2015.

[6] Omar Hasan, Lionel Brunie, Elisa Bertino, Ning Shang, "A Decentralized Privacy Preserving Rep- utation Protocol for the Malicious Adversarial Model" IEEE Transaction on Information Forensics and Security. vol. 8, no. 6, june 2013.

[7] D. Boneh, C. Gentry, and B. Waters, ”Collusion resistant broadcast encryption with short ciphertexts and private keys in Proc. Adv. Cryptol., IEEE Trans- action on computers 2005, vol. 3621, pp. 25827.

[8] D. Boneh, A. Sahai, and B. Waters,”Fully collu- sion resistant traitor tracing with short ciphertexts and private keys” in Proc. 25th Int. Conf. Theor Appl.Cryptographic Tech., 2006, vol. 4004, pp. 573592.

[9] D. Boneh and M. Naor,” Traitor tracing with con- stant size Cipher text”, in Proc. 15th ACM Conf. Comput. Comm. Security, 2008, pp. 501510.

[10] Baojiang Cui, Zheli Liu,Lingyu Wang,”Key- Aggregate Searchable Encryption (KASE) for Group Data Sharing via Cloud Storage” IEEE Transactions on Computers Volume: 65, Issue: 8, Aug. 1 2016.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

A Study of Apache Kafka in Big Data Stream Processing

Bhole Rahul Hiraman
Assistance Professor, Department of Information Technology
Zeal College of Engineering & Research, Narhe, Pune,India
rahul.bhole@zealeducation.com

Chapte Viresh M.
Assistance Professor, Department of Information Technology
Zeal College of Engineering & Research, Narhe, Pune,India
viresh.chapte@zealeducation.com

Karve Abhijeet C.
Assistance Professor, Department of Information Technology
Zeal College of Engineering & Research, Narhe, Pune,India
abhijeet.karve@zealeducation.com

***Abstract*— Big data the name implies huge volume of data. Now a days streaming of data is more popular model which enables real time streaming data for data analytics. In current era Apache Kafka is most popular architecture used for processing the stream data. Kafka is scalable, distributed, and reliable result into high throughput. It also provides an API similar to messaging system.**

Keywords*— *Big Data, Stream data, Apache Kafka, Crypto-Currency

I. INTRODUCTION

Data is one of the new ingredient for Internet-based applications. In new trends for internet applications, data used for real time analytics is become a part of production data. Data is generated in a large volume through various activities for example, a social network platform produce from clicks, in retail data produce through order, sales & shipment etc. This types of data can be considered as stream data [1]. Stream processing is now became a popular paradigm which allow us to get result for real time & continuously for large volume of fresh data.

A. What is stream Processing?

A stream processing system refers to combination & processing of data before the data is store in storage medium. This system is built on multiple elements called as SPE (Stream Processing Element) [2], each SPE takes an input from data production perform computing & generates output.

B. What is Messaging system?

Messaging system is used for transferring of data from one application to another application, applications can focus only on data not on how data is shared. There are many traditional massing system but most of these dose not handle the big data in real time environment. Distributed messaging system focus on reliable messaging queuing. There are two types of message pattern, one is P to P (point to point) [3] [4] and second is public-subscribe. The public-subscribe which is also called pub-sub is used in massing system.

P to P messaging system (point to point)

In this system sender send the messages in queue and at the receiver end receive message in queue. The example of this system is order processing system. The figure 1 shows the P to P messaging system.

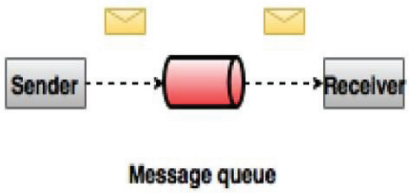


Fig. 1. P to P messaging system

Public-Subscribe (pub-sub)

In this system message sender is called as publishers & message receiver is called as subscriber. A real-life example of system is Dish TV which play different channels like movies, music, sports, news etc. here any one can subscriber to that particular Dish TV & subscribe for the available channels.

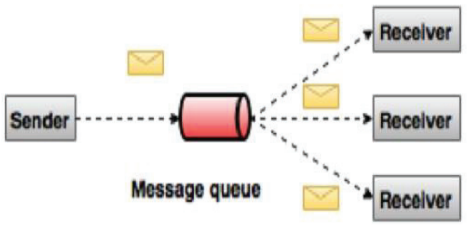


Fig. 2. Pub-sub messaging system

II. APACHE KAFKA MODEL

Apache Kafka is a platform for real time environment using distributed public-subscribed messaging system & it can handle a large volume of data which enables you to send messages at end-point. Apache Kafka is developed at LinkedIn & available as an open source project with Apache Software Foundation.

Following are some points that describe why Kafka.

1. Scalability: This framework scale easily without down time.
2. High-volume: it is designed to work with high volume of data.
3. Reliability: Kafka is partitioned, replicated, distributed & fault tolerance.

4. Data Transformations: this frame work should provide provision for ingesting the new data stream from producer.
5. Low latency: to focus on traditional messaging, requires low latency.

A. *Apache Kafka Framework*

Apache Kafka is public-subscribed messaging system which is designed to be scalable, fast, reliable & durable. Fig 3 shows the Kafka Framework.

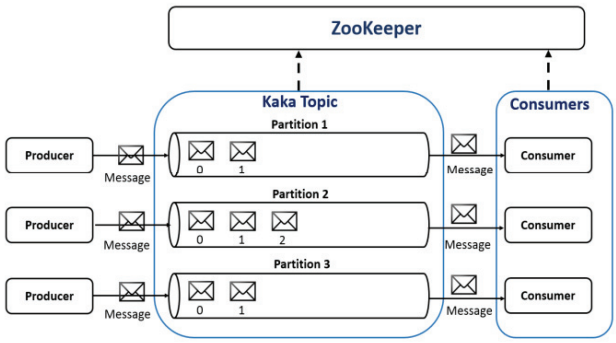


Fig. 3. Apache Kafka Framework

For knowing the Kafka framework we must have aware of some terminologies.

1. **Topic**: A topic is feeding system through which messages are stored & published, all Kafka messages are organized into topics. If you wish to read a message you read it and if you wish to send a message you send it to a specific topic. Producer applications write data to topics and consumer applications read from topics. A Kafka Topic divided into multiple partitions.
2. **Producers:** Producers are the publisher of messages to one or more Kafka topics. Producers send data to Kafka brokers. Every time a producer publishes a message to a broker. Producer can also send messages to a partition of their choice.
3. **Consumers:** It read data from brokers. Consumers subscribes to one or more topics and consume published messages by pulling data from the brokers
4. **Connectors:** It responsible for pulling stream data from Producers and delivering stream data to Consumers or Stream Processors.
5. **Stream processor:** Stream Processors are applications that transform data streams of topics to other data streams of topics in Kafka Cluster.
6. **Broker:** Kafka cluster typically consists of multiple brokers to maintain load balance. Kafka brokers are stateless, so they use Zookeeper for maintaining their cluster state.
7. **Zookeeper:** Zookeeper is used for managing and coordinating Kafka broker. Zookeeper service is mainly used to notify producer and consumer about the presence of any new broker in the Kafka system or failure of the broker in the Kafka system.

III. Related Work

Traditional message system exists from long time & play important role for data processing [5] [6] IBM WebSphere MQ allows an application to insert message into multiple queues automatically. . In JSM [7] individual messages acknowledge after processing. Recently Hedwig system [8] is available for distributed pub-sub system which is developed by Yahoo! It is scalable & offers strong durability guarantees. Apache Kafka works in combination with Hbase, spark for real-time analytics & performing streaming data. Now a days many MNC companies that are using Apache Kafka in there use cases they are as follows.

- Twitter: Twitter uses Kafka as a stream-processing infrastructure.
- LinkedIn: Apache Kafka is used at LinkedIn for the streaming data. This data uses in various product such as news feed & offline analytical system.
- Yahoo!: Kafka is used by Yahoo for their media analytic team in real time analytics.
- Netflix: Kafka used by Netflix as the gateway for data collection, this application requiring billions of messages to be processed daily.

IV. Testing Apache Kafka

We conducted the experiment on crypto-currency comparison [9] like BitCoin, Either & LiteCoin which is trending now a days. For this experiment we have written a code of publisher & subscriber in simple HTML file as Kafka uses on pub-sub messaging system.

Sample Code for Publisher

```
<html>
<head>
        <title> Crypto Publisher </title>
<script
src="https://cdn.pubnub.com/sdk/javascript/pubnub.4.18.0.
min.js"> </script>

</head>
```

Sample Code for Subscriber

```
<html>
<head>
        <title> Crypto Subscriber </title>
<!--<script
src="https://cdn.pubnub.com/sdk/javascript/pubnub.4.18.0.
min.js"> </script> -->
<scripttype="text/javascript"src="https://pubnub.github.io/e
on/v/eon/1.0.0/eon.js"> </script>
<linktype="text/css"rel="stylesheet"href="https://pubnub.git
hub.io/eon/v/eon/1.0.0/eon.css">
</head>
```

V. RESULTS

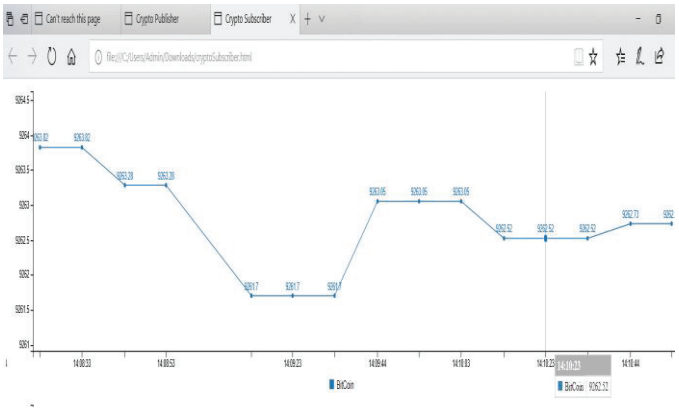


Fig. 4. Screen Shot 1

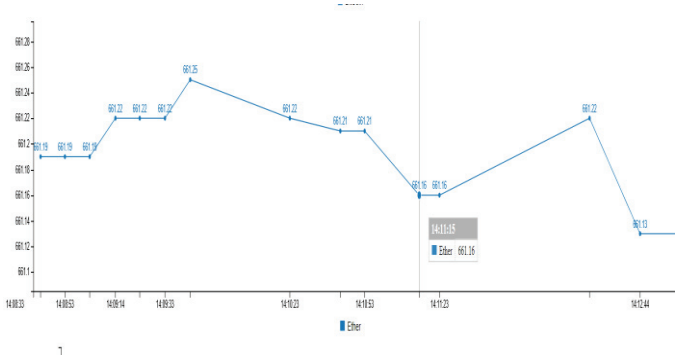


Fig. 5. Screen Shot 2

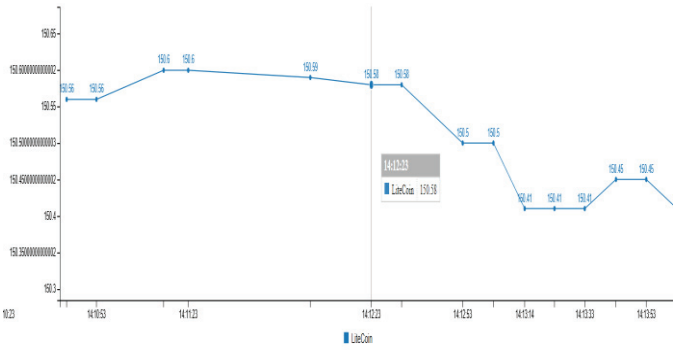


Fig. 6. Screen Shot 3

VI. CONCLUSION

In this work we focus on how to deal with Kafka & how to tune with its deployment. Kafka will help stream processing developer for effective use their big data processing architecture. Kafka defines a pull based model that allows application can consume data whenever needed.it achieves higher throughput than the traditional messaging system

REFERENCES

[1] Jay Kreps, Neha Narkhede and Jun Rao, ―Kafka: a Distributed Messaging System for Log Processing‖, LinkedIn Corp.

[2] https://www.htcinc.com/wp.../apache_kafka_event_stream_processing_solution.pdf

[3] https://www.tutorialspoint.com/apache_kafka/index.htm

[4] https://kafka.apache.org/quickstart

[5] http://activemq.apache.org/

[6] IBMWebsphereMQ: http://www01.ibm.com/software/integration/wmq/

[7] JAVA Message Service: http://download.oracle.com/javaee/1.3/jms/tutorial/1_3_1-fcs/doc/jms_tutorialTOC.html.

[8] https://issues.apache.org/jira/browse/ZOOKEEPER-775

[9] https://en.wikipedia.org/wiki/Cryptocurrency

[10] Nishant Garg, ―Apache Kafka‖ , PACKT Publishing

[11] V. Ta, C. Liu, G.W. Nkabinde, "Big Data Stream Computing in Healthcare Real-Time Analytics", 2016, IEEE International Conference on Cloud Computing and Big Data Analysis, Pages: 37 -42, doi: 10.1109/ICCCBDA.2016.7529531.

[12] A. Sotsenko, M. Jansen, M. Milrad, J. Rana, "Using a Rich Context Model for Real-Time Big Data Analytics in Twitter", 4th International Conference on Future Internet of Things and Cloud Workshops, 2014, Pages 228 -233, DOI 10.1109/W-FiCloud.2016.55.

[13] B. Yadranjiaghdam, N. Pool, N. Tabrizi, "A Survey on Real-time Big Data Analytics: Applications and Tools," in progress of International Conference on Computational Science and Computational Intelligence, 2016.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Cloud Computing based Television System

Prof. Amarnath Chadchankar
Department of Information Technology
Zeal College of Engineering & Research, Pune
Savitribai Phule Pune Unviersity, Pune, India
amar.chadchankar@zealeducation.com

Prof. Preeti Amarnath Chadchankar
Department of Information Technology
Zeal College of Engineering & Research, Pune
Savitribai Phule Pune Unviersity, Pune, India
preeti.chadchankar@zealeducation.com

***Abstract*— New technologies set has come along with need and affordable computing, has enabled an on demand. Cloud computing is model for activating convenient, on demand network access to a shared pool of configurable computing resources. Many TV stations have started to keep their serials and films on Internet. Several cloud vendors are gearing up to introduce new products that bring the Internet along with TV using cloud as a platform.**

Keywords—Cloud Computing , Multimedia, Television

I. INTRODUCTION

NIST defined that Cloud Computing is a model which enables on demand and convenient access of scalable and configurable computer resource [10]. The cloud computing provides storage space and services through internet. Cloud computing provides share, computing and applications available from any location any time ,high speed on demand on paying per usage basis.

A. Cloud Service Models

A cloud service models categorized into three models. Cloud helps to users by software installation, up gradation, license issues. Cloud can adopt latest version of software on the system by paying per usage by SaaS model. Cloud also provides users with resource to use application through Paas. In Iaas hardware is provided by provider for users to manage.

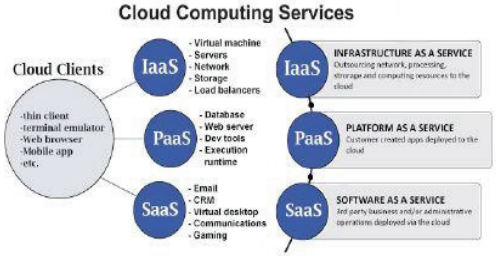


Fig. 1. Service and Deployment of Cloud Computing Model

B. Cloud Deplyment Models

Public Cloud, Private Cloud, Community Cloud, Hybrid models are categorized under deployment cloud[13][14]. Public Cloud (Google, Salesforce, Yahoo) are managed by third authenticated party known as Cloud Service Provider(CSP)[15]. In Private Cloud all Infrastructures are managed by own. Private cloud resides in organization area which presents Flexibility to managing Security of data. The Hybrid model is combination of any two or more than two models which carries properties of respective models.

II. NEED OF MULTIMEDIA IN CLOUD COMPUTING

VCDs, Films, DVDs were the part of distribution of media. Now days we have many resources are easily available on low cost and applicable such as digital camera, smart phones. Low power life, small storage capacity, efficiency of processor, these are some limitations of such systems. But unfortunately these disadvantages can't be overcome by computational systems. We have alternative solutions to minimize these kinds of problems where software are combined with cloud system that enables complex computations. And also cloud computing is useful for services of million users by online and wireless network.

Cloud computing resources are high requirement because of following points:

A. Hardware Mobile Device:

Devices such as notebook, tablets, mobiles, they are small in size, as well as memory size is very small with limited power life. These parameters are affected the speed, efficiency of system [11].

B. Huge Demand Resources:

Images, MPEG, MP3, Power point presentations, online playing games are needed in current days, as well as in forthcoming Days. These media required large space for storage as well as computation [12].

C. Efficiency through Cloud System:

Cloud System provides shared access to all types of data such as images, Audio and Video file which requires installation and updating in cloud system. This kind of system improves the users experience.

Multimedia is forthcoming as well as important service in Cloud that provides services for Multimedia such as gaining , updating, storing, creating of media such as MP3 , Video , Images.

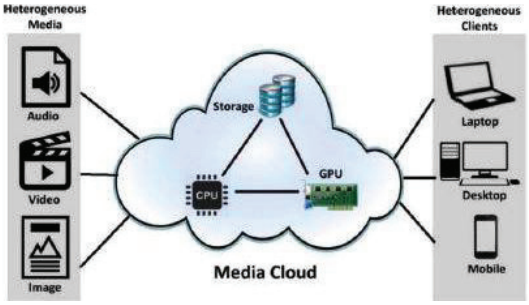


Fig. 2. Multimedia model in Cloud Computing

III. LITERATURE STUDY

[1] States that the basic concepts of cloud computing with types of sources as well as deployment models. Also reviewed, how cloud provider handles the multimedia using DHT with distributed parallel processing. In this paper [2] the author proposed a solution about IPTV using cloud computing. Also scheduled videos at same time in program of many channels. [4] This paper explained the basic idea behind Cloud and also discussed the cloud used in television industry. In this paper [5], author present the ORMM model which is present resources of media technology.[6] this paper provides a brief information of cloud computing that increases mobile computation efficiency and also multimedia information. In the cloud media technology is used in that [7] explained how algorithm is used for allocation of cloud resources for multimedia application.

IV. RESOURCE DISTRIBUTION OF TELEVISION APPLICATIONS

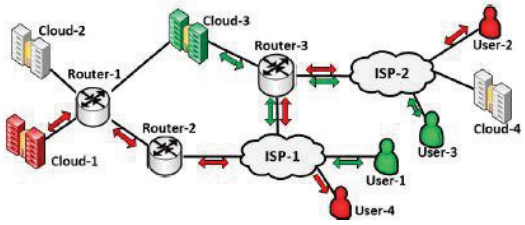


Fig. 3. Architecture of TV distribution System

Fig shows that the example of network architecture of TV distribution System network. In this architecture two users groups are connected to the Internet Service Provider (ISP). ISPs are also known as access nodes. The four processing nodes which called as resources and three routing nodes. SDN architecture [8] exists, enabling the centralized application to sense and controls the total network, So capable of enforcing the optimal route for each consumer based on location.

In this work, it is assumed that all nodes are in network , supports multicast , new user may join , withdraw, or migrate from particular user group and also create new user group. A single node which is processing node works for each user group. Processing node also may be part in the distribution operation.

V. RESOURCE ALLOCATION FOR CLOUD TELEVISION

In the PaaS cloud network architecture, data centers provides VMs to operate and storage resource for applications and send resource data using fiber-optic cable network. Clients

Connected to data centers via access-network to request multimedia applications services which are operated at more than one data centers. The total cost time of resource sending T between data centers is having of four parts of time:

Tprop: the propagation delay Time,
Ttran: the transmission Time,
Tproc: route processing delay Time,
Tqueu: the route queuing delay Time.

$$T = T_{prop} + T_{tran} + T_{proc} + T_{queu} \quad (1)$$

$$\approx (\text{File Size}/B) + (\text{Distance}/C)$$

We can get three main factors:

The size of File to send (Transmit) Filesize, the bandwidth B, the actual distance between data centers Distance. C is the speed of light which is a fixed

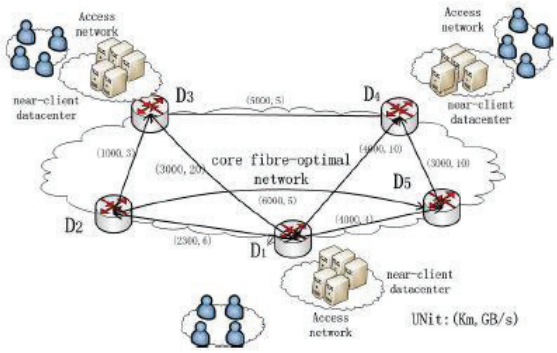


Fig. 4. Network of Multimedia of Cloud Datra centers

VI. CLOUD COMPUTING SYSTEM TELEVISION

In this system infrastructure layer with Iaas model, get all resources, allocate all resources if needed and use cloud flat form for resource managing and scheduling. The service layer with using Paas model, provides plate form as services, the application layer with Iaas model, focus on customer services, create model with developers which are operated independently.

- Developing HD/3D by Cloud Computing:

HD and 3D TV creating a lot of stress on power as well as storage space. The cloud computing is a good solution for many problems. HD /3D are mainly based on "Cloud Media Asset" technology [9], which uses cloud computing in Media Asset. Media Asset having many advantages. Media Asset storage setup with cloud computing can collect previously scattered information for management, minimize the workload of information migration, also saves energy power and disaster recovery. The cloud media asset system can provide full access. Cloud media asset provided many services like storage space, performance of network, renting time for choose virtual asset. So only media asset is very popular in TV and Radio industry.

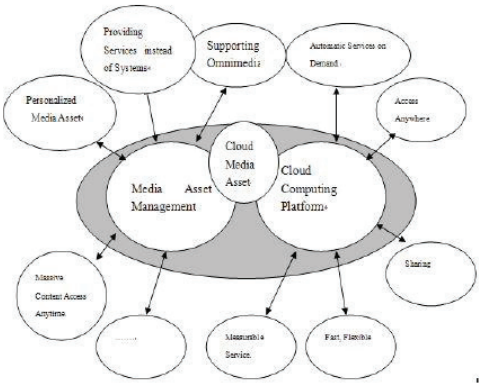


Fig. 5. Cloud Media Asset

VII. CONCLUSION

In this paper we described the basic concept of cloud computing along with services and deployment models. Basically cloud computing is used for storing information such as images, videos and many type of information. TV and Radio industry need to store data. It is opportunity and

challenge for TV and broadcasting area. Cloud computing has changed the Television broadcasting area in business process.

REFERENCES

[1] Shilpi Harnal, Dr. R.K. Chauhan," Multimedia Support From Cloud Computing: A Review",2016 International Conference on Microelectronics, Computing and Communications.

[2] Zinelaabidine Nadir, Miloud Bagaa, Tarik Taleb. "Cost aware Caching and Streaming Scheduling for Efficient Cloud based TV" IEEE ICC 2017 Next Generation Networking and Internet Symposium.

[3] V. Aggarwal, V. Gopalakrishnan, R. Jana, K. K. Ramakrishnan, and V. A. Vaishampayan. Optimizing cloud resources for delivering iptv services through virtualization. IEEE Transactions on Multimedia, 15(4):789–801, June 2013.

[4] Wei Na, Xu Pin Cloud Computing and Its Application in Televsion and Broadcasting Industry. IEEE 2012

[5] Chao Xu, Xuewen Zeng, Zhichuan Guo," Online Resource Monitoring Model in Cloud TV" 2013 International Conference on Information Science and Cloud Computing.

[6] Majdi Rawashdeh; Awny Alnusair; Nasser Mustafa; Mahmoud Migdadi,"Multimedia Mobile Cloud Computing: Application models for performance enhancement" 2016 IEEE International Conference on Multimedia & Expo Workshops (ICMEW) Year: 2016

[7] Gosala Kulupana; Dumidu S. Talagala; Hemantha Kodikara Arachchi; Anil Fernando," Resource allocation for cloud-based social TV applications using Particle Swarm Optimization" 2015 IEEE International Conference on Communications (ICC)Year: 2015

[8] X. Nan, Y. He, and L. Guan, "Optimal resource allocation for multimedia application providers in multi-site cloud," in IEEE Int.Symp. on Circuits and Syst. , Beijing, China, 2013, pp. 449–452.

[9] Cloud media owned radio and television network video solutions to help develop, http: //info. broadcast. hc360. Com /2012 /09/ 110922523834. shtml

[10] Peter Mell, Timothy Grance, "The NIST Definition of Cloud Computing", NIST Special Publication, September 2011.

[11] J. Flinn, Cyber Foraging: Bridging Mobile and Cloud Computing via Opportunistic ffload. Morgan & Claypool Publishers, 2012

[12] Reza Farahbakhsh, Angel Cuevas, Ruben Cuevas et al.,"Understanding the evolution of multimedia content in the Internet through BitTorrent glasses", IEEE Network, November-December 2013, Vol. 27, pp. 80-87, DOI: 10.1109/MNET.2013.6678931.

[13] R.J. Bayardo, and R. Srikant (2003) Technological Solutions for Protecting Privacy. IEEE Computer, 36(9), p. 115-118, DOI: 10.1109/MC.2003.1231199, 2003.

[14] R. Buyya, C. S. Yeo, and S. Venugopal, "Market-oriented cloud computing: Vision, hype, and reality for delivering it services as computing utilities," in Proc.10th IEEE Int. Conf. High Performance Computing and Communications, pp. 5–13, DOI: 10.1109/HPCC.2008.172, 2008.

[15] Mohamed H. Sqalli, Fahd Al-Haidari and Khaled Salah, "EDoSShield- A Two- Steps Mitigation Technique against EDoS Attacks in Cloud Computing", 4th IEEE International Conference on Utility and Cloud Computing, DOI: 10.1109/UCC.2011.17, 2011.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Efficient Exploration of Algorithm in Scholarly Big Data Document

MS.Sneha P Vanjari
Department of Information Technology
ZOER Narhe,Pune
snehavanjari9900@gmail.com

Mrs Kirti P Balsaraf
Department of Information Technology
ZOER Narhe,Pune
Kirti.balsaraf@gmail.com

***Abstract*—Algorithms are used to develop, analyzing, and applying in the computer field and used for developing new application. It is used for finding solutions to any problems in different condition. It transforms the problems into algorithmic ones on which standard algorithms are applied. Day by day Scholarly Digital documents are increasing. AlgorithmSeer is a search engine used for searching algorithms. The main aim of it provides a large algorithm database. It is used to automatically encountering and take these algorithms in this big collection of documents that enable algorithm indexing, searching, discovery, and analysis. An original set to identify and pull out algorithm representations in a big collection of scholarly documents is proposed, of scale able techniques used by AlgorithmSeer. Along with this, particularly important and relevant textual content can be accessed the platform and highlight portions by anyone with different levels of knowledge. In support of lectures and self-learning, the highlighted documents can be shared with others. But different levels of learners cannot use the highlighted part of text at same understanding level. The problem of guessing new highlights of partially highlighted documents can be solved by us.**

***Index Terms*—Algorithms,Pseudo codes, Scholarly big data, Sentence Extractor, Steaming, TFIDF**

I. INTRODUCTION

To solve problems, Algorithms are used everywhere in Computer field and over a exact technique. Every single form of human life has been affected by algorithms. Improvement of the current algorithms and evolution of new algorithms for unsolved problems is being made by researchers. Updating search engines are not optimized for searching any particular algorithm. Also, they can't be distinguished which documents contain an algorithm and which is not. They produce results in that contain a mixture and not usable data. For example,the user enters a query into the search engine for searching a KNN algorithm. After processing search engine give the result that contains KNN term, but it any specific information with regard to algorithmic aspects of KNNs. The document which is relevant to the algorithm is not necessarily come up in the results due to inappropriate ranking schemes. For algorithm searchers who are unfamiliar with document search, they facing problem are very bad. Particularly important and relevant textual content can be accessed the platform and highlight portions by anyone with different levels of knowledge. For oral lessons or individual learning, the documents which are highlighted may be given to the learning people. However the learners having the different levels of knowledge respectively, highlights are generally incomplete or unsuitable. Are going to develop the system on its own identities and pulls out algorithm from the given scholarly input. This kind of system can be very useful to assist the indexing, finding and a vast quantity of the required knowledge of the algorithm and carry out a detail study of evolution of the algorithm and may increase the output quality of the user. The representation of the algorithm is not written in a specific format in that include symbols, mathematical expression, various font styles, etc. So it becomes a challenge to user for discovery and extraction of algorithms. To overcome this disadvantage we propose this system. In this system we first detect PCs and APs by using different methods, then we find the textual metadata that can be instantly extracted from various documents with the use of Application Program Interface and generate different types of models fitted to various levels from a group of documents that are highlighted of knowledge to forecast new output. We provide links, indexing of the extracted metadata and make it searchable to the user and it can increase the productivity of users with the help of this system.

II. REVIEW OF LITERATURE

Prasenjit Mitra et al have studied that to identify and extract algorithmic representations of scholarly documents. A novel set of scale able techniques used by AlgorithmSeer.They use hybrid machine learning techniques for algorithm representation. These techniques to pull out meta data for each algorithm are used. The user searching some algorithm for the CiteSeerX data set, this site gives so many documents with his relevant search. On the search result all document index with his best ranking and extract all data related document. This document is in the form of a synopsis, on the search keywords and the algorithm and gives out-put to users. Especially they suggested detecting algorithms in scholarly documents. For this purpose they used a group of scale able machine learning based methods. Finally ,they show how algorithms are indexed and made searchable. All the extracted algorithms and their related textual meta-data are then cataloged using SOLR18, which then makes the algorithms searchable.

Elena Baralis et al have studied that the concept of high-lighter. They have introduced about a HIGH-LIGHTER is a new technique to inevitably generating focus of learning documents. By using this concept issue of automatically generating document highlights is resolved by them. Highlights are marked part of the textual content which can use regularly. For example, the most substantial parts of the text can be underlined, colored, or circled. The significance of the highlight

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

points used for learning purposes. Teachers and learners can easily share the highlighted documents through e-learning platforms. Nevertheless, the manual generation of text highlights is time absorbing. So minimizing such problem they generate classification models. These models are delivered to learners to increase the quality of their learning experience. To start the process of highlighting learning documents, they use text classification techniques. It appraises the capability level of the highlighting users to drive the generation of new highlights.

Saurabh Kataria et al studied that an important source of information that is largely under-utilized are two dimensional plots in digital documents on the web. They explain how data and text can be pulled out inevitably from these 2-D plots. For extracting data and text from two-dimensional plots they advanced automated methods from digital documents and implement it to documents published on the web. This method minimizes the time absorbing manual process of retrieving this data. The algorithm pulls out axes, the ticks on the axes, the text labels associated with the ticks and the labels of the axes. To extract each data point symbol and its textual description from the legend, it discovers the legend as a text-dominated box in the figure and pulls out the lines from the legend and segments the lines. To identify their shapes and records the values of the X and Y coordinates for that point they developed a tool. Overlapping data points can be addressed by them to overcome the problem of segmenting. The data and text extraction from the 2-D plots are fairly accurate as indicated by experimental results.

Bhatia et al have taken into account an algorithmic search engine for software developers. To solve any problem developer first develop algorithms. Algorithms can be crucial and are very important for absolute software projects. In this system they propose an algorithm search engine that keeps abreast of the latest algorithmic developments. Using a PDF to text converter all the files in the system are first converted to the text file. To sort out the algorithm that is filled out sequentially along with the metadata related to them. The extracted text is then examined cautiously. In the next the engine which is used for query processing, then approves the appropriate query given by the user by taking into consideration the query interface and after that its task to search the index for associated similar algorithms. Then finally it shows sorted list of ranks of algorithms to the user.

J.B.Baker et al have studied the methods of analysis of mathematical documents from the particular PDF. It is very challenging job of document analysis of mathematical part of PDF even if the digital document which is available in the standard format. In the context of PDF documents, they suggest the solution for this type of problems. To carry out the character recognition at the same time with the virtual link network generally used for structural analysis they found out OCR approach. To direct extraction of symbol information out from the PDF file, they used another approach with two stage parser for pulling out layout and expression structure. In the context of mathematical expressions related to first character identification and second structural analysis they match the efficiency and correctness of these specified two different techniques qualitatively as well as quantitatively in context of layout analysis.

C.L.Giles. et al has studied that finding algorithm in scientific articles. The Algorithms a very important part of computer science. To solve any problem first required algorithm. In this system, to check whether there is a presence or not of algorithm they first examine documents. After that document's text is examined to find out sentences which content the algorithm, if an algorithm is detected. Algorithm a like metadata which is present in the document is pulled out and it is arranged I order. To calculate the connection of algorithms with query given by users, the information related with algorithm is used and with decreasing order of connection the algorithms got submitted by the users. In this system a vertical search engine which finds out the algorithm available in that document is delivered and pulled out to form a related metadata of the algorithm.

D.M.Blei. et al has studied that Latent Dirichlet Allocation (LDA) technique. They developed LDA, relating to probabilistic model for the accumulation of distinct data. LSI and pLSI methods are opposed to the LDA method. It is used for setting of reduction in dimension for the given input collection and a basic model. The actual planning for methodical way which includes probabilistic models may be given us to offer circumstantial setup in a domain which is made up of different levels of structure. The LDA can be easily implanted with a very messy model which is not influenced by LSI as a probabilistic model. This permits a given structure in the potential available space and in specific permits a type of document clustering ,which is unique in the form that is required to get by shared topics. LDA consist of basically three level hierarchical Bayesian model. In this model every particular entity of a given collection is designed related to limited combination as compared to an underlying group of topic. Every topic in this particular model is designed as a very compact combination over different group of various possibilities. By using a various methods and algorithm they developed an efficient inference module for calculating Bayes parameter. This module is used for showing a different representation of a given document.

S.Bhatia et al focused on make summary of various items on the published scientific document such as algorithms ,figures, tables . For document-elements to help in finding out quickly algorithms, tables, figures, by the user .The user is using this method to point out the problem of generating summary by them. To find outlook alike sentences within a given document text with the help of a specific group of features which subsequently uses context and content data relevant to this element for machine-learning techniques are used by them.

To finalize exact content to select in the summary relevant to the main part and original sentences from the elements of documents and uniqueness of the sentence to the original sentence they proposed a simple model. The model attempts to compare the content in the information and range of summary so that the collected information and would be output must be accurate and useful. To pull out useful data from the summary which includes the elements of a document at the same time system uses the first set of methods. They use two different classifiers. In this first to finalize exact content to select in the summary relevant to the main part and original sentences from the elements of documents and uniqueness of the sentence to

the original sentence they proposed a simple model.They study the problem of choosing the advantageous outcome synopsis size that shoots a balance between the information content and the size of the generated synopses.

J. Kittler et al have studied that combining classifiers. They focus on classifier combination. They develop a structure for classifier grouping. Also make a decision many current schemes can be taken into account where all the representations are used collectively. To make up generally used combination schemes of classifier like sum rule, min rule,max rule, median rule, product rule for calculating voting by majority they used different types of assumptions and various approximations. Then they equated experimentally different mixture of scheme. Interestingly outcome came out of this is very surprising. This mixture evolved with much difference and restrictive assumption; from all classifier mixture schemes the sum rule is the best performed scheme. They investigate all the mixture schemes to calculate errors in this finding. The same rule is most flexible to estimation errors as shown by the sensitivity analysis. They follow two steps. In first step they give theoretical ideas of giving mixtures scheme for combining the suggestion of experts, giving a unique pattern representation. In the second step to improve the understanding of their properties they analyze the sensitivity of these schemes to calculate errors.

III. SYSTEM ARCHITECTURE / SYSTEM OVERVIEW

In our proposed system documents are processed to find out algorithm present in documents. In this system we use two text processing steps. First is stemming and the second is stopword elimination. After these steps the document is converted into a term frequency-inverse document frequency (tf-IDF) matrix. TFIDF is used to study the fact of single terms in the document. For this purpose we created the classification model. It is used to calculate focus point, if in the background file, there is no information about the level of knowledge of the users. Otherwise, the knowledge level of the highlighting users is calculated because it is assumed as appropriate to perform accurate highlight predictions.

Algorithm Seer is presented as a prototype of an algorithmic search engine. This is used to extract the text from the PDF document. We use PDFBox to pull out the text and change the package, also to pull out the font and location of information

From a PDF document. After extracting text follows three processes one by one. The First process is documented segmentation. By using this process, we find a section of the document. After complete this process we detect PC from text the by using the PC detection method and third process is AP detection. It first identifies APs by using AP detection method to then remove stop words and prepared broken sentences. After finding PC and AP we can link the relevant algorithms. Then we produce results for users such as unique algorithms as well as highlighted points.

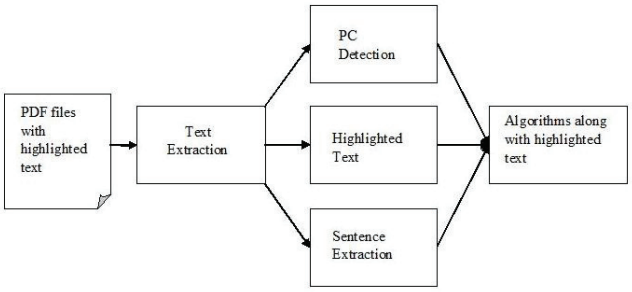


Fig. 1. Architecture of proposed system

A. Methods

TFIDF: It stands for Term Frequency-Inverse Document Frequency. It is used for information retrieval and text mining. This method is used to calculate the importance of words. It counts the number of words present in documents.

Algorithm Identification: This method is used for identyying an algorithm. Plain text is extracted from the PDF file. For extracting purpose, we use PDFBox. By using this tool we can pull out text and modify the information from a PDF document. This process is divided into three modules.The First module is documented segmentation which is used for finds sections in the document; second module is PC detection,which is used for finds PC from documents, and third module is AP detection. It first cleans extracted text and repairs broken sentences after that identifies APs. After finding PC and AP we link relevant algorithm together and give the final output that is a unique algorithm to the user.

Detecting Pseudocodes (PCs): PCs show the stepwise procedure of algorithms. PCs are considered as document elements. For detecting PCs we use three methods: first is Rule Based method (PC-RB), second is Machine Learning based method (PC-ML), and the third is Combined Method (PC-CB). PCRB finds PCs by discovering the presence of their captions. Machine learning based (PC-ML) method directly finds the presence of PC contents. The PC-ML first finds and pulls out sparse boxes, then classifies each box whether it is a PC box or not. Last is a collective method (PC-CB).It is a combination of PC-RB and the PC-ML.It follows the two steps:

STEP1 To run both PC-RB and PC-ML for a given document STEP2 For each PC box detected by PC-ML, if a PC caption detected by PC-RB is in proximity, then the PC box and the caption are combined.

Detecting Algorithmic Procedures (AP):AP detection method is focus to find APs from given documents. There are two methods used for detecting AP indication sentences: a Rule Based method (AP-RB) and a Machine Learning based method (AP-ML).

Stemming: This process minimizes the words to their base or root form. In this process various forms of word are reduced and shows in the common form. It increases the performance of the Information Retrieval system. This process also used for indexing purpose.For example, nouns, and verbs in general form, and past tenses are re-conducted to a common root form.

Stop word elimination: This process is useful for finding the stop words. It discards very common word from the language during indexing. Examples of stop words are articles, prepositions, and conjunctions. In this process text is examined, then those words are not usable which are rejected.

B. *Mathematical Model*

Let us consider our system as S

$$S = s; e; i; F; o \quad (1)$$

S represents our proposed system.

s represents start state of the system.

i represents input of the system that is PDF Documents.

o represents output of the system that is set of unique algorithm.

e represents end state of the system.

$$F = f1; f2; f3; f4; f5; f6 \quad (2)$$

F represents Functions of the system.

f1= Document Segmenter

f2 = Pseudo code detector

f3 = Text cleaner

f4 = Sentence Extractor

f5 = algorithm procedure detector

f6 = algorithm linker

f7 = Stemming

f8 = Stop-word Remove

f9 = TF-IDF Calculation

In this model taking input as PDF files and applying above function on that document for extracting text then user get the output as unique algorithm along with highlighted documents considering level of thinking of user.For detecting the PC and AP from documents we can use sparse box extraction technique. Suppose given a set of sparse boxes B extracted from a document d, the coverage is defined as follows

$$\text{Coverage} = \frac{\text{j fl j l b; b B; l is positiveg j}}{\text{j fl j l b; l is positiveg j}} \quad (3)$$

IV. SYSTEM ANALYSIS

Existing system gives only algorithm while our proposed system gives extracted algorithms as well as highlighted document. In this system user submit queries to the system. Textual metadata contains relevant information about detecting algorithm. After processing document textual meta data is pulled out. Then this metadata is indexed. Query processing is done with meta data and final results are returned to users. Non-textual content happening in the text is automatically screened out before running the learning process. For this purpose we can use the basic structure of the previous system.Along with this we are taking those documents highlighted by users with different levels using those we create training dataset where we collect highlighted words and sentences and using those we find levels of users and using those we find new sentences which can be related to already highlighted sentences and likewise share those highlighted documents to users with levels so that they can understand those documents.So new system gives better result as compared to old one. Following figure shows the how to work our system.

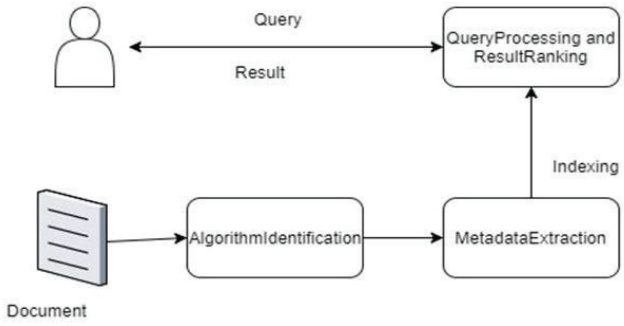


Fig. 2. Architecture Of Basic System

A. *Performance Measures Used*

Performance measurement is the process of collecting, analyzing and/or reporting information regarding the performance of an individual, group, organization, system or component. It can involve studying processes/strategies within organizations, or studying engineering processes/parameters/phenomena, to see whether output are in line with what was intended or should have been achieved. Performance measurement is generally defined as regular measurement of outcomes and results, which generates reliable data on the effectiveness and efficiency of programs. As per the current status of system gives unique algorithm.Following figure shows example of extracted algorithm.

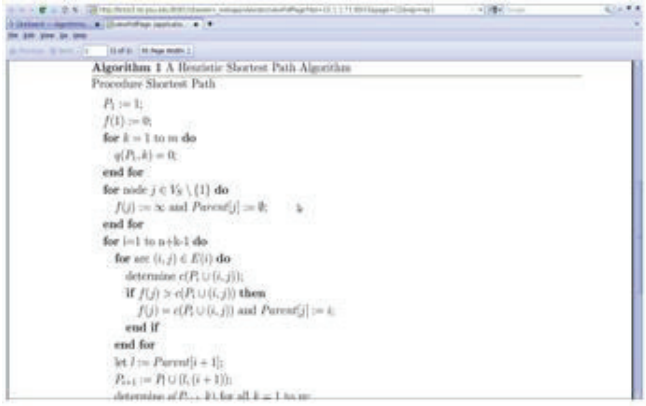


Fig. 3. Algorithm Extracted From PDF

B. *Expected Outcome*

The expected output of the proposed system is we can find user level with the help of highlighted points. We proposed a set of scalable machine learning based methods to detect algorithms in scholarly documents, we discussed using the synopsis generation and document annotation methods to extract textual metadata for pseudo-codes, and finally we explained how algorithms are indexed and made searchable.

V. CONCLUSION

Professional researchers developed an enormous amount of high-quality algorithm. We have discussed prototype of AlgorithmSeer. It is a search system for finding an algorithm in a collection of documents . We also provides, such type of model for searching algorithm.These models are made for giving the unique algorithm to the user and various kinds of knowledge levels from a group of given documents which are highlighted to give new highlight to users which are provided to increase the quality of user experience of learning.

REFERENCES

[1] Sumit Bhatia, Prasenjit Mitra Senior Member and C. Lee Giles Fellow AlgorithmSeer: A System for Extracting and Searching for Algorithms in Scholarly Big Data 2016

[2] Elena Baralis, Memberand Luca Cagliero Member Highlighter: automatic highlighting of electronic learn-ing documents 2017

[3] S. Kataria, W. Browuer, P. Mitra, and C. L. Giles. Automatic extraction of data points and text blocks from 2-dimensional plots in digital documents. In Pro-ceedings of the 23rd national conference on Arti cial in-telligence - Volume 2, AAAI08, pages 11691174. AAAI Press, 2008.

[4] J. B. Baker, A. P. Sexton, V. Sorge, and M. Suzuki. Comparing approaches to mathematical document anal-ysis from pdf. ICDAR 11, pages 463467, 2011.

[5] S. Bhatia, P. Mitra, and C. L. Giles. Finding al-gorithms in scienti c articles. 2010.

[6] D. M. Blei, A. Y. Ng, and M. I. Jordan. Latent dirichlet allocation. J. Mach. Learn. Res., 3:9931022, Mar. 2003.

[7] J.Kittler, M. Hatef, R. P. W. Duin, and J. Matas. On combining classi ers. IEEE Trans. Pattern Anal. Mach. Intell., 20(3):226239, Mar. 1998.

[8] S. Bhatia, S. Tuarob, P. Mitra, and C. L. Giles. An Algorithm Search Engine for Software Developers. 2011

[9] T.A. Asuncion, M. Welling, P. Smyth, and Y. W. Teh. On smoothing and inference for topic models. In Proceedings of the Twenty-Fifth Conference on Uncer-tainty in Arti cial Intelligence, UAI

[10] G. W. Klau, I. Ljubi, P. Mutzel, U. Pferschy, and R. Weiskircher. The fractional prize-collecting Steiner tree problem on trees. Springer

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Generation of Brand/Product Reputation using Twitter Data

[1]Prof. Pranalini A. Joshi
Department of Information Technology
Zeal College of Engineering and research
Pune, India
pranalini.ketkar@gmail.com

[2]Garry Simon
Department of Information Technology
Zeal College of Engineering and research
Pune, India
garysimon7777@gmail.com

[3]Prof. Yogesh P. Murumkar
Department of Information Technology
Zeal College of Engineering and research
Pune, India
yogeshpm5555@gmail.com

Abstract— **Sentiment Analysis is a variant of Opinion Mining. It basically deals with going through volumes of already existing data collected from the Social Networking Websites such as Twitter, and processing that data in order to derive conclusion(s) from it. Not only that, it takes it a step further, where it not only gathers and analyses the data, but also categorizes the same primarily into three categories namely positive, negative and sometimes even neutral. The data from Twitter is collected and analyzed on the fly to get sentiments out of the public for a particular brand. This very feature of Sentiment Analysis can be used to recognize the market value of a business brand by its users and after comprehending the overall value of the brand in the eyes of its consumer, the brand owners can determine how their product is performing in the market in order to take, corrective action, if the need arises, to improve their product and strategically take over the market. Thus, this paper proposes a smart method to campaign for a business brand, whereby the business owner determines his position in the market, and how well(or bad) his business is doing ,by mining data and deriving inferences from the same, rendering them the capability to make insightful and well-informed decisions, thereby providing a cost-effective as well as a highly efficient method to review a business. Thus, it gives the business owners an ability to add value to their business and acquire a competitive edge.**

Keywords— Sentiment Analysis, Opinion Mining, Social Brand Monitoring, Social Media Analytics, Business Analytics

I. INTRODUCTION

Business Analytics has been in boom since several decades. Many organizations have realized the importance of the same and have invested significant amount in this global phenomenon. This has enabled organizations to take cognizance of the current market scenario and strategically steer their businesses to success, reaping exponential profits and unprecedented growth. Social Media Analytics is a branch of Business Analytics(BA) and has practically grown into a profound and widely used technical strategy in the business spheres. Social Media Analytics can be concisely defined as an analytic capability to analyze and break-down huge of data, both semi-structured and unstructured data from Social Media. Social Media is the "new big thing" which has happened to the world and not without good reasons. It is a revolution in itself, which has given the organizations, an alternate and unique medium of communication, where they have unlimited access to huge amount of useful data. Since the advent of World Wide Web 2.0, the Internet has been redefined in every way and nothing has ever been same, its capabilities have only rapidly multiplied and its reach has substantially grown. Social Media Platforms form an integral component of the World Wide Web revolution. Social Media has provided the customers a new and incomparable channel to interact with the organizations, businesses and also provides them an unprecedented opportunity to offer their opinions, suggestions, remarks on their products and the services that are being offered. Social Media possesses the unparalleled ability to influence the perspective of the customers and their interests and inclination in purchasing the products or services. Thus, with the launch of the Social Media, the customers are equipped with an ability to give their opinions about any topic under the sun and not only that, this ability could be further extended to discussions, public polls, debates etc. on a public platform. Thus, Online Social Networks, along with the micro-blogging websites, have become the top priority for the user to express their thoughts on a particular product or an event or any activity, and that too in real time. Sentiment Analysis is used to derive inferences from diverse texts. This appealing property of the Sentiment Analysis can be used to extract reviews, to conduct election polls and to determine answers to trending questions. By studying and interpreting the user's behavior on the social online networks, the users determine as to how the customers take their products and services, and also figure out, ways and means, to better their brand reputation and exponentially increase their electronic commerce.

II. LITERATURE SURVEY

Following are among the many challenges in the domain of Sentiment Analysis which need to be dealt with and resolved:

i)"Hidden Sentiment Identification" is to analyze and comprehend the actual emotion in the data rather than simply classifying into any of the three polarities i.e. positive, negative or neutral.

ii)"Handling Polysemy" is nothing but having more than one meaning of the same word leading to multiple sentiment polarity.

iii)"Mapping Slangs" is to narrow down the slangs in the data and to determine their associated meanings and conclude their polarity. Generally, the practice has been that, in order to figure out the reputation of any business, tools or services are provided by various agencies, wherein several sentiment analysis algorithms are implemented to determine

the sentiment in a sentence or extract the opinion from the text. Now algorithms used to determine the polarity of the text in question, consist of using lexical resources. Other popular approaches are based on Machine Learning where popular algorithms such as Support Vector Machines or Naive Bayes Classifiers are utilized. Along with extracting the sentiment in the text, the other advantage of the Sentiment Analysis, is to evaluate and determine the influence of the users on the Social Networking portals or the microblogging sites. Various Social Media Monitoring tools and Social Media Services are available which evaluate how much a particular brand is visible on the social networks. Brand Watch and Sysomos are few of the prominent examples which are used for business marketing and to understand how the customers really feel about them.

III. METHODOLOGY

Hadoop Map-Reduce Framework

Hadoop is an open source software project written in Java. It used to optimize the usage of massive volumes of data. It is essentially a software framework, for the distributed processing of large datasets across large clusters of commodity servers. Hadoop is based on simple programming model called the MapReduce model. It basically provides reliability through Replication.

A. Hadoop Ecosystem

In the Hadoop Ecosystem, there are two components:

i) HDFS (Hadoop Distributed File System) for purpose of storage.

ii)MapReduce for Processing.

Hadoop Distributed File System

It is one of the primary components of the Hadoop clusters and it is designed in the structure of the Master-Slave Architecture.

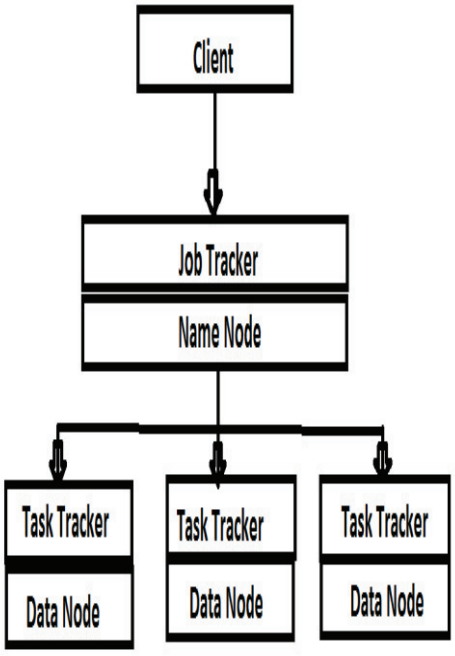


Fig. 1. Hadoop Master/Slave Architecture

Operations such as opening, closing, renaming file and directories are managed by the Master (Name Node) along with the mapping of blocks to Data Nodes. It also regulates access to files by clients. Slaves (Data nodes) are responsible for serving read and write requests from the client along with block creation, deletion and replication upon respective instructions from the Master (Name Node).

B. Hadoop Map Reduce Framework

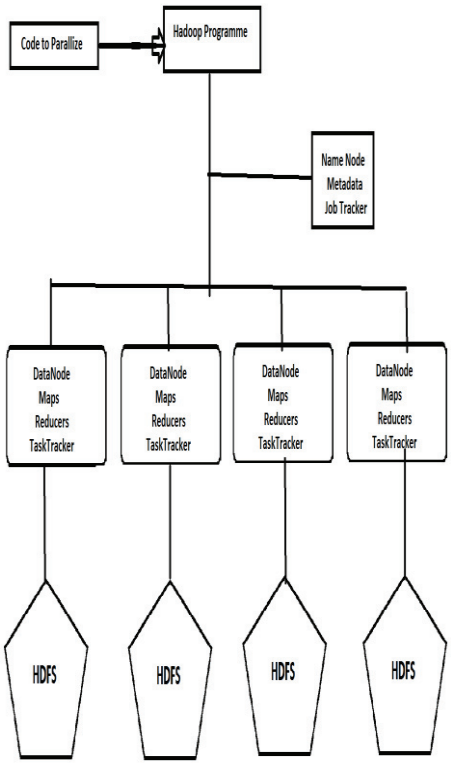


Fig. 2. HDFS Architecture..

When a client makes a request for a Hadoop cluster, this request is managed by the JobTracker. The JobTracker, working with the NameNode, distributes work as closely as possible to the data on which it will work. The NameNode is the master of the file system,

Providing the metadata services for data distribution and replication. The JobTracker schedules map and reduce tasks into available slots at one or more TaskTrackers. The Map and Reduce operations are performed on the Data Node which are slaves to the NameNode. When the map and reduce tasks are completed, the TaskTracker notifies the JobTracker, which identifies which all tasks are complete and eventually notifies the client after the conclusion of the job.

IV. PROPOSED SYSTEM

This system has the capacity to gauge the feelings of the customers about the product and hence understand their position in the market. By analyzing the content produced by the users, the organizations can obtain an effective idea about what the users think of their products, as a result, they can effectively manage their reputation in the market and take corrective action before the user gets to respond on a particular product, with the help of ad-hoc marketing campaigns and digital marketing, in order to assess the

sentiment of their customers. More importantly, the data available on the Social Media Platforms is free of cost and hence no question of being burdened financially and hence this freely available data can be used to create the prediction models in order to accurately predict the sentiment. Hence, more or less the objective of the system is to obtain the recent tweets in the required time frame, and to evaluate the tweets in order to get the sentiments of the users from the text after it has been analyzed. So that, on the collection and collation of these tweets, the overall image of the business can be generated.

V. SYSTEM DESIGN

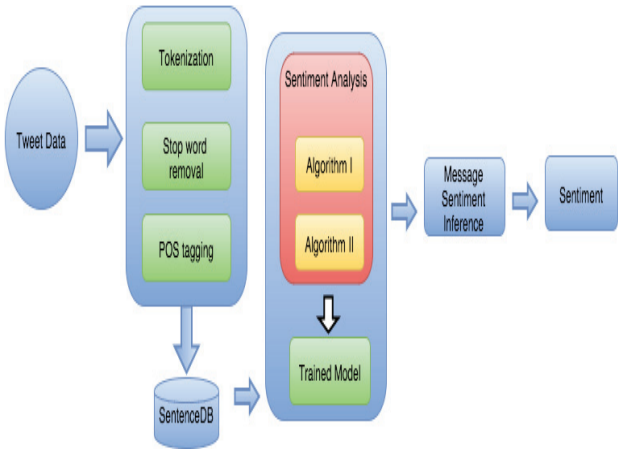


Fig. 3. Process of Sentiment Analysis-The Flow

Tweet Data is accumulated using streaming API, known as Twitter4j, which provides Tweet Data for the particular topic.

Twitter 4j API, renders us the ability to crawl the web and in this case, Twitter. This API can be simply obtained by possessing a Twitter account and being registered as a developer.

The collected Twitter Data is analyzed by gathering the adjectives in the tweet and categorizing the data into positive, negative or neutral. The analysis of the data is executed in parallel using Apache Scala and their RDDs(Resilient Distributed Datasets). Data is prepared using the following set of procedures: - i) Stop Word Removal: -Stop Words are the words that don't generate any sentiments, and hence are dead weights. Thus, it is mandatory to get rid of them, in order to optimize the process ii) Tokenization: -is used so that the tokens can be singled out and identified i.e. the given text is broken down to its individualistic components so that the text is pre-processed for tagging the different Parts of Speech iii) POS (Part of Speech) tagging: -Several Parts of Speech such as nouns, adjectives, verbs and more are found out in this phase. The objective of Part of Speech, is to separate out the adjectives from a phrase so that the underlying latent emotion can be identified with ease. The emphasis is laid out more on disintegrating the sentence and isolating adjectives from them.

Apache Scala is used to stream the data from Twitter using Twitter4j API and the data is acquired and stored in the JSON(JavaScriptObjectNotation) format, which is light-weight format used for the purpose of communication.

Once the Data has been prepared, groomed and refined, the next and the most vital stage is to extract and identify the sentiment hidden in the text and it is achieved through the Maximum Entropy Algorithm. This enables us, not only to determine the polarity in the sentence but also to comprehend the influence of the user on Twitter who wrote it. Ordinarily the approach used to gauge the influence of a particular user is, by getting hold of his followers, his mentions on Twitter and reactions to his tweet. The pre-classified data for training the model is provided by a dictionary known as the SentiWordNet dictionary. The Maximum Entropy Algorithm, uses Entropy as a criterion to polarize the text into the concerned classes of Positive, Negative and Neutral with the help of the training data provided. The Maximum Entropy Algorithm, is a probabilistic model, that excels in the classification of text. It also takes relatively less time to train the data when compared to other algorithms. Moreover, Laplacian Smoothing is used to deal with the words that have not been encountered in the Training Model. Another noteworthy aspect of this system is that Maximum Entropy Algorithm is used in combination with Part of Speech Tagging so as to achieve and maintain the best possible accuracy. Also, Negation Handling techniques are employed to take care of "not" in sentences, so that the meaning of the sentence is not altered.

A. Emoticons

These are entities used in sentences in order to convey a feeling or an emotion in a given text. They are most widely used and found in written communication. Over the last decades, they have dominated the Social Networking sites. Some examples of Emoticons are as follows: - Emoticon for a positive feeling/emotion :-) Emoticon for a negative feeling/emotion :-(and our application makes use of them in order to classify the post into different classes of Polarity.

B. System Architecture

The entire application consists of three distinct function tiers.

i) Presentation Layer: -This is what the end-user sees and where the input is collected and the output is displayed. This is the layer established for the purpose of interaction with the end-user. Input is taken from the user in the form of keywords to be searched for or with name of the brand/product along with start-date and the end-date of the search, in the data streamed from Twitter.

ii) Application Layer: -This layer is used for executing all the Logical Operations. This layer is created using the Apache Scala Language. This layer accomplishes its task of Sentiment Analysis by seeking adjectives in the given tweets and polarizing them into categories of classes of Positive, Negative or Neutral.

iii) Database Layer:-It is the layer used for the purpose of storage. Data from Twitter is streamed into the HDFS using Twitter4j API. Using this interface, all the content in the Twitter regarding a particular feature, can be pulled from its database and stored in this layer.

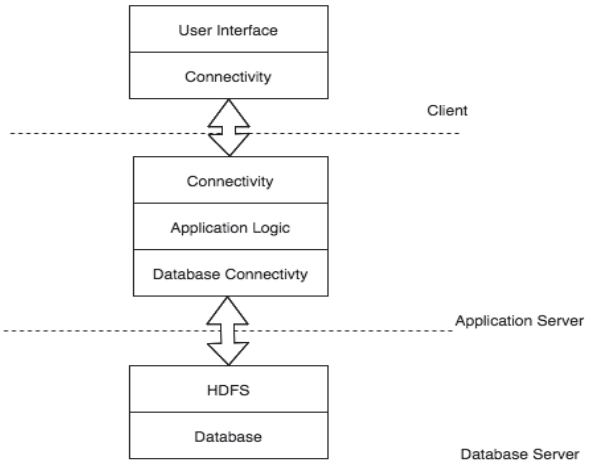


Fig. 4. System Architecture

Finally, the result is displayed using a Graphical Format such as pie-chart, donut or a half-donut. Then, the overall Sentiment is derived and summarized into any of the following emotions: - i) Joy ii) Disappointment iii) Furious iv) Thrilled. The Polarity in every tweet is categorized into the following sets: i) 0 ii) 1 iii)-0.5 iv) 0.5. Since the system is analyzing real time data, the data is collected and analyzed on the fly and thus, this application is successful in providing Sentiment Analysis over any topic in Real Time, hence, characterizing it as a Real Time Application.

VI. RESULT

A Keyword, in the form of a string, is accepted from the user. The user can type-in the Text box provided next to the Search button, any string, which is relevant for a brand.

A pre-decided number of tweets are drawn from the Twitter Database, which are found to be relevant to the string keyed-in and then are analyzed to conclude the holistic sentiment regarding the keyword. The results are then visualized, in the graphical format, using various Graphical representations such as Pie-charts or Donut-shapes etc. and tables. The sentiment is graphically shown and the polarity is displayed in the tables for every tweet collected.

VII. CONCLUSION

Sentiment Analysis is the need of the hour for any and all businesses; to not only determine their market value in the eyes of the customer, but also to give them a competitive advantage by offering deep insights in the market scenario. It is proved that our application can be used to derive accurate conclusions, from data that is collected in real time and scrutinized also in real time, thereby, providing results on the fly.

REFERENCES

[1] Guerrero, J. Olivas, F. Romero, and E. Viedma, "Sentiment analysis: a review and comparative analysis of web services," Information Sciences, vol. 311, pp. 18–38, 2015.

[2] "Sentiment analysis AP Is" [online]. Available :https://konghq.com/blog/list-of-20-sentiment-analysis-apis/

[3] "Sentiment analysis tools track social market ing success"[online].Available: https://www.iprospect.com/en/ca/blog/10-sentiment-analysis- tools-track-social-marketing-success/

[4] Pang Bo, Lee Lillian,Vaithyanathan Shivakumar, "Thumbs up? Sentiment Classification using Machine Learning Techniques," Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP). pp. 79–86, 2002.5

[5] www.apache.org

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Integration of Sensors for Location Tracking using Internet of Things

Prof. Shital D. Bachpalle
IT Department, ZCOER
(SPPU University)
Pune, India
sbachpalle@gmail.com

Prof. Minakshi R. Shinde
IT Department, ZCOER
(SPPU University)
Pune, India
minakshishinde34@gmail.com

***Abstract*—nowadays, localization of things having a tremendous growth, due to continuous change of location wireless localization techniques and sensing techniques interest has been increased. Tracking moving elements is a big challenge for that wireless networks for localization systems and applications are required. To provide this services localization based services are comes into picture using Internet of Things and to obtain required data for transmission is collected by different sensors for objects using different localization techniques. This paper is used to present current improvement in the localization and tracking. In this paper we discuss the current technologies for location tracking with the help of sensors.**

Keywords—Internet of Things, Wireless Sensor Networks, Localization, Tracking, WiMAX.

I. INTRODUCTION

Wireless Sensor Networks (WSNs) are used for localization of the objects, assets, etc. for this localization is categorized into two types centralized and distributed technique as mentioned in paper [1]. Figure 1 is used to represent overall architecture for wireless sensor network. Sensors nodes are connected to each other for communication purpose through gateway which is then connected to internet through base station. Here sensors are used to collect data and used to transfer among different sensors connected through the networks. In centralized technique of WSNs all sensors will acquire data and transfer to centralized server and the server is responsible for calculating its location. In distributed technique every sensors calculate the position by itself [2]. If we compare centralized and distributed approach of localization then distributed approach is more efficient compared to centralized approach and it can be used in large scale networks, but in some specific types networks centralized approach is implemented for example road traffic control system, health monitoring system in which data need to be processed centrally.

Central approach provides greater accuracy compared to distributed approach but central approach of network may suffer from scalability type of problem which is provided in distributed approach. Another drawback of centralized approach is that loss of data may possible.

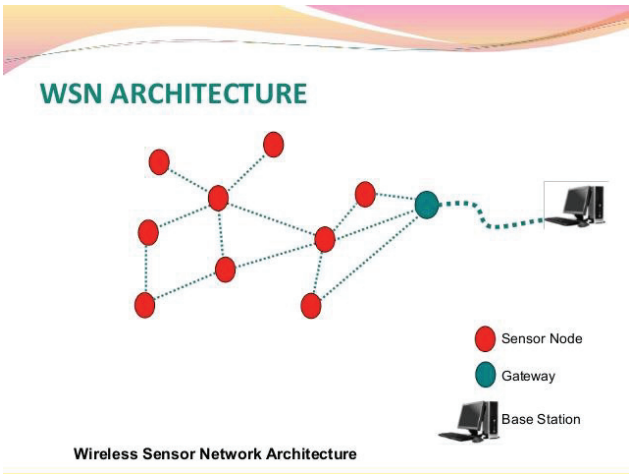


Fig. 1. WSN Architecture

The IoT is used to find the way for businesses operate along with more control and evolve daily operations whatever data collected from this activity is very large and it is difficult to handle this data. But analysis of this data is possible by using AXON platform [3]. Now it is possible to capture and manage data in real time. You can capture your assets, you can monitor and you can analyze your data in real time.As represented in Figure 2 sensors can be used in different applications with different mobile devices to provide flexible and reliable communicationwith the help of wireless sensor network.

Through WSN long distance data transmission is possible. Internet of things is used to provide internet connectivity to these sensors. Localization and tracking of things those are connected through sensors are not very new applications. Through GPS it is already possible to track mobile phone. But recently localization and tracking of elements is possible using Internet of Things which is getting very large attention [4]. Real Time Locating System (RTLS) is another methodology used for finding real-time location information of the objects, people and assets. For location tracking RTLS tags and reader are used which transfer location information to receiver [5]. TRLS is a form of local positioning system which is used to provide only location information. It does not provide identification information or any other details like speed, direction, etc.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

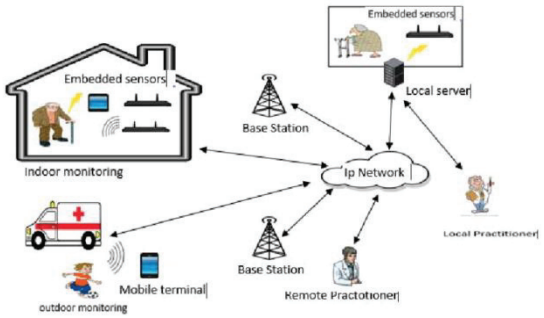


Fig. 2. WSN Architecture with Sensors

RTLS is generally use in buildings and it does not used for global converge purpose like GPS. RTLS tags and fixed reference points can be either transmitters or receiver.

Applications of RTLS

Locate and manage assets or objects such as shopping cart and warehouse.

New location notification through alert

Locate people for item delivery.

To track people or assets through process automatically.

The most famous wireless RTLS are based on RFID for indoor localization or ultra-wideband (UWB) technology [5,6,7,8].

The Smart City application has been realized which renovate the traditional city concept [6]. It is a fully remote controlled isle of lamp posts based on new technologies. The central unit is realized with a Raspberry-Pi control card due to its good computing performance at very low price.WiMAX transceiver, which is connected, via radio link, to the World Wide Web. Figure 3 is used to represent schematic image of the on street system as represented in paper[6]. The integration between Internet of Things (IoT) with the cloud (IoT-Cloud or sensor-cloud) has received significant interest from both academia and industry [7,8,9,10].Based on mobile user location tracking, the IoT-cloud plays a role as a controller, which makes schedules for physical sensor networks on-demand. In this way, resource-constrained sensors are required to report their sensing data only when there is a mobile user entering their region and requesting for sensing data[11]. As proposed in paper [12] mobile devices have GPS to use location tracking services. Existing system for location monitoring that monitors mobility patterns collectively in a large number of moving objects for a large city. The accuracy of the current localization techniques is suitable for their model [12].

II. Location Tracking

A. Wide-Area Tracking

Recently location tracking is very demanding technique; companies want to track their objects across the country or the world. GPS is the most famous tracking technology over big areas. GPS receiver will be used for tracking objects. As the GPS satellites track the vehicle position crosses the country. Using GPS, request through operator for current positioning can make at any time. But, GPS facility is limited in case of indoors or smaller geographical areas.

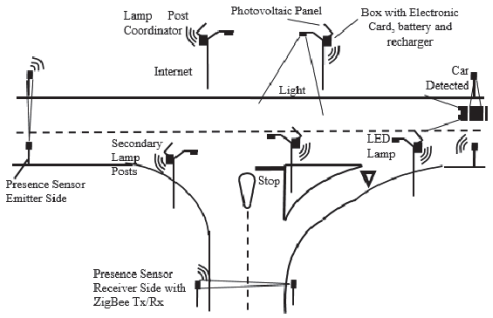


Fig. 3. Schematic image of the on street system.

Local-Area and Indoor Tracking

In some examples GPS is not appropriate for tracking objects is in hospitals or a house. The correctness in case GPS is not adequate for a small area or local area. Deliberate all of the conditions in hospital that need to track like medical equipment, patients, wheelchairs and gurneys. For smaller areas like healthcare organizations and companies would probably use a tracking technology RFID tags and readers to identify the location of resources or inventory. In such type of systems each entity need be tagged with an RFID tags, and to read accurately those tags within specifies inches the readers will be used and placed in planned locations. So that employees in hospital will be capable to find the current location of wheelchairs and retailers will be capable to find an item.

Another best example is in tracking location of children in some fun parks. A wristband with an inserted RFID tag for child is prepared and child will wear that wristband. All the park staff members can track the location using tag attached to wristband through location receivers which is placed around the whole park. A system which already in use at Legoland in Denmark, which allows registration of tag number with parents cell phone.

Tracking location is not just restricted to permitting an association to recognize where its resources are, will also help marketers and retailers to get better target. The future requirement of location tracking is that a tag is placed on the object, person or animal need to be tracked.

III. Tracking Technology

Today's technologies used for tracking location and to create Service-based systems which are as follows:

- Geographic Information Systems (GIS) – It is necessary for huge-scale location-tracking systems, to get geographic information and store. Geographic information systems also can be used to capture, to store, to evaluate and to generate report on geographic captured information.
- Global Positioning System (GPS) - GPS uses a constellation of satellites that used to send location related information of objects and timing information from space to directly your phone. GPS receiver needs to be there in phone to receive signals from one of the three satellites, it will show your location on a flat map. GPS technology is ideal for outdoor locating, such as farming, surveying, and transportation or military use.

- Radio Frequency Identification (RFID) – It is electromagnetic fields which are used to identify automatically and track tags attached to items. Small, microchips that need to be attached to consumer belongings, vehicles and other objects to track their location movements and position. RFID tags can be passive which only transfer records if stimulated by reader. The reader transfers radio waves that used to activate the RFID tags. Then via a radio frequency the tags then transmits information. This information is collected and transmitted to the database.
- Wireless Local Area Network (WLAN) – Is a network of devices that connected through radio frequency, such as 802.11b. In this devices transfer information through radio signals and provide network to users with a range of 70 to 300 feet.

IV. WiMAX

WiMAX is a wireless broadband IEEE 802/16 based standard data communication high speed technology, which provides points to multipoint wireless technology. It is very high speed but very cheap data network, basically used for rural area users who want fast access. It is also used to provide high speed network access to moving devices through mobile applications.

TABLE I. WiMAX PROTOCOL STACK

Network Layer
MAC sub concurrency sub layer
MAC Layer
MAC provide Sublayer
PHY Layer

Table I is used to represent WiMAX MAC layer used to transfer/receive data between the various layers. The additional layer that is convergence sublayer is an interface between MAC layer and Network Layer. WiMAX layer is used to allocate different bandwidth to different users. Connection identifier is used to generate link between user and mobile station with base station, which is uniquely identified by using connection ID data will be transferred over a WiMAX link. There are different types of network architecture figure 4 is used to represent mobile WiMAX Mesh architecture with Routing techniques. There are two types of network architecture one is client/server and another is peer-to-peer. On client side architecture one computer works as a server that provides services to other computers on the same network. Client/server networks are typically used when large files required by multiple users.Whereas in Peer-to-peer architecture all computers are having equal capabilities to share resource.

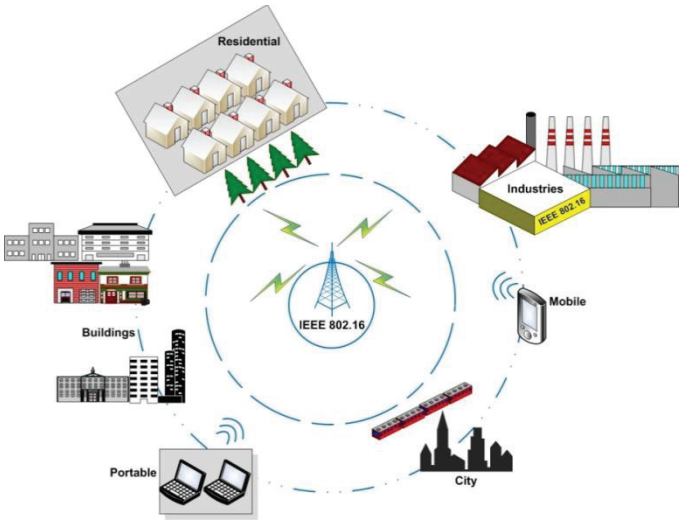


Fig. 4. A Mobile WiMAX Mesh with Routing Techniques

V. LOCATION TRACKING USING IOT

Tracking and locating the things is possible using internet of things.Location tracking is possible using hardware device or through applications. Every device is build up with location sensors such as mobile phones with GPS, which is used to locate devices. Location measurement is one technique and there are multiple solutions or algorithms for this, one solution is by measuring nearby points or location information will be saved into some variable through which we can able to calculate the exact location of device over map using Wi-Fi, RFID, Bluetooth Beacons and GPS. All these technologies are used to gather location related information and then the information is transferred to intermediate node or system or through scanner, same information will be transferred to remote server for further calculation. To track the things geo-coordinates like longitude and latitude are used to compute exact location of object using map. Here sensors can be used to sense location information which is then transferred to remote server.

Creating an real time environment through which assets or objects tracking management performed are having wide range by using RFID system for location tracking, including barcodes it is much more easier process but still time consuming. RFID tagging using handled readers can offer a simple and efficient way be maintain a continuous check on inventory in real time through RFID tags is used to gather more detailed information about the things.

Fig. 5. Location Tracking

VI. CONCLUSION

In this paper we have discussed about the current available location tracking technology in IoT using sensors.There are lots of technologies available in market but we have covered some of them for some specific purpose. The main aim of this paper is to expose new efficient strategies for location tracking and combining with new technologies. Integration of sensors with internet of things to get the large coverage for locating things. WiMAX is used to design fully controlled system from remote station.We can use these technologies in different applications to provide security which is another objective of this paper. Sensors are required to report their sensing data periodically regardless of whether or not there are request for their services. The widely used and most efficient way to track location of resources is through RFID tags and sensors.

REFERENCES

[1] Mao, G.; Fidan, B.," Localization Algorithms and Strategies for Wireless Sensor Networks", Information Science Reference-Imprint of IGI Publishing: Hershey, PA, USA, 2009.

[2] Anup Kumar Paul and Takuro Sato, "Localization in Wireless Sensor Networks: A Survey on Algorithms, Measurement Techniques, Applications and Challenges", J. Sens. Actuator Netw. 2017, 6, 24; doi:10.3390/jsan6040024

[3] https://greenwavesystems.com/product/axon-conversational-iot/

[4] J. Guo, H. Zhang, Y. Sun, and R. Bie, "Square-root unscented Kalman filtering-based localization and tracking in the internet of things," Personal and ubiquitous computing, vol. 18, no. 4, pp.987 – 996, Apr. 2014.

[5] "Real-Time Location Systems" (PDF). clarinox. Retrieved 2010-08-04.

[6] Fabio Leccese , Marco Cagnetti and Daniele Trinca, "A Smart City Application: A Fully Controlled Street Lighting Isle Based on Raspberry-Pi Card, a ZigBee Sensor Network and WiMAX ",, 14, 24408-24424; doi:10.3390/s141224408.

[7] Babu S., Lakshmi A., Rao B. A study on cloud based Internet of Things: CloudIoT; Proceedings of the Global Conference on Communication Technologies (GCCT); Thuckalay, India. 23–24 April 2015; pp. 60–65.

[8] Fazio M., Puliafito A. Cloud4sens: A cloud-based architecture for sensor controlling and monitoring. IEEE Commun. Mag. 2015;53:41–47. doi: 10.1109/MCOM.2015.7060517. [Cross Ref]

[9] Dinh T., Kim Y. An Efficient Interactive Model for On-Demand Sensing-As-A-Services of Sensor-Cloud. Sensors. 2016;16:992doi: 10.3390/s16070992. [PMC free article] [PubMed] [Cross Ref]

[10] Dinh T., Kim Y., Lee H. A location-based interactive model for Internet of Things and cloud (IoT-cloud); Proceedings of the Eighth International Conference on Ubiquitous and Future Networks (ICUFN); Vienna, Austria. 5–8 July 2016; pp. 444–447.

[11] Thanh Dinh,Younghan Kim, and Hyukjoon Lee, "A Location-Based Interactive Model of Internet of Things and Cloud (IoT-Cloud) for Mobile Cloud Computing Applications". Sensors (Basel). 2017 Mar; 17(3): 489

[12] Kim B., Lee S., Lee Y., Hwang I., Rhee Y., Song J. Mobiiscape: "Middleware support for scalable mobility pattern monitoring of moving objects in a large-scale city". J. Syst. Softw. 2011;84:1852–1870. doi: 10.1016/j.jss.2011.06.068.[CrossRef]

Search Engine Optimization Technique Importance

Prof.Amruta Vikas Patil,
Department of Information Technology,
ZCOER, Pune.
amrutayadav2010@gmail.com

Prof. Vikas Madhukar Patil.
Department of Computer Engineering,
ZCOER,Pune.
patilvikasm@gmail.com

***Abstract*— The basic aim of search engines is to search the relevant information. Ranking of any website can be increased with the help of search engine optimization technique which is collection of techniques and practices. There are two parts of search engine techniques of which one is on page and second is off page. Here we are going to discuss the role, importance and working of search engine. The concept and overview of search engine optimization and its types is also described here.**

Keywords— Crawler, Search Engine, SEO, Website.

I. INTRODUCTION

Search engine is nothing but the software program available on the web or we can say that its script available on the web which returns us the list of keywords as a result when we search for a particular keyword or file. With their own features and techniques today the no of search engines are available on the internet. To improve the visibility of any site on the internet , search engine optimization plays an important role.

II. BACKGROUND

Archie was the first search engine in the search engine industry. Archie was used to search for the FTP files (File Transfer Protocol). Veronica is the first text based search engine. Search engines not only search for the pages but also after searching for the particular keyword it displays the result depending upon the importance because large search engines contains millions sometimes billions of pages. By using various algorithms we can determine this importance. Today there different search engines available in the market some them are Google, Yahoo, Ask.com, Bing, Alta vista etc. these are displayed in Figure 1

Figure 1: Different Types of Search Engines

The detailed working of search engine is shown in below diagram. We can divide the working of search engine in two parts as crawling and indexing. The job of web pages retrieving is done by the program called crawler, commonly for use by search engines. Visiting the pages that are mentioned in the search and then grabbing the contents of that particular pages is done in the crawling process. Indexing is the process done after the crawling process in the database. Hence indexing and crawling are the two main processes included in the working of search engines. The whole process includes the tokenization, removing the stop wards, extracting the location of each word in the page, importance of each word, back links to other pages and so on. Hence ranking of each page is decided by this data, it also determines which page should be displayed and in which order. After having a search operation generally the data is divided into number of files and it is then saved to different computers or different servers or it can be loaded into the memory so that it can be used to perform search operation [1].

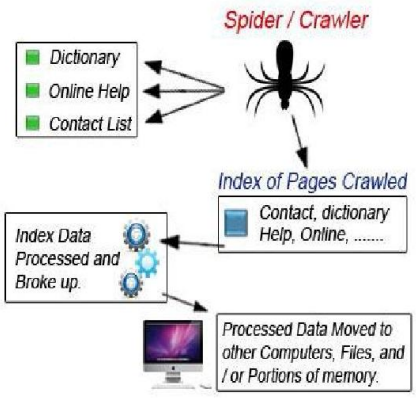


Figure 2: Spider or Crawler Methodology

The links from one page to another is followed by the web crawlers and the content is indexed. Regular basis visit to the website is not possible by the crawler. Although today many

search engines work on the real-time basis like Google , it is not possible for the crawler to visit the site The working of Google is shown by the following block diagram.

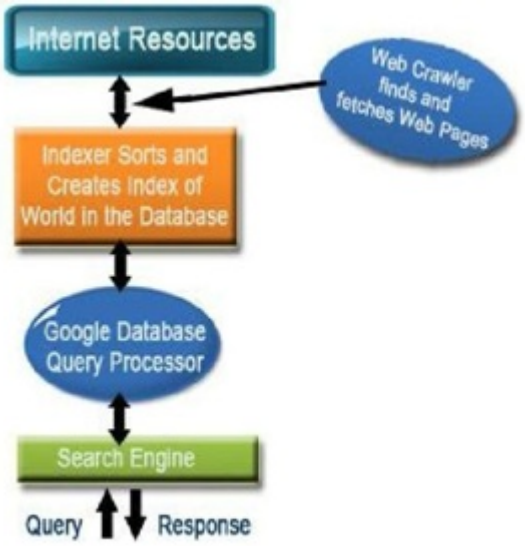


Figure 3: Working of Google Block Diagram

III. ASSORTMENT OF SEARCH ENGINE

Search Engine is divided into following types:

A. Full Text Search Engine:

Apart from traditional database engines full text search engines evolved later on, because more and more unstructured textual data in electronic format was found by corporations and governments. These new text documents didn't fit well into the old table-style databases, so the need for unstructured full-text searching was apparent.

B. Directory Search Engine

It can not be called as a true search engine. All the entries of directory listing is retrieved by it.

C. META Search Engine

Depending upon the user's query search results from multiple search engines is provided by it simultaneously.

D. Vertical Search Engine

Specific search field and search demand are considered by Vertical Search Engine [2].

There are many of search engines like Google, Yahoo, Bing and Ask but most popular search engine is Google. More than 80% first visit to the site comes from the search engine, which is a result according to the survey of which more than 76% uses Google worldwide web. Furthermore, it shows that "84%" of Google searchers never go beyond the second page of search results, and 65% hardly ever click on paid or sponsored results. Therefore, getting top position in search engine results is critical to the constant flow of users to the websites, and this is where the value of Search Engine Optimization comes in. The search engine algorithm has the daunting task of parsing and analyzing HTML pages in order to categorize them so that relevant pages can be found out. In order to bring order to the Internet by helping to categorize web pages and increase their visibility, Search Engine Optimization (SEO) has increased popularity in recent years.

IV. WHAT IS SEARCH ENGINE OPTIMIZATION?

Search Engine Optimization is a technology used to improve the visibility results that we get on a free search engine for the keyword searched for. The optimization can be done with the different types of targets such as images, videos, academic articles, etc. With the help of Search Engine Optimization we can manage the visibility of web pages that we see on a search engine. The aim of this research is , to provide the user assisted ranked results to the user so that user can select the priority links by designing a user assisted, reliable, search based on the keyword based analysis, where user can discard the spam links over the web and efficient search optimization model over the open web can be possible. Here our main aim is to work in a user friendly environment and analyze under different parameters.

Figure 4: Search Engine Optimization

A webmaster or a website is helped by a SEO in order to ensure that search engine can reach to the site and thus there will be the chances that the search engines will search and reach to the site.

Not to click through pages and pages of search results is a best practice for web users, so for guiding more and more user traffic toward the website where a site ranks in a search is essential. Naturally ranking of a site in a organic search increases the chance to visit that site.

The method of improving the website or web pages is nothing but the search engine optimization. Generally if the rank of the website or the web page is higher i.e if the web page appears earlier in the search result, it will be visited by large no of users. The different kinds of search, including image search, local search, video search, academic search, news search and industry-specific vertical search engines can be targeted by SEO. SEO looks for how search engine works, the keywords used by search engines, what actually target audience search for, which search engine is used by the target audience and using all these data the search engine makes a strategy . To optimize the website it may required to edit the contents of the site, HTML and it may required to edit the coding of the corresponding coding so as to increase its relevance to specific keywords and to remove barriers to the indexing activities of search engines.

V. Flavors of Search Engine Optimization (SEO)

Search engine optimization technique can be categorized into three flavors:

Figure 5: Search Engine Optimization Flavors

A. White Hat CEO

WHITE HAT SEO technique. Is a proper and best way to optimize any website according to user requirement All search engines appreciates and supports this type of optimization technique, particularly the Google. If the website is regularly updated with quality and unique content, then this type of SEO technique is recommended and natural way to optimize the website and gets better links from relevant niche websites and blogs. This means that the webmaster does not take a single attempt to mislead search engine and does not try to cheat.

B. Gray Hat SEO

In this technique the links of other sites are exchanged between the sites to improve the search results .But this technique is irrelevant and it is not accepted by the search engines. The optimization achieved using such techniques is not of long term supported by search engines.

C. Black Hat SEO

Optimization done with spamming in the links or if webmaster builds or makes some irrelevant links with the help of niche websites then such optimization technique is termed as black hat SEO, this will be considered as Black Hat SEO Technique

VI. Types of Search Engine Optimization

SEO techniques can be categorized into two parts. These are on page SEO and off page SEO.

A. On Page SEO

Here the optimization is done in the coding of the website.

On Page SEO Elements:

- **Title Tag:** The most important part in good search optimization is the title part. The content of this tag is crawled on the priority basis. Whatever search engine look for the first time is the title.
- **Meta Tag:** The keyword and description tag are the two meta tags used by SEO.
- **Alt Attribute:** Only the alt attribute of the image tag is read by the search engine.
- **Header tags (H1, H2 and H3):** According search engine point of whatever the HTML tags are also important.
- **Permalinks of Web Pages:** The URL of the website must and should be prepared according to the keywords.
- **Internal Linking:** Internal links are nothing but the hyperlinks used in the website coding .These hyperlinks are also equally important in search engines
- **Keyword Density:** The percentage of times a keyword or phrase appears on the web page compared to the total number of words on the page is called as a keyword density. Keyword Density is really important in terms of SEO.
- **Sitemap:** In Sitemap, all important website links are available with date and updated information of page. Search Engine will crawl the sitemap links on the priority basis [4].

B. Off Page SEO

This is the technique for making back links. Back links are normally termed as link back from other website to our website. Back links are important for SEO because search engine algorithms give credit, if any website has large number of back links. As well as back links increase, website popularity will increase.

VII. SEARCH ENGINE OPTIMIZATION BENEFITS

- **Popularity:** By this technique popularity will increase.
- **Increase Visibility:** Once a website has been optimized, it will increase the visibility of website in search engine. More people will visit website.
- **Targeted Traffic:** Search Engine Optimization can increase the number of visitors to the website for the targeted keywords.
- **High ROI (Return of Investments):** An effective SEO campaign can bring a high return of investment than any other marketing. it will increase the volume of sales.
- **Online Marketing And Promotion:** best strategy for promotion [6].

VIII. CONCLUSION

Search Engine is really useful tool in present era of web. There are many of search engines available in market, but most popular search engine is Google. So for getting topmost results in web, we have to use search engine optimization technique. Both on page and off page search engine optimization techniques are important for better search result. In the three flavors of SEO, White Hat SEO technique is the best and long term as well.

References

[1] Sergey Brin and Lawrence Page, "The Anatomy of a Large-Scale Hypertextual Web Search Engine,". [Online].Available: http://infolab.stanford.edu/~backrub/google.html

[2] Meng Cui, Songyun Hu, "Search Engine Optimization Research For Website Promotion, Transport Management College, Dalian Maritime University, Dalian, 116026, China". [Online]. Available:http://www.ftsm.ukm.my:8080/kt/attachments/article/69/06113701.pdf

[3] Joeran Beel, Bela Gipp, Erik Wilde. UC Berkeley School of Information." Academic Search Engine Optimization (ASEO): Optimizing Scholarly Literature for Google Scholar & Co."[Online].Available: http://www.beel.org/files/papers/2010-ASEO--preprint.pdf.

[4] "10 SEO Techniques All Top Web Sites Should Use".[Online].Available: http://freelancefolder.com/10-top-seo-techniques/.

[5] "Search Engine Optimization". [Online]. Available: http://en.wikipedia.org/wiki/Search_engine_optimization.

[6] "Ultimate Benefits of SEO".[Online]. Available: http://www.nextsbd.com/seo/benefits-of-seo.php

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

SEO: On-Page + Off-Page Analysis

Mr. Vikas M. Patil
Department of Computer Engineering
ZES's Zeal College of Engineering & Research, Narhe
Pune, India
patilvikasm@gmail.com

Mrs. Amruta V. Patil
Department of Information Technology
ZES's Zeal College of Engineering & Research, Narhe
Pune, India
amrutayadav2010@gmail.com

***Abstract*— With fast development of information technology search engine optimization technology has attracted a lot of and additional attention. Search Engine optimization is very important technique for web site to boost the rank in search engine. Every owner of web site expects to visualize their web site in top most list before alternative web site so that user visit their web site. There are such a lot of techniques to boost the result or rank in search engine. This paper put idea social media marketing technique that has an effect on to search engine optimization. These techniques will facilitate to boost rank in search engine result.**

***Keywords*— SEO, Search Engine, off and on page SEO Social Media, backlinks, website Submission.**

I. INTRODUCTION

Today's owner of any organization expect to increase popularity of their organization so making use of digital media like web site and so internet become very large source of data with such a large amount of websites being generated daily.

People who make the use of keyword in search engine to search out websites only care about top most links of search engine result.

To attract the users on web site search engine optimization is an tool which use an owner of web site to stay strong in market with their compotator by putting their web site link before others link.[3]

As search engines don't public their algorithmic rule its very difficult task to boost rank of websites from billion of websites

SEO technique make use of original result which analyzed by search engine to boost ranking in search engine result & its additionally facilitate to boost the recognition of particular web site.

To improve the rank of web site in search engine the SEO consider various parameter domain, architecture of website, content of web pages, site update frequency, keywords, back links and so many.

Over all SEO is tool which is used increase traffic on website so that website put their presence in top most list of search engine optimization result.

This paper mainly focuse on off-page SEO methods and techniques. The paper organized with section in Section I with on-page SEO techniques, in Section II deeply discussed off page SEO method using social media marketing and in section III website submission techniques. Finally added conclusion of this paper.

After understanding the overall process of Search Engine Optimization like keyword analysis- top targeted keywords, competitive analysis of websites and reporting and goal setting for SEO let us see on some SEO type and their methods.

II. ON-PAGE SEO TECHNIQUES

If user type on page SEO in google moz defines it is best practice of optimizing individual web document to improve rank in search engine. This technique refers both content and html source code of page that need to be optimized. Major factor influencing this technique is that how web page is relevant to query submitted by user to search engine.[6]

Putting effort and strategies someone can boost a traffic on website and increase presence of website in search engine result. Following are the some techniques which categorized in on-page seo.

1) Meta Tag

Most on page SEO efforts develop a tags. Basically meta tag gives information of web pag to search engine which help full to increase top most visibility in serach engine result.

2) Title tags

Which define what the pages is about the titile is what the user sees in search engine.

3) Meta Description

Meta description gives information what user will find on this page. This is related description of content in page.

4) Heading Tags

Some can increase visibility by adding H1 tags in landing page of website.

5) URL string

URL should be concise, short and easily readable. The way to use effective URL in SEO each word in URL should be separated with hyphen

6) Keyword

Use of effective keyword in content are also help to improve highest visibility in search engine result someone can make use of targeted keyword with content. Use of transactional, informational, location based keyword are very usefull.

7) Optimizing image

By adding images in content by using adding top targeted keyword in Alt text and assigning unique title to images.

All this techniques should be used altogether for effective search engine optimization.

III. OFF-PAGE SEO TECHNIQUES

Working with On-Page SEO techniques is quite easy due to work related to on webpage by considering content and html source code of webpage.

Off page SEO focuses on increasing authority on your domain through the act of getting links rom other websites. This analogy matched with example like water tub with rubber duckies in it. Duckies are the pages and water is like links if water starts filling in tub the duckies are all going to top. The biggest off page SEO factor is the number and quality of backlinks to owner's website example like creating awesome content that people want to link because it is valuable.

1) Creating Sharable Content

Effective and helpful contents are continuously king of search engine optimization, making effective and helpful content is smart way to generating additional and a lot of backlinks to web site.

2) contribute as guest author

There are number of excellent and quality blogs that are always open for guest post from varied other write wonderful content contents for guest post.

3) Social Media Engagement

If owner wants to to make website popular engage with people on social media

4) Social Bookmarking

Social media is another way to promoting website. Make the use of social book marking on popular sites like dig, propeller.

5) Link Baiting

Putting website link as reference to other website from where webpages have copied or published another websites news.

6) Classified Submission

Classified submission is that the one of the necessary a part of off page seo strategy. Through classified ads one get instant traffic and leads by doing and creating additional ads within the classified submissions. There are many web-sites where one will post their ads at no cost or can promote their businesses by posting the relevant ads. And these sites are providing many facilities to the users such that the strategy of advertising, buying/selling, promoting, marketing etc. has been changed forever. so as to profit from classified advertisement posting, it's necessary to make sure that the directories have a decent page rank.

7) Profile Creation

Profile creation is one of the effective ways to list business on varied platforms. this will provides a wider reach a chance to show the url of web site in profile. it's a significant link building technique in which produce profiles at completely different skilled, personal, or any business platform's web site, as an example social networking, forum sites, the other kind of websites etc. business information link to it profile page from that website able to acquire higher back links to the website.

Profile creation site are very useful in gaining additional targeted traffic. Through it someone can get top quality links and attract internet users who actually would like the knowledge from web site that is extraordinarily necessary for SEO.

8) Blog commenting

Blog commenting is outlined as a relationship between blogs, bloggers and blog readers. it's an excellent way to exchange concepts, thoughts or opinions regarding what individuals feel for a specific topic or a blog post. blog comments helps the blog to attract traffic and makes it social.

Blog commenting is an action taken by the blog viewers, visitors, or blog readers; the blog readers or the guests leave a comment on to the blog posts within the form of queries if they require to raise something, or some can simply leave a comment for appreciating the knowledge shared or is also the blog author replying to the comments which are posted by the blog readers.

9) Article Submission

Article Submission is a method of publishing articles to the article directories to urge backlinks. It plays a crucial role in doing internet marketing campaigns. The article submissions helps to achieve most traffic from targeted audience.

Article submissions are done for specific websites when it involves seo.

Those specific websites are simply indexed by Google or alternative search engines as they're very optimised. This improves the searchability of article.

10) Q&A

Someone can participate in question and answer by asking relevant question and putting link to website in source section

11) Image submission

Share photos on popular image submission websites before submitting images make sure with correct URL & tags

12) Bussiness listing

There is no doubt about business listing do help improve overall online presence of websites. Different business information affect to the overall quality score with search engine result. Search engine like google look every place business is an online & assign quality score via complicated algorithm

One way to help to improve quality score is to make sure ever where business mentioned is correct even the things like adding a comma in wrong space knock quality score down in search engine eyes .

IV. WEBSITE SUBMISSION

Once website identified by all the web spiders by making the off-page and on-page SEO technique, still it is necessary to submit sitemap to every search engine, open directory.

1) Submit website

Starting with SEO process with website it is very useful if submit website address to search engine. Prepare sitemap of website in the form of xml file which contains each and every url of website and submit to search engine. Every search engine has provide tool for submit website. Example search engine like Google provide tools named Google Webmaster to submit website to search Engine and indexing of website. By submitting website is very useful to find

website by search engine with comparison of other technique.

2) Add to Directory Service

Directories are the massive databases, that hold vast range of internet sites segregated supported their categories and sub-categories. There are perpetually paid and free directories, a number of them take websites on the complete and a few accept only a webpage or a post.

Now a days directory submission has less priority with compare to the other SEO Technique, SEO experts thinking less about this technique after penguin update.

V. CONCLUSION

To improve ranking or visibility in search engine like google , yahoo search engine optimization is effective technique. By Improving rank and visibility in search engine result it helps to improve user interaction with website. In this paper we discuss the various technique to improve visibility and rank in result of search engine. Maximum focus of this paper in off-page SEO technique. This analysis specially off-page seo technique with on-page seo technique will help to improve result in search engine.

REFERENCES

[1] https://www.searchenginejournal.com/everything-need-know-page-seo/173577/ *(Online)*

[2] http://www.digitalthirdcoast.net/blog/on-page-off-page-seo-difference.(online)

[3] Joyce Yoseph Lemos and Abhijit R. Joshi, "Search Engine Optimization to Enhance User Interaction" in International Conference on I-SMAC (IoT in Social. Mobile,Analysis and Cloud)(I-SMAC 2017

[4] Samedin Krrabaj,Fesal Baxhaku and Dukagjin Sadrijaj,"Investing Search Engine Optimization Techniques For Effective Ranking: A case Study of Educational Technique" 2017 6th Mediterranean Conference on Embedded Computing (MECO) 11-15 June 2017, BAR, Montenegro

[5] Zhou Hui, Qin Shinging,Liu Jinhua,Chen Jianli, "Study on Website Search Engine Optimization" 2012 International Conference on Computer Science and Service System.

[6] https://moz.com/learn/seo/what-is-seo (*Online*)

[7] Gokhan Egria, Cockun Bayrakb "The role of Search Engine Optimization on keeping the user on site", Complex Adaptive System, publication 4, Missouri, University of Science and Technology, 2014 http://www.echovme.in/blog/off-page-seo-strategies/ (online)

INDEX

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during a year 2018-19					
Sr. No	**Name of the teacher**	**Title of the book/chapters published**	**Title of the paper**	**Title of the proceedings of the conference**	**Name of the conference**
1	Prof. Dr. Prasad S. Halgaonkar	NA	Providing Security in Vehicular Adhoc Network using Cloud Computing by secure key Method	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
2	Aparna Vinayak Mote	NA	Information Retrieval in Case Based Reasoning Using Vertical Association Knowledge and Shannon Information Gain	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
3	Prof. Vikas Madhukar Patil	NA	Search Engine Optimization Technique Importance	Proceedings - 2018 IEEE Global Conference on Wireless Computing and Networking, GCWCN 2018	IEEE Global Conference on Wireless Computing and Networking, GCWCN 2018
4	Prof.Sachin M.Kolekar	Applied Machine Learning for Smart Data Analysis	Malware Prevention and detection system for smart phone-A Machine Learning Approach.	NA	NA
5	Prof. A. B. Kathole	NA	Automation in Home & Cities for Energy Saving	Proceedings – 2018 International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing	2018 International Conference on Electrical, Electronics, Computers, Communication, Mechanical and Computing

ZES's Zeal College of Engineering & Research Dept. Of Computer Engineering Narhe, Pune-41.

6	Prof. Kshirsagar A.P.	Best Practices in Effective Teaching (INNOVATIVE TEACHING PRACTICES FOR 4G STUDENTS)	NA	NA	NA
7	Mote Aparna V.	NA	Protest and channels for Big Data Testing	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
8	Ms. Smita S. Bachal	NA	Smart System for Protecting Onion from Different Attack	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
9	Mr. Jubber S. Nadaf	NA	Study and Implementation of Routing Protocols by using Security	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
10	Prof. Sachin M. Kolekar	NA	Review Paper on Untwist Blockchain: A Data Handling Process of Blockchain Systems	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
11	Prof. Prajakta Shinde	NA	Efficient Query Suggestion System using Users Search History	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
12	Prof. Dr. Sunil	NA	Real time detection of drifted twitter spam	International Conference on Information,	International Conference on

	M Sangve		based on statistical features	Communication, Engineering and Technology (ICICET 2018)	Information, Communication, Engineering and Technology
13	Prof. Dr. Sunil M Sangve	NA	Work sharing with close-by mobile units for portable edge-clouds	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
14	Prof.Patil Vikas M	NA	SEO: On-Page + Off-Page Analysis	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
15	Prof. Patil Vikas M	NA	Secret Information Embedding with Two JPEG Images for those Same Scene	International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology

ZES's Zeal College of Engineering & Research * Dept. Of Computer Engineering * Narhe, Pune-41.

Head of Department
HOD
Dept. of Comp. Engineering
ZES's Zeal College
of Engineering & Research,
Narhe, Pune - 411 041.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

(3)

Providing Security in Vehicular Adhoc Network using Cloud Computing by secure key Method

Dr. Prasad S. Halgaonkar
Department of Computer Engineering
ZCOER, Pune, India
halgaonkar.prasad@gmail.com

Mr. Atul B. Kathole
Department of Computer Engineering
ZCOER, Pune, India
atul.kathole@zealeducation.com

Mr. Jubber S. Nadaf
Department of Computer Engineering
ZCOER, Pune, India
jubber.nadaf@zealeducation.com

Prof. K. P. Tambe
Department of Computer Engineering
ZCOER, Pune, India
Kailash.tambe@zealeducation.com

Abstract **—Now a day's Traffic as well as security issue are growing in the area of vehicular adhoc network. The aim of this paper is to provide security, the algorithm-I is used for detecting malicious node in VANET and improved cryptosystem. As Vehicular Adhoc Network is a continuously changing technology that required the Advance Transportation System with security. We are going to discuss about both of them using cloud computing. As in traffic issue the Road side unit can be use to communicate between two vehicle for sharing the data , we want to place constant distance between two RSU, So it can be communicate safely but due it, Its has many problem like cost & security. In this paper we can reduce it, vehicles are directly communicate though the cloud so the structure is going to optimize hence reduces the cost as well as able to solve the security problem because of its limited accessibility**

Keywords—Vanet, Cloud, traffic and Security.

I. INTRODUCTION

With the continuously changing in vehicular traffic management system, Currently using traffic system is not supported as per requirement, so need of improve traffic system. The people moving from small region to city have led to increase traffic and due to it increase the ratio of accidents in cities. In order to solve the above problem we need an Advance Transportation System. Vehicular Adhoc Network is a continuously changing technology that required the Advance Transportation System with security. In this system Vehicular Adhoc Network able to communication between vehicles as well as fixed infrastructure by using Road Side Units. The Vehicular Adhoc Network communication can be use for the user safety by sharing the alert message between the vehicle so they can able to take the right decision safely. Vehicular Adhoc Network is dynamic Due to it network position is continuously changes so the security issue are occurs in network. As security is most important part of any network because of it many problems can be occurs. In Vehicular Adhoc Network its changing in nature jam detection, safest rout finding is the main goal. If we are not able to design the proper system then it's a poor network so the security issue are occurs the attacker are able to attacks in network due to it safety issue are occurs. The design of trusted networks comes in to frame with traffic jam detection. So it can provide the secure traveling with the safest path by avoiding the collision.

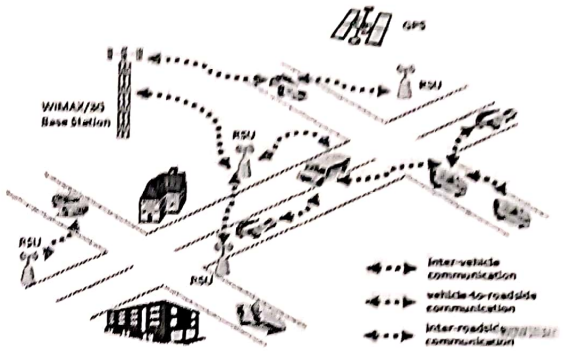


Fig. 1.

II. MOTIVATION

In order to solve the above problem we need an Advance Transportation System. Vehicular Adhoc Network is a continuously changing technology that required the Advance Transportation System with security. In this system Vehicular Adhoc Network able to communication between vehicles as well as fixed infrastructure by using Road Side Units. By using this normal system their many problems can be occurs in the network main problem is about security. The security issue are occurred in Vehicular Adhoc Network because of dynamic nature as it Adhoc the network continuously changes its position due to it the security issue are constantly occurs. As the VANET is dynamic in nature the specific algorithm is not available to detect the problem and give the solution. Due to hacking the number problem can be occurs in network like traffic jam, wrong messages can be send to other devices so the network behaves as they want. So the secure system is required to solve the problem.

Objective for designing the system:

Current traffic design are not proper for road traffic view. The actual working can be tested by using either generated simulation or by observing real traffic view so can get the actual output. The inter vehicular communication can be check by using this method. Current Security systems is costly & with less bandwide. It's uses complex structure & has security issue.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Information Retrieval in Case Based Reasoning Using Vertical Association Knowledge and Shannon Information Gain

Aparna Vinayak Mote
Computer Engineering Department
Zeal college of Engineering & Research
Pune, India
aparna.mote23@gmail.com

Pratima Patil
Computer Engineering Department
Trinity Academy of Engineering,
Pune, India
pratima_dk@yahoo.com

Tejaswini Mane
Computer Engineering Department
Zeal college of Engineering & Research
Pune, India
tejaswinimane18@gmail.com

***Abstract*—In case based reasoning the new problems occurred are solved with the help of the solutions used for similar problems occurred in the past. Information retrieval is very important step in case based reasoning. Similarity knowledge is used to retrieve the data in CBR. Many of the existing systems use similarity knowledge as well as the association rules to retrieve the information. But many existing algorithms are mainly dependent on the similarity knowledge and they don't consider the other available forms of which are helpful for the information retrieval process. This paper uses Apriori algorithm for extracting the expected relevant cases which are dependent on association rules and also on the correlation methods. The main goal of this paper is to provide details of information retrieval in CBR with the help of different methods and also to show the efficiency of the Eclat algorithms.**

Keywords*—*Case Based Reasoning (CBR), Association Knowledge (AK), Association Rule Mining (ARM)

I. INTRODUCTION

In case based reasoning the new problems occurred are solved with the help of the solutions used for similar problems occurred in the past.The previous cases are known as experience where as every experience is considered as a case. Generally, case is represented with the help of two factors namely the detail description of the problem and its solution. CBR mainly has four phases namely Retrieve, Reuse, Revise, Retain. They are described as follows:

A. *Retrieve*: In this phase the similar relevant cases are retrieved to solve the given problem. A case contains the problem, solution of the problem also information about how the solution was derived.

B. *Reuse*: This phase is used for mapping the solutions of the previous problems to the target problem.

C. *Revise*: the real world solution or simulation is tested in this phase and revised if required.

D. *Retain*: once the final solution is obtained, the results are referred as a new case and they are stored for future use.

Following diagram shows the different phases of CBR:

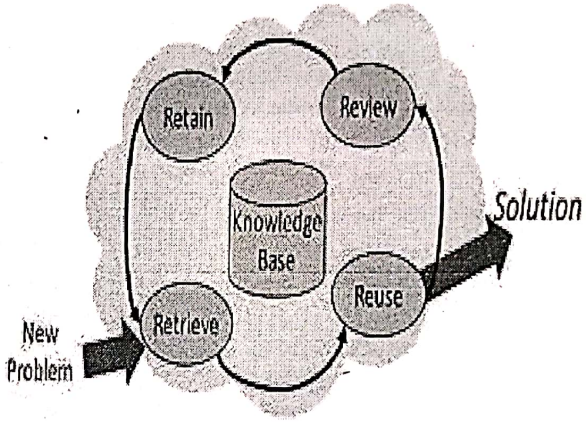


Fig. 1. Phases of CBR

But, as the performance of the CBR depends upon the retrieval phase [2] which is very important phase in CBR. The main aim of this phase is to get the exact similar or close to relevant cases for obtaining the solution for the given problem. The CBR uses these past similar cases which are stored in the case base, the solutions of past similar cases are reused to obtain proper solution for the current problem. The previously available solution can be revised if required and the new solution can also be retained by incorporating it into the available case base for future use.

The main aim of CBR is to retrieve the most relevant and useful cases those can be used to obtain the solution for the target problem and if CBR fails to obtain useful cases fail to generate suitable results for the given problem.

II. RELATED WORK

Normally, similarity knowledge (SK) is used in the retrieval process which is known as similarity-based retrieval (SBR)[2]. In this type of retrieval, SK is used to obtain the previous cases related to the target problem. By using measures and ranking, SBR obtains the cases related to the problem and with the help of these solutions the target problem is solved. But, there are two disadvantages of SBR, first is for defining the SK practically, domain experts are

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

Search Engine Optimization Technique Importance

Prof.Amruta Vikas Patil,
Department of Information Technology,
ZCOER, Pune.
amrutayadav2010@gmail.com

Prof. Vikas Madhukar Patil,
Department of Computer Engineering,
ZCOER,Pune.
patilvikasm@gmail.com

***Abstract*— The basic aim of search engines is to search the relevant information. Ranking of any website can be increased with the help of search engine optimization technique which is collection of techniques and practices. There are two parts of search engine techniques of which one is on page and second is off page. Here we are going to discuss the role, importance and working of search engine. The concept and overview of search engine optimization and its types is also described here.**

Keywords— Crawler, Search Engine, SEO, Website.

I. INTRODUCTION

Search engine is nothing but the software program available on the web or we can say that its script available on the web which returns us the list of keywords as a result when we search for a particular keyword or file. With their own features and techniques today the no of search engines are available on the internet. To improve the visibility of any site on the internet , search engine optimization plays an important role.

II. BACKGROUND

Archie was the first search engine in the search engine industry. Archie was used to search for the FTP files (File Transfer Protocol). Veronica is the first text based search engine. Search engines not only search for the pages but also after searching for the particular keyword it displays the result depending upon the importance because large search engines contains millions sometimes billions of pages. By using various algorithms we can determine this importance. Today there different search engines available in the market some them are Google, Yahoo, Ask.com, Bing, Alta vista etc. these are displayed in Figure 1

Figure 1: Different Types of Search Engines

The detailed working of search engine is shown in below diagram. We can divide the working of search engine in two parts as crawling and indexing. The job of web pages retrieving is done by the program called crawler, commonly for use by search engines. Visiting the pages that are mentioned in the search and then grabbing the contents of that particular pages is done in the crawling process. Indexing is the process done after the crawling process in the database. Hence indexing and crawling are the two main processes included in the working of search engines. The whole process includes the tokenization, removing the stop wards, extracting the location of each word in the page, importance of each word, back links to other pages and so on. Hence ranking of each page is decided by this data, it also determines which page should be displayed and in which order. After having a search operation generally the data is divided into number of files and it is then saved to different computers or different servers or it can be loaded into the memory so that it can be used to perform search operation [1].

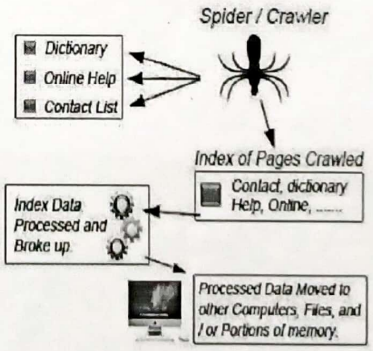
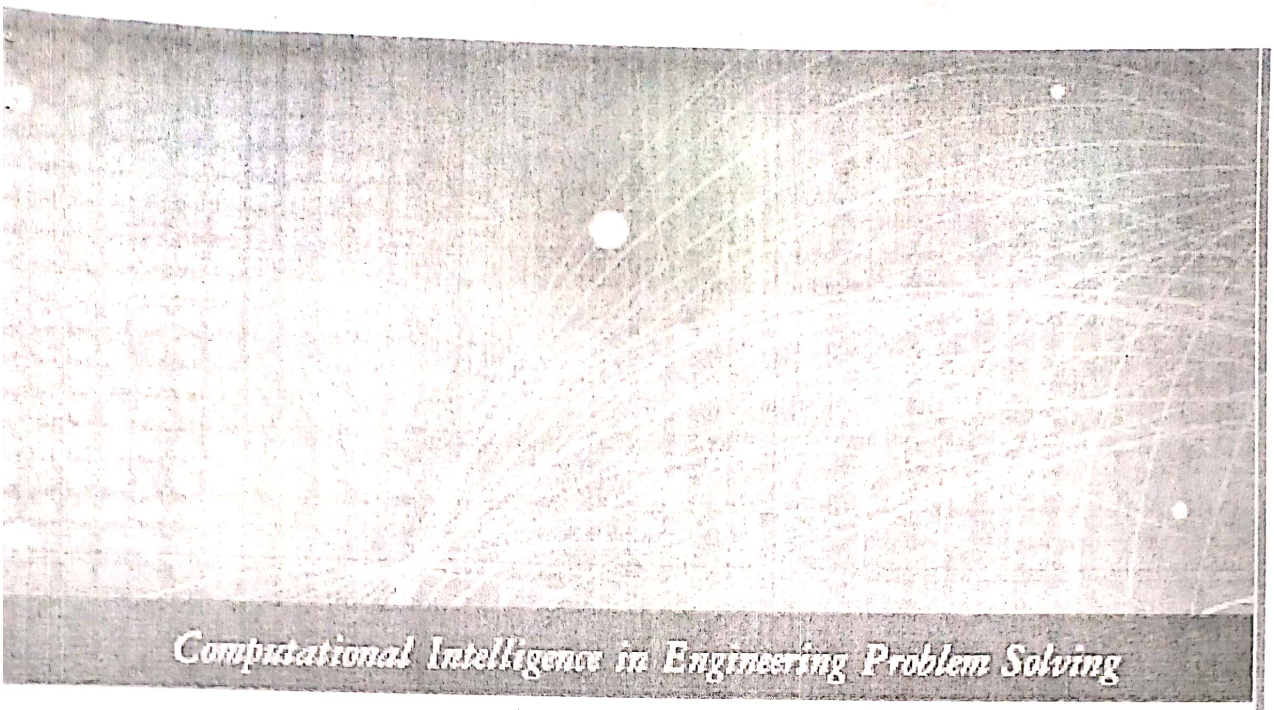


Figure 2: Spider or Crawler Methodology

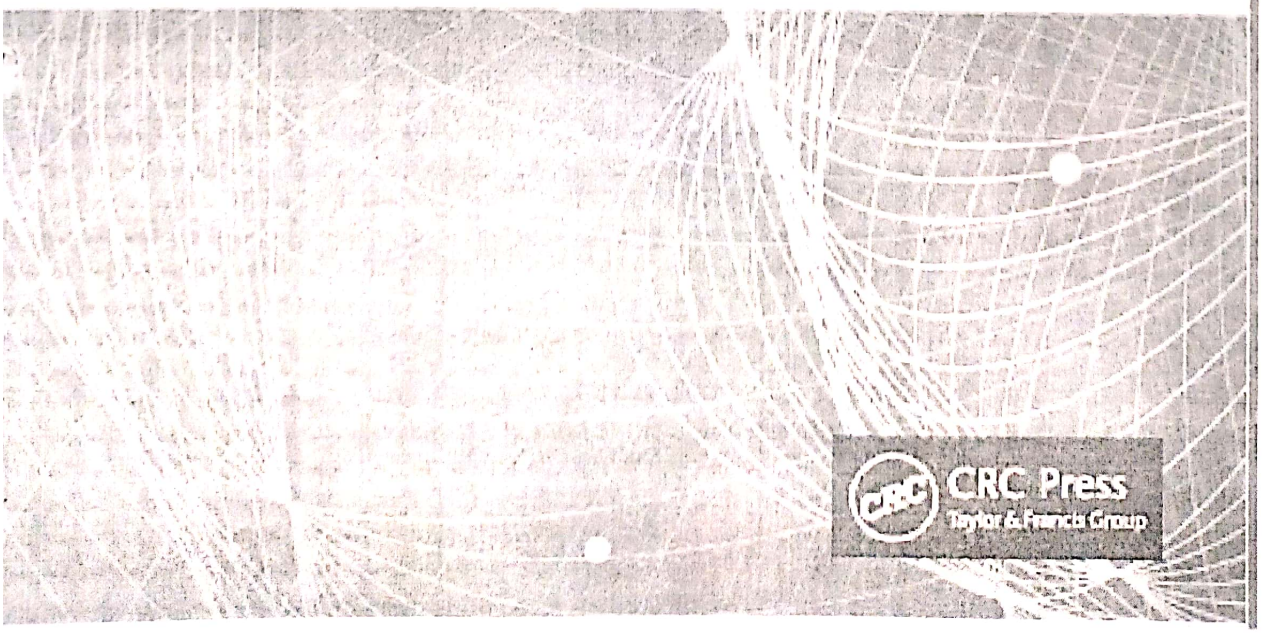
The links from one page to another is followed by the web crawlers and the content is indexed. Regular basis visit to the website is not possible by the crawler. Although today many

978-1-5386-5201-5/18/$31.00 ©2018 IEEE



APPLIED MACHINE LEARNING FOR SMART DATA ANALYSIS

Edited by
Nilanjan Dey, Sanjeev Wagh, Parikshit N. Mahalle
and Mohd. Shafi Pathan



11

Malware Prevention and Detection System for Smartphone

A Machine Learning Approach

Sachin M. Kolekar
Department Computer Engineering, Zeal College of Engineering and Research, Pune, Maharashtra, India

CONTENTS

11.1 Introduction

Number of Smartphone users has increased tremendously in last decade, and it continues to increase every day. This in turn attracts malware developers to target smartphones and perform their malicious activities. Nearly all of these Intrusion Detection Systems are demeanor-predicated, for example, they don't plan on a record of maleficent code design, as in

Applied Machine Learning for Smart Data Analysis

Edited by

Nilanjan Dey
Sanjeev Wagh
Parikshit N. Mahalle
Mohd. Shafi Pathan

CRC Press

Contents

Automation in Home & Cities For Energy Saving

Prof.A B.Kathole
Computer Engineering Department,
ZCOER,Narhe,Pune
atul.kathole@zcaleducation.com

Prof.S S.Bachal
Computer Engineering Department,
ZCOER,Narhe,Pune
smita.bachal@zcaleducation.com

Prof.M D.Umale
Computer Engineering Department,
ZCOER,Narhe,Pune
mrunali.umale@zealeducation.com

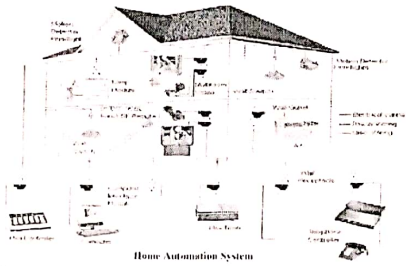
Abstract : In the present day home automation is becoming essential for the purpose of improving our life condition. Convenience and ease of using home appliances is what home automation is offering. Home automation offers a futuristic way of life in which an individual gets to control his entire house using a smart phone, from turning on a TV to locking/unlocking doors. It also offers an efficient use of energy. But to get or acquire such system installed will cost a lot of money and that is the major reason of why home automation has not received much demand and attention. adding to that also the complexity of installing it and configuring it. Thus it is essential to make it cost effective and easy to configure, if this is granted to people then they will be willing to acquire it in their homes, offices and schools. In other words, a system modification for the home automation is required in order to lower the price of applying it to houses. Also home automation offers ease of mind and body to handicapped and/or elders in their houses by just one click to do what they want as stated above. So , The main goal for this paper is to design and implement an open platform for data management, logging, control and monitoring based on the concept of IoT (Internet of things). For example, forgetting something when the person leaves the house might be an early symptom of dementia. So Well-designed IoT/CPS can reduce energy consumption, enhance safety in buildings and cities, or can increase the comfortability in the building. In the last few years, the research communities and industrial partners started to study and investigate these two use scenarios to develop prototype or commercial services for these two scenarios.

Keywords — Home Automation, data security, smart homes, energy saving.

I. INTRODUCTION

Home Automation is automation of home, housework or household activity. In other words it refers to use of IT/computer to control home appliances. It integrates electrical devices in a house with each other. For example: It can include centralized control of lighting, appliances, security lock of gates & doors to provide improved convenience, comfort, energy, efficiency and safety.

In today's IT world, home automation is being popular due to easiness, flexible means of viewing/monitoring and controlling the appliances and other things according to users comfort and needs. The challenging part lies in simplicity and cost of installing them in home and varies with increasing number of services to be monitored and controlled. The elderly population (aged 65 and beyond) of the developed countries has drastically increased over the last few decades, which results in various kinds of problems and challenges for society (e.g., a health care burden and shortage of care-givers.) Furthermore, the number of people living alone at home and the number of single-resident houses are also increasing worldwide. It is reported that elderly persons prefer an independent and aging-in-place lifestyle due to the high expense of health care services and the privacy concern while living with a caregiver. However, the independent life cannot be maintained if the person has dementia.



Home Automation System

In the present day home automation is becoming essential for the purpose of improving our life condition. Convenience and ease of using home appliances is what home automation is offering. Home automation offers a futuristic way of life in which an individual gets to control his entire house using a smart phone, from turning on a TV to locking/unlocking doors; it also offers an efficient use of energy. But to get or acquire such system installed will cost a lot of money and that is the major reason of why home automation has not received much demand and attention, adding to that also the complexity of installing it and configuring it. Thus it is essential to make it cost effective and easy to configure, if this is granted to people then they will be willing to acquire it in their homes, offices and schools. In other words, a system modification for the home automation is required in order to lower the price of applying it to houses. Also home automation offers ease of mind and body to handicapped and/or elders in their houses by just one click to do what they want as stated above.

Home Automation

Why Home Automation? Regardless of the technology used, home automation provides numerous benefits and importance.

Outlined are some of the benefits:

1. It reduces Energy Consumption: Home automation saves energy on the use of utilities because the issue of forgetting to switch off light or any appliances is eliminated with the use smart appliances as the can be controlled from anywhere.
2. Security and safety: Smart Home provides the privilege of Lock and unlock doors from anywhere, control and automate lights from any location, trigger an alarm to ring if there's unwanted motion or entry, and get immediate alerts if doors or windows open unexpectedly. This can be achieved using the following; security camera, entry sensors, smoke detectors and doors and gates locks.
3. Convenience: Home automation offers automatic assistance system for able and disabled people who live alone at home as well as old people.
4. Comfort: Home Automation offers great deal of comfort as appliances can be controlled from any location. The stress of going to the control switch is eliminated. 5. Emergency Aids to aged: Home automation can serve as a rescue/emergency aids to aged people that are in danger and leave alone. The interesting thing about this project

978-1-5386-4304-4/18/$31.00 ©2018 IEEE.

54. Best Practices in Effective Teaching

Prof. Kshirsagar A. P

Assistant Professor, Computer Engineering Department, Zeal College of Engineering and Research, Pune

*anipk2007@gmail.com

Teaching is a noble profession. Teacher builds a good environment. Teacher is mentor for the students and nurture students, become role models. So, teacher should be very effective in teaching. There are certain techniques that will helps to improve teaching methods and will try to make lectures and practicals more interesting. These are as follows.

1. Creativity-: Here, teacher should express their teaching through some visual exercise. For example, while describing any topic,he/she should ask the student to do particular activity.
2. Audio/Video mechanisms-: If you teach particular topic by showing Audio /Videos of it, then it is immediately understandable to students. The concept which teacher tries to explain to students is easily captures by students.
3. Brain storming-: Teachers must make brain storming sessions. Teachers should dictate a particular problem and, on that problem, students have to think deeply. These sessions will be a best platform for students to express their thoughts. e.g. Group Discussions

INNOVATIVE TEACHING PRACTICES FOR 4G STUDENTS

About the book

This book consists of a glimpse of many professors' ideas towards improvement of teaching practices in India. The vital concept includes strategies in teaching, modernization in education, art of teaching, flipped class room, brain storming, active teaching and learning, challenges in teaching, creative teaching, and design thinking. A collection of research letters presented over there was main intention to help the student community by adopting innovative teaching. Around 95 articles were contributed through research letters all over India. Notable 68 articles were reviewed and presented in this book.

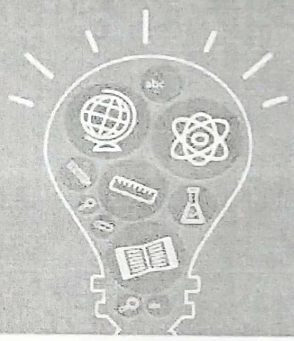
The Editors

We 5 of us Mr. Daniel C, Dr. Sarala, Dr. Vincent Sam Jebadurai, Mr. Arunraj E, Dr. Hemalatha G shortly called as dynamic crew from Department of Civil Engineering, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu, India, have a common intention to empower young minds via innovative teaching practices. As teachers cum researchers, our intuition is towards the current trends in innovative teaching and learning practices. Therefore, we create a common platform to professionals so that they could share their point of view in techniques to improve teaching practices in India.

THE EDITORS

www.books.iorpress.org
support@iorpress.org

INNOVATIVE TEACHING PRACTICES FOR 4G STUDENTS



INNOVATIVE TEACHING PRACTICES
FOR 4G STUDENTS

Editors

Mr. Daniel C
Dr. Sarala
Dr. Vincent Sam Jebadurai
Mr. Arunraj E
Dr. Hemalatha G

1
EDITION

IOR
INTERNATIONAL PRESS

Google Scholor
Indexed Publisher

IOR INTERNATIONAL PRESS

PUBLICATION CERTIFICATE

IOR international Press is delighted to award you for publishing your eminent book chapter entitled

Best Practices in Effective Teaching

Authored by

"Prof. Kshirsagar A. P" that has undergone single blind review and the chapter is published in (2019) Page No 246-250

DOI: 10.34256/iorip19154

We heartily congratulate you for the successful publication

Editors of
IOR International Press

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India, Aug 29-31, 2018

Protest and Channels for Big Data Testing

Mane Tejaswini U.
Departmen of Computer Engineering,
Zeal College of engineering & Research
Pune, India
tejaswinimane18@gmail.com

Gavali Vidhya N.
Departmen of Computer Engineering,
Zeal College of engineering & Research
Pune, India
vidhya.n.gavali@gmail.com

Mote Aparna V.
Departmen of Computer Engineering,
Zeal College of engineering & Research
Pune, India
aparna.mote23@gmail.com

Abstract—'Big Data' is the name enhancing very popular and useful in this world today. The huge amount of Statistics processing is becoming very much important rather than increasing their storage areas. If huge Statistics will well processed and arranged it will become very helpful to many systems while providing the results or to take any decision. This huge Statistics is generated by many industries as well as businesses. That Statistics sources are many technologies like RFID, GPs and many very. There are many platforms as well as different algorithms are available to process that huge amount of Statistics. Though there are drastic advance examination techniques are present but it becomes tedious while you are using that on the huge amount of Statistics. Securing the huge Statistics and examination that it's becoming the very important challenges in front of the huge Statistics user.

Keywords— Big Data, RFID, GPS

I. Introduction

Big Statistics is not a technology it is going to process by many technologies. Wherever Statistics is generated and it's in increasing ration need to process it. To generate the huge amount of Statistics there are many drastic source are available, the huge Statistics is always not in a specific format it might be collection of different forms of Statistics and it's structured and unstructured[1,2].

It has been observed that the current scenario is that there are near about digital Statistics is 7.2 billion, communal and mobile phone end users 100 TB of statistics is handled by Twitter each day, 600 TB of Statistics is handled by FB (Facebook) each day and almost 80% of this Statistics is not structured. Due to this problem its becoming very much important to process this large amount of Statistics efficiently so it will become useful to all[3].

As the use of internet is blooming the Statistics is going to be generated in huge amount. Huge Statistics is having the different characteristics. Due to the internet every moment Statistics is in increasing fashion. There are many sources for huge amount of Statistics like industry, business, IOT, sensors, Media, Education sector, Hospitals, Companies, Institutes and organization and many very. Most of the time it's becoming very difficult to identify the Statistics base or their Statistics sources those are abnormal in behavior or harmful [3,4].

A. Why Examination Big Data:

Enormous Statistics alludes to gathering of mind boggling and expansive informational indexes, whose size is past capacity of conventional information preparing set of programs and other social Statistics base administration devices to process, oversee and catch the entirety information inside the coveted traverse of era. Amount of Statistics sets recycled to orchestrate them as Huge Statistics are not settled and relies upon amount of the affiliation. Huge statistics is basically a common term which is recycled to depict composed, semi sorted out what's very, unstructured information. Huge information is a region that can conceivably have huge antagonistic impacts when usage falls flat. Along these lines it puts extra weight on the examination group to viably get ready for a major information exam exertion. There are few key focuses that if look after can lead examination social occasion to progress. Promptly Examiners should consider the need of utilizing Huge Statistics. They should fabricate their comprehension around information warehousing and business Intelligence examination and should understand the complexities among them and Huge Statistics. Other than fashioners and planners should take an interest with analyzers to get an essential time. In Huge Statistics examination we are deliberate non structured and non static information, record structure and some recent musings like HADOOP, Cassandra and so forth. Along these lines Examiners must be given getting some answers concerning the structure being utilized. This will lead to help examiners to examine Huge Statistics Appropriately.

B. Why Averaging Big Data to business:

Utilizing huge amount of Statistics is vital for trade as its examination incorporates investigation of recent sorts of information which was never broke down previously. This investigation gives a knowledge about how business works and what clients are considering.

C. Business Freedom using Big Data:

1. It helps in settling on better educated choice where costs, advancements, speculations or any business choice can be enhanced if understanding of every single Huge Datum origin is accessible.

2. It additionally helps in recognizing concealed bits of knowledge, which can be valuable in distinguishing openings that can be found just by taking a gander at point by point information.

3. Robotizing business measure where recent advances can be handled to utilize Huge Statistics. In this way allowing examination of Statistics to be fused with process licenses robotized fundamental administration of Business process. These assistants in lessening rates of return, delivering superb item. It additionally helps in enhancing clients bolster. Consequently legitimate

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Smart System for Protecting Onion from Different Attack

Ms. Smita S. Bachal
Computer Engineering Dept.
ZCOER, Narhe, Pune
smita.bachal@zealeducation.com

Mr. Sachin M. Kolekar
Computer Engineering Dept.
ZCOER, Narhe, Pune
sachin.kolekar@zealeducation.com

Mr. Rahul P. More
Computer Engineering Dept.
ZCOER, Narhe, Pune
more.rahul@zealeducation.com

***Abstract* — Now a day's Robust and tight control of systems is the growing need of industry to enhance the product quality at reasonable cost. Services like proper onion storage/harvesting temperature in specific range (37 to 45 degree celcious). Because of change in temperature, different losses &/or diseases can occurs. To avoid these losses we tried to control the temperature and moisture (or say, humidity 50 to 60%) as much as possible.**

To Control the System controlling section is important in any automation system. Customer need to access every appliances through the mobile. We propose a system which proved andsecure the onion from internal and external danger. Person those are outside the home/city They can just login to browser on mobile/laptop and see what is going on in their automated area. Auto controlling is important thing in our day to day life.

Keywords* — *Automation, data security, energy saving.

I. INTRODUCTION

Onion is very important & valuable crop for Indian farmers. It has a wide impact on national economy and financial status of growers/consumers [2]. After harvesting the onion it is necessary to store it properly. Rotten onion results in huge loss to the farmers. Onion is grown in all three crop seasons. According to ICAR - Directorate of Onion and Garlic Research, the cultivation in India is growing day-by-day[1]. Hence it has a wide impact on national economy and financial status of growers/consumers [6]. The Indian climate is becoming more erratic during various seasons causing unexpected fluctuations in temperature and humidity. This makes onions more susceptible to rotting. This leads to rotting due to growth of fungi leading to bacterial rot, sprouting, rooting. To prohibit these losses, the aimed was to design and develop an electronic device to avoid onion rottening. We visited the storage sheds in markets and study the post harvest losses and tried to find remedy to prevent it. Knowing the storage techniques and losses, we designed and developed a need based electronic circuitry that can provide early warning and capable of sending messages to owner. This worksuggests an integrated system which introduces a different and convenient option for preventing or reducing onion losses. This system works on the principle which involves sensing emitted gases by onions and processing them to obtain desired output. Emitted gases are sensed by their respective sensors & then, their signals are read & processed by microcontroller. According to programmed microcontroller Audio-visual alarm and text message will be sent to the owner. To control other parameters like temperature and humidity we use a green colored net and fan.

Objective:

It is important that for proper onion storage/harvesting temperature in specific range (37 to 45 degree celcious). Because of change in temperature, different losses &/or diseases can occurs. To avoid these losses we tried to control the temperature and moisture (or say, humidity 50 to 60%) as much as possible.

In today's IT world, automation is being popular due to easiness, flexible means of viewing/monitoring and controlling the appliances and other things according to users comfort and needs. The challenging part lies in simplicity and cost of installing them in home and varies with increasing number of services to be monitored and controlled. The elderly population (aged 65 and beyond) of the developed countries has drastically increased over the last few years which results in various kinds of problems and challenges in society (e.g., a health care burden and shortage of caregivers). Furthermore, the number of people living alone at home and the number of single-resident houses are also increasing worldwide. It is reported that elderly persons prefer an independent and aging-in-place lifestyle due to the high expense of health care services and the privacy concern while living with a caregiver. However, the independent life cannot be maintained if the person has dementia.

1. It is important that for proper onion storage/harvesting temperature in specific range (37 to 45 degree celcious).. The main goal of the project are listed below:
2. Develop application for control and monitoring. Develop PID control for temperature control.

The Logging, Monitoring and Controlling of sensors and appliances are done .To avoid these losses, we tried to control the temperature and moisture (or say, humidity 50 to 60%) as much as possible.

II. LITERATURE SURVEY

According to ICAR - Directorate of Onion and Garlic Research, the cultivation in India is growing day-by-day [1]. Onion contributes a wide impact on national economy and financial status of growers/consumers [2]. Although for farmers! DR.P C. Tripathi stated that The peak onion production pattern is observed about 60-65% in Rabi (Mar-Jun) seasons [5]. The post-harvest treatment involves selection, grading and curing of the bulbs [8]. J. Food Sci. Technol. in Jun 2012 given a view on onions that The Indian onion bulbs have higher water content[4] making them more

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Study and Implementation of Routing Protocols by using Security Method

Mr.Jubber S.Nadaf
Department of Computer Engineering
ZCOER, Pune, India
jubber.nadaf@zealeducation.com

Dr. Prasad S. Halgaonkar
Department of Computer Engineering
ZCOER, Pune, India
prasad.halgaonkar@zealeducation.com

Mr. Atul B. Kathole
Department of Computer Engineering
ZCOER, Pune, India
atul.kathole@zealeducation.com

Abstract — **Now a day's Traffic as well as security issue are growing in the area of vehicular adhoc network. The aim of this paper is to provide security, the algorithm-I is used for detecting malicious node in VANET and improved cryptosystem. As Vehicular Adhoc Network is a continuously changing technology that required the Advance Transportation System with security. As in traffic issue the Road side unit can be use to communicate between two vehicle for sharing the n , we want to place constant distance between two RSU, So an be communicate safely but due it, Its has many problem like cost & security. For performance evaluation, we use three metrics: Packet Delivery Ratio (PDR), Throughput and Processing Delay (end to end delay).**

Keywords— VANET, AODV, DSDV, SA-DSDV etc.

I. INTRODUCTION

With the continuously changing in vehicular traffic management system , Currently using traffic system is not supported as per requirement, so need of improve traffic system. The people moving from small region to city have led to increase traffic and due to it increase the ratio of accidents in cities. In order to solve the above problem we need an Advance Transportation System. Vehicular Adhoc Network is a continuously changing technology that required the Advance Transportation System with security. In this system Vehicular Adhoc Network able to communication between vehicles as well as fixed infrastructure by using Road Side Units. The Vehicular Adhoc Network mmunication can be use for the user safety by sharing the alert message between the vehicle so they can able to take the right decision safely. Vehicular Adhoc Network is dynamic Due to it network position is continuously changes so the security issue are occurs in network. As security is most important part of any network because of it many problems can be occurs. In Vehicular Adhoc Network its changing in nature jam detection, safest rout finding is the main goal. If we are not able to design the proper system then it's a poor network so the security issue are occurs the attacker are able to attacks in network due to it safety issue are occurs. The design of trusted networks comes in to frame with traffic jam detection. So it can provide the secure traveling with the safest path by avoiding the collision.

In this paper, we discuss the secure scheme in VANET which can help the network to maintain a reliable secure connectivity among nodes (vehicles). The important aspect of VANET is computation and control to improve safety, security comfort of everybody life by reducing accidents, congestion control, fuel in traveling.

II. MOTIVATION

In order to solve the above problem we need an Advance Transportation System. Vehicular Adhoc Network is a continuously changing technology that required the Advance Transportation System with security. In this system Vehicular Adhoc Network able to communication between vehicles as well as fixed infrastructure by using Road Side Units. By using this normal system their many problems can be occurs in the network main problem is about security. The security issue are occurred in Vehicular Adhoc Network because of dynamic nature as it Adhoc the network continuously changes its position due to it the security issue are constantly occurs. As the VANET is dynamic in nature the specific algorithm is not available to detect the problem and give the solution. Due to hacking the number problem can be occurs in network like traffic jam, wrong messages can be send to other devices so the network behaves as they want. So the secure system is required to solve the problem.

In VANET, the effective communication time is always very short due to high speed vehicular movements, which causes performance degradation. GPSR protocol is also affected in a similar manner.

Objective for designing the system:

Current small traffic models are not proper for road traffic Demo purpose. The actual output can gain by using the real world traffic modeling. The impact of vehicle communication on road traffic can be directly calculated. Currently using Security systems is costly & with less bandwide. It's uses complex structure & has security issue.

A. How to manage the Routing Table

After finding the jam in that area. it shows on the app screen which is connected to that particular network and broadcast the message on cloud so the other vehicle able to choose the alternate path due it we are able to inform the other vehicle through maximum distance so they are able to go through the safest path and reduces the time. If the network is not detected any jam in the network its move straight by increasing the speed and update the table as it's the safest path.

Broadcasting the Detection of congestion in Network

{

If (Vehicle distance are calculated after the particular time) Then

{

IF (the measured distance <= fixed THRESHOLD)

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

3

Review Paper on Untwist Blockchain: A Data Handling Process of Blockchain Systems

Sachin M. Kolekar
Department of Computer Engineering,
Zeal College of Engineering And Research,
Savitribai Phule Pune University, Pune
sachin.kolekar@zealeducation.com

Smita S. Bachal
Department of Computer Engineering,
Zeal College of Engineering And Research,
Savitribai Phule Pune University, Pune
smita.bachal@zealeducation.com

Rahul P. More
Department of Computer Engineering,
Zeal College of Engineering And Research,
Savitribai Phule Pune University, Pune
more.rahul@zealeducation.com

Anuradha V. Yenkikar
Department of Computer Engineering,
Zeal College of Engineering And Research,
Savitribai Phule Pune University, Pune
anuradha.yenkikar@zealeducation.com

Abstract **- Blockchain technologies are secure massive power in the last few years. Block chains are distributed ledgers that facilitate parties who do not steady trust each other to maintain a set of ecumenical states. The parties concur on the easiness, standards and histories of the states. As the technology backdrop is enlarge swiftly, it is mutually consequential and arduous to have a rigid grasp of what the foundation technologies have to offer, particularly with difference to their data dealing out capabilities. In this paper, we first survey the state of the art, fixating on secretive block chains. We analyze both in-engenderment and research systems in four dimensions: disseminated ledger, intrusion detection, consortium Blockchain, consensus protocol and perspicacious agreement. We then present BLOCKBENCII, a criterion skeleton for understanding performance of private block chains and public Blockchain. In this chapter we have discussed the circumscriptions of Blockchain.**

Keywords- Intrusion, block chain, consortium block chain, distributed ledger

I. INTRODUCTION

Blockchain are nothing but a system / technology used for secured, inexpensive and fast transaction. Before understanding Blockchain, lets discuss about Bitcoin. Bitcoin is a digital currency who allows exchanging some value between the peers without any intermediate agent. It enables peer to peer transactions by removing trusted intermediary. In this type of transaction, it can take place even if the peers do not trust each other. Bitcoin is not a physical currency instead it is a virtual currency. Bitcoin is an open source i.e. any end user can access it without knowing the actual technical details of it. It has interactive and user friendly design. Nobody can own the Bitcoin, also nobody can controls the Bitcoin. It has many exciting features that other transactions system does not have .It works on peer to peer transactions techniques. Bitcoin is a secure technology. Block chain is a emerging trend in which the chain is formed by dividing chain into different blocks .It is continuously increasing list of records, called blocks. These numbers of distributed blocks is linked and are secured with the help of the concept known as cryptography. The chain which is divided into dissimilar blocks, this blocks contains a cryptographic mix up with the preceding block (the block which is connected before current block), also a timestamp and data transaction between them .

II. LITERATURE SURVEY

Blockchain has changed many business man, investors life. In this paper authors have precisely described that how bitcoin and blockchains are inter connected with each other. What actually blockchain is, key technologies, how it works using hash values also components of data. Drawback of current paper is lack of detail data structure[1]. It is overcome in paper which mainly focuses on suspicious activities detected in android phones while transferring the bitcoins [2].

Consortium blockchain is nothing but association of various blockchain organizations which describes the block in deep manner. Also, it designed algorithms to detect it and practical structure of malware detection model. They have also given graph structure survey regarding various malware families and there false positive and false negative rate, Comparison between various malware detection engine. They created a framework called CB-MDEE to detect malicious activities going in transactions of bitcoins in android[2].Other than these, Blockchain is an algorithm which is used in different applications and used for transaction between two different peers who do not trust each[1]. It completely eliminates the third-party intermediary which is normally needed for transaction. Main concept of blockchain is peer to peer transaction. As for all digital applications, it may be possible that the applications using block chain algorithm may get hacked or some intruder hacks into the application[3]. But due to the intrusion detection algorithms created with the blockchain algorithm, hacking this algorithm is much more difficult. Till today, no one has hacked blockchain though many have tried to do so.

III. TYPES OF BLOCK CHAIN

A. Public Blockchain

A public block chain is an open network and anyone can join / participate in the network. Also called as permission less network .Bitcoin is the largest public block chain network today.

B. Private Blockchain

A private blockchain is a closed network and invitation is required in order to join the network. Also called as permission network. Ripple is the best example of the private block chain network today.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Efficient Query Suggestion System using Users Search History

[1]Prajakta Shinde
Department of Computer Engineering
Zeal College of Engineering
Pune, India
[1]Prajaktashinde5@gmail.com.

[2]Rupali Waghmode
Department of Computer Engineering
Zeal College of Engineering
Pune, India
[2]waghmodert@rediffmail.com,

[3]Deepali Lokare
Department of Computer Engineering
Zeal College of Engineering
Pune, India
[3]deepali.lokare@zealeducation.com

[4]Dr.Prasad Halgaonkar
Department of Computer Engineering
Zeal College of Engineering
Pune, India
[4]prasad.halgaonkar@zealeducation.com

***Abstract*—with the growing information burst on the World Wide Web, internet has placed high demands on search engines. Existing search engines provide most of the features for user query. But users of internet are not satisfied with them as they return thousands of documents in response to user query. So to develop user search intent application is challenging, satisfying increased expectations and diverse needs of user. Recorded user sessions/search logs are analyzed and used to form clusters. This clustering of user query is imperative for filtering the relevant results from web. Thus, by automating the optimization process we minimize user efforts; maximize user satisfaction for getting desired search.**

Keywords* — *User history, search history, query clustering, task identification

I. INTRODUCTION

Clustering of query log and query suggestion [5] techniques has made significant progress for performing online complex task to end user. Recording queries of user and suggesting the queries is a research problem.

There are many ways for clustering [15] users search history, such as agglomerative clustering, clustering based on query flow graph and so on explained in next section .These methods have major drawbacks such as while clustering temporal that is time related and textual features (properties) are taken into consideration. Although the above time-based and text-based relevance metrics may work well in some cases, one can assume that a query is always followed by a related query. However, this may not be the case when the user is multitasking [1] (i.e., having more than one tabs open in her /his browser, or digressing to an irrelevant topic and then resuming her searches). Similarly, the text-based metrics, jaccard similarity and cosine similarity, can capture the relevance between query groups around textually similar queries such as" iPod" and "apple iPod," but will fail to identify relevant query groups around queries such as "iPod" and "apple store," since they are not textually similar. Additionally, the text-based metrics may mistakenly identify query groups around, say, "jaguar car manufacturer" an "jaguar animal reserve" as relevant, since they share some common text. Therefore, we need a relevance measure that is robust enough to identify similar query groups beyond the approaches that simply rely on the textual content of queries or time interval between them.

The proposed system makes use of search logs in order to determine the relevance between query groups more effectively. In fact, the search history of a large number of users contains signals regarding query relevance, such as which queries tend to be issued closely together (query reformulations), and which queries tend to lead to clicks on similar URLs (query clicks). Such signals are user generated and are likely to be more robust, especially when considered at scale. We suggest measuring the relevance between query groups by exploiting the query logs and the click logs simultaneously. As well as mining search logs using FP growth algorithm so in this way by combining clustering results and patterns generated by mining algorithm system will suggest best queries to end user.

This paper gives a survey of differently available techniques related to clustering search log. All these techniques intend to develop query groups; which helps to suggest best candidate queries to current query, which can ease the task of end users. The paper proposes efficient query suggestion by clustering search log.

The paper is organized as follows. Section II gives the review of user search log techniques, section III presents the methodology, system architecture in section IV, mathematical model in section V, System results in section VI and conclusion is presented in section VII.

II. REVIEW OF CLUSTERING USER SEARCH LOG TECHNIQUES

The researchers have surveyed various approaches of clustering user search log for various applications. The clustering techniques using a time related and textual features are not sufficient [2]; to form query groups will require some improvement which is explained in proposed system. The survey of various clustering methods for query grouping is presented in Table 1.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Real Time Detection of Drifted Twitter Spam Based on Statistical Features

Ms. Sayali Kamble
Department of Computer Engineering
Zeal College Of Engineering And Research, Pune
kamblesayali21@gmail.com

Dr. S.M.Sangve
Department of Computer Engineering
Zeal College Of Engineering And Research, Pune
sunil.sangve@zealeducation.com

***Abstract*—With an increasing popularity of Twitter, huge number of tweeters tweeting across the world, real time searching techniques are emerging to permit individuals following the repercussion of news and events on Twitter. These events allow users to spread the news and enable users to talk about these actions and then post their status, these services open prologues for novel types of spam. The most happening things on Twitter at a given point in time have been viewed as a chance to create traffic and revenue. Spammers post tweets containing unrelated tweets, harmful links, repeatedly posts treading topics to try to grab attention of tweeters. The more chance it can be exposure to suspects when for a longer time a spam tweet exists. Therefore, it is very essential to discover spam tweets as soon as possible. Real time detection is in demand to decrease the loss caused by spam. For spam detection there are various machine learning techniques which consider the statistical features of tweets. In proposed system, URLs are scanned and analyse using various APIs to detect whether these URLs are malicious or not which can helps to improve the detection of spamming activity in a timely manner.**

***Index Terms*—Machine learning, Twitter spam detection, Online social networks, Twitter spam drift.**

I. Introduction

Presently, Twitter is one of the popular online social platforms that has millions of active users which posts various tweets every day. This may leads to spamming activities. Twitter spam, that is the unwanted tweets or the tweets that user dont asked to receive which contain harmful URLs.These URLs may include drug sales, malware downloads, scams, or phishing, etc[2], not just obstructs client experiences, but abolishes the complete network.

In order to provide a spam-free environment in Twitter, filtering and detecting spammers from authentic users are compulsory.The statistical features of Twitter which are commonly used by Twitter spam detection techniques are highlighted, to the best of our knowledge, Some new features of Twitter which have not been mentioned by any other works are also presented.

Corporations providing security, moreover as Twitter itself, are struggling spammers to create Twitter platform free from spams. For instance, Trend small uses a blacklisting administration known as net name Technology system to filter spam links for achievers who utilize their services[7]. Twitter conjointly executes blacklist filtering which is a part in the recognition system known as BotMaker[13]. In particular, blacklist not succeed to guard victims from incoming spam because of delay[3]. Analysis shows that, over ninetieth victims could open a replacement spam URLs prior to it is obstructed by blacklists.

Scholars have planned some machine learning primarily based methodologies which may build utilization of spammers and tweets having spams applied mathematics options for testing the links to deal with drawback of blacklists[4], [10]. Various steps have involved exploring Machine Learning (ML) methods. Namely, applied mathematics options, which distinguish spam from non-spam, are obtained from tweets and Twitters (like variety of followers and friends, account age, and variety of features during tweet). Afterwards a little arrangement of models are denoted as class, for training data such as spam or non-spam. Later, tagged models processed machine learning based classifiers, and then the spam is detected by the processed classifiers. Variety of ML based finding methodologies is planned by scholars [2].

These findings from composed knowledge set illustrates that the features of tweets having spam get changed periodically. The marvel is termed as Twitter Spam Drift. The working of such classifiers are significantly affected by Drifted Spam when analysing newer tweets having spam, because earlier ML based classifiers cannot modified using updated tweets containing spam. Spam tweets drift over time due to spammers are combating with security corporations and scholars. Whereas scholars are annoying to find spam, spammers also are attempting to keep away from being identified. As a result spammers avoid to find these options through posting a lot of tweets and making spam related linguistics which means however victimization totally different text[8],[10].

II. Review of Literature

Because of the growing attractiveness of Twitter, spammers get moved to other stages, for example blog and email, to Twitter. Security corporations and investigators are working

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Work Sharing with Close-by Mobile Units for Portable Edge-Clouds

Mr. Deepak Oswal
Department of Computer Engineering
Zeal College Of Engineering And Research, Pune
deepakoswal510@gmail.com

Dr. S.M.Sangve
Department of Computer Engineering
Zeal College Of Engineering And Research, Pune
sunil.sangve@zealeducation.com

Abstract—**With the multiplication of cell phones, and their undeniably capable installed processors and capacity, huge assets progressively encompass clients. We have been exploring the idea of on-request framing of gatherings of adjacent cell phones group to perform computationally serious tasks as a support of nearby versatile clients, or what we call portable group registering. As gadgets can change in preparing force and some can leave a gathering out of the new gadgets participate, there is a requirement for calculations that can disseminate work in an adaptable way and still work with various courses of action of gadgets that can emerge in a specially appointed manner. In this paper, we first contend for the practicality of such utilization of group installed calculations utilizing hypothetical and writing about our tests on hotspot based closeness detecting. We at that point show a multi-layered work taking style calculation for conveying work effectively among cell phones and think about speedups achievable for various topologies of gadgets connected with hotspot, defending a topology-adaptable sharp approach. While our trials are with hotspot and cell phones, the approach is appropriate to systems of different installed gadgets with effective processors, organizing innovations, and capacity that will progressively encompass clients.**

Index Terms—**Wi-Fi, Hotspot, Job Scheduling, Load Balancing.**

I. Introduction

The present situations have turned out to be installed with portable gadgets with expanded abilities, outfitted with various sensors, remote network likewise as limited machine assets. In any case, on the far side some customary web based applications, current innovation don't encourage to misuse this asset well off place of machine. Cooperation among such sensible versatile gadgets will clear the approach for bigger processing openings, not just by making swarm sourced registering openings requiring a man's segment,however also by assurance the asset constraint disadvantage to cell phones. However such portable group are not intended to exchange the remote distributed computing model to upgrade it as follows:

- As an other alternative cloud in conditions wherever availability to remote clouds is less
- To minimize the strain on the system.
- To use machine resources of idle mobile devices

We have introduce a honeybee model which supports P2P work sharing among dynamic portable hubs. We have develop the honeybee API which is a programming structure for creating versatile group processing applications. We tend to lay on past work wherever we tend toward the begin explored static occupation cultivating among a heterogeneous group of cell phones that was trailed by an extra self-versatile approach in utilizing the 'work taking' procedure and in wherever three totally unique portable crowdsourcing applications were authorized. The advance of our examination on work sharing for portable edge-mists is outlined. The progress of our analysis on work sharing for mobile edge-clouds is illustrated in Figure 3.

We have enhanced the work taking algorithmic manage of stage II to manage the bottlenecks inside the transmission of gigantic occupation data by improving the assignment appropriation methodology and utilizing Wi-Fi Direct. Stage III is moreover prepared to deal with arbitrary disengagements and sharp associations. We indicate wide measures of execution pick up and investment funds utilizing our framework. Despite the fact that we have a tendency to recognize that impetuses, security and trust instruments are fundamental for an influenced portable to swarm.

II. Review of Literature

To load balance independent tasks among various mobile nodes and able to contain nodes arbitrarily exiting and entering into the systems, we have designed a model called honeybee using an alteration of the familiar pinching technique[1].CloneCloud correspondingly went for ease to enable portable applications to offload execution without adjustment, utilizing static and dynamic profiling. In general the purpose of the execution scheduler is to expand the general valuable computation[2].

ECC's current execution serves to show the CIC thoughts progressed in there work. The proposed ideas are appeared to be enough and important for solidifying the gadget system[3].To provide cloud services using mobile edge devices. Portable computing devices provide a storage service to clients in a local environmental region[4].Present portable applications treat the end-users as thin client. Similarly as a thin client with most of the huge computations constantly offloaded to infrastructure cloud[5].

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

SEO: On-Page + Off-Page Analysis

Mr. Vikas M. Patil
Department of Computer Engineering
ZES's Zeal College of Engineering & Research, Narhe
Pune, India
patilvikasm@gmail.com

Mrs. Amruta V. Patil
Department of Information Technology
ZES's Zeal College of Engineering & Research, Narhe
Pune, India
amrutayadav2010@gmail.com

***Abstract*— With fast development of information technology search engine optimization technology has attracted a lot of and additional attention. Search Engine optimization is very important technique for web site to boost the rank in search engine. Every owner of web site expects to visualize their web site in top most list before alternative web site so that user visit their web site. There are such a lot of techniques to boost the result or rank in search engine. This paper put idea social media marketing technique that has an effect on to search engine optimization. These techniques will facilitate to boost rank in search engine result.**

Keywords*— *SEO, Search Engine, off and on page SEO Social Media, backlinks, website Submission.

I. INTRODUCTION

Today's owner of any organization expect to increase popularity of their organization so making use of digital media like web site and so internet become very large source of data with such a large amount of websites being generated daily.

People who make the use of keyword in search engine to search out websites only care about top most links of search engine result.

To attract the users on web site search engine optimization is an tool which use an owner of web site to stay strong in market with their compotator by putting their web site link before others link.[3]

As search engines don't public their algorithmic rule its very difficult task to boost rank of websites from billion of websites

SEO technique make use of original result which analyzed by search engine to boost ranking in search engine result & its additionally facilitate to boost the recognition of particular web site.

To improve the rank of web site in search engine the SEO consider various parameter domain, architecture of website, content of web pages, site update frequency, keywords, back links and so many.

Over all SEO is tool which is used increase traffic on website so that website put their presence in top most list of search engine optimization result.

This paper mainly focuse on off-page SEO methods and techniques. The paper organized with section in Section I with on-page SEO techniques, in Section II deeply discussed off page SEO method using social media marketing and in section III website submission techniques. Finally added conclusion of this paper.

After understanding the overall process of Search Engine Optimization like keyword analysis- top targeted keywords, competitive analysis of websites and reporting and goal setting for SEO let us see on some SEO type and their methods.

II. ON-PAGE SEO TECHNIQUES

If user type on page SEO in google moz defines it is best practice of optimizing individual web document to improve rank in search engine. This technique refers both content and html source code of page that need to be optimized. Major factor influencing this technique is that how web page is relevant to query submitted by user to search engine.[6]

Putting effort and strategies someone can boost a traffic on website and increase presence of website in search engine result. Following are the some techniques which categorized in on-page seo.

1) Meta Tag

Most on page SEO efforts develop a tags. Basically meta tag gives information of web pag to search engine which help full to increase top most visibility in serach engine result.

2) Title tags

Which define what the pages is about the titile is what the user sees in search engine.

3) Meta Description

Meta description gives information what user will find on this page. This is related description of content in page.

4) Heading Tags

Some can increase visibility by adding H1 tags in landing page of website.

5) URL string

URL should be concise, short and easily readable. The way to use effective URL in SEO each word in URL should be separated with hyphen

6) Keyword

Use of effective keyword in content are also help to improve highest visibility in search engine result someone can make use of targeted keyword with content. Use of transactional, informational, location based keyword are very usefull.

7) Optimizing image

By adding images in content by using adding top targeted keyword in Alt text and assigning unique title to images.

All this techniques should be used altogether for effective search engine optimization.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Secret Information Embedding with Two JPEG Images for those Same Scene.

Ms.Trupti Bhosale
Department of Computer Engineering
Zeal College Of Engineering and Research,Pune-411041
truptibhosale25@gmail.com

Prof.Vikas Patil
Department of Computer Engineering
Zeal College Of Engineering and Research,Pune-411041
vikas.patil@zealeducation.com

***Abstract*—Steganography is information hidden inside information. Steganography is associate secret writing technique that may be used in conjunction with cryptography as associate extra-secure technique within which to shield information.Steganography will be the science Furthermore specialty about secret communication,Which expects with conceal the mystery messages under a disguise. Medium same time accomplishing the any rate as workable measurable detectability. In this paper use two JPEG picture on the same scene to Requisitions when those sender doesn't bring entry to an precover. Joint photographic masters assembly (JPEG) steganography,which Could a chance to be used on discover the discrete cosine transform (DCT). Coefficients that might present negligible perceivable twisting to. Information hideyo noguchi utilizing J-UNIWARD Also SI-UNIWARD plan. Those Recommended through experimental perception confirmed regulation. For embedding costs will be considerably abuse town simulations Eventually Tom's perusing. Demonstrating to that qualitatively a equal regulation minimizes. Those Bhattacharyya separation between a measure summed up gaussian. Model from claiming shade and stego DCT coefficients defiled toward AWG securing commotion.**

***Index Terms*—Steganography, side-information, precover, acquisition, security, steganalysis, JPEG**

I. Introduction

Steganography plans will hiddenite the presence from securing mystery messages. Toward embedding them under innocuously looking spread. Information. The produced stego information must not raise suspicion with. Make the bring about shortages from claiming steganographic preparing. Since experimental Spread sources [2], similar to advanced media, would as well propelled with. A chance to be completely portrayed utilizing tractable measurable models[3], Every those steganographer Furthermore In this manner the warden must make. Urged will fill in with approximations. This need Primary outcomes for those steganographer[4], who will be unabated should. Figure it out useful security, at present With respect to those peace officer, who. Inescapably manufactures sub-optimal detectors. The vast majority purchaser electronic. Devices, such as cell phones, tablets, and low-end advanced. Cameras, however, spare their portraits best inside the JPEG. Design Also In dont the table those client entry with non-rounded. DCT coefficients[5][6][7]. Throughout this case, Alice will use An. Unique sort side-information she will detract numerous JPEG Portraits of steady scene.This Investigation heading need not been produced the most extreme amount principally attributable of the issue of deed the wanted creative ability and demonstrating. The varieties the middle of acquisitions past fill in ahead this subject incorporates wherever those creators made different filters. From claiming steady composed picture once a flatbed scanner that point attempted with model the securing clamor. Sadly, this needs deed a possibly sizable sum from claiming scans, that makes this methodology rather work escalated consideration.Besides varieties inside the development about those scanner mind the middle of single person filters bring about slight. Spatial plan that convolutes abuse this kind from claiming side-information legitimately as an after effect for this detriment will be especially maintained once embedding inside the picture. Component area throughout this paper we tend will worth of effort with different portraits nonheritable inside the JPEG organization as we tend to hope amount DCT coefficients on be Regularly a considerable measure of tough will minimal varieties the middle of acquisitions. Since our Plan may be with style a sensible technique. we tend on dodge. Those troublesomeness Furthermore surely uncommonly occasion when compelling. Errand from claiming displaying those varieties the middle of acquisitions Furthermore. Raise those methodology worth of effort great Significantly once negligible 2 pictures are on the business sector should Alice.Previously, in turn pertinent past Art, the creators anticipated embedding Toward handiwork patches. From various acquisitions in a predefined design those,Unique patches arent changed and are accordingly statistically undefined starting with those Initially portraits. However, on account of those writers said Previously, their paper there are workable progressing. To make perceivable varieties the middle of individual patches also,inconsistencies at their limits. Furthermore, the desired variety of acquisitions bound grows with the breadth of the key message. By abusage one hundred fifty acquisitions of connected arena (scans), the authors were able to access solely zero.157 bits per non-zero AC constant on the average.We 1st address the after-effects of abstracts on BURSTbase for J-UNIWARD prices [8] beyond a sample alter of affection factors and payloads and assorted with J-UNIWARD and SI-UNIWARD to ascertain the accretion w.r.t. abusage alone one JPEG image and accordingly the allegory to another array of side-information. we tend to additionally investigate however the accretion in aegis decreases with accumulated variations

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

ZEAL EDUCATION SOCIETY'S
ZEAL COLLEGE OF ENGINEERING AND RESEARCH
NARHE | PUNE -41 | INDIA
DEPARTMENT OF E&TC ENGINEERING

INDEX

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during a year 2018-19

Sr. No.	Author's Name	Title of Paper	Title of the proceedings of the conference	Name of the conference
1.	Prajakta More	Healthcare and security system for elderly and disabled people using ARM Microcontroller	International Conference on Information, Communication, Engineering and Technology	IEEE Explore
2.	A. N. Kulkarni	Study of Various Attacks and Routing Protocols in MANETS		
3.	Snehal J. Banarase	Review on: Real Time Lane Departure Awareness System & Maintenance in Reducing Road Accidents		
4.	Smita A. Bhosale	Modern Street Lighting System with Intensity Control based on Vehicle Movements and Atmospheric Conditions using Zigbee		
5.	Snehal A.Ghodake	Easy Navigation of Bus using Alert system		
6.	Dr. S. D. Shirbahadurkar	A Survey on Black Hole Attack in Mobile Ad Hoc Networks	Int'l Conf. on Recent Advances in Information Technology	

ZES's Zeal College of Engineering & Research E & TC ZCOER Narhe, Pune - 411041

H.O.D.
(E&TC Engineering)

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Healthcare and security system for elderly and disabled people using ARM Microcontroller

Abhishek Kashinath Birajdar
Department of Electronics & Telecommunication Engineering, ZCOER
ZCOER, Narhe, Pune-41Pune, India
birajdarabhishek1@gmail.com

Prof. Prajakta More
Department of Electronics & Telecommunication Engineering, ZCOER
ZCOER, Narhe, Pune-41 Pune, India
prajakta.more@zealeducatithe on.com

***Abstract*— Worlds population is growing at 7.3 Billion as per BBC report 2018. Currently having around 650 million people are, live with a disability and 617 million people are the older stage of life. People facing multiple disorder and medical issues like Alzheimer and Epilepsy. Alzheimer an unrepeatable and continuous growing brain disorder which can slowly demolish the memory and thinking skills. First symptoms can appear for most of the people in their mid-60s and most common cause in adults which has the loss of cognitive operating, memorizing and thinking. As we all know life for any disabled/elderly person can become very miserable since they are constantly dependent on others to reduce their dependability we have come up with the idea of GPS based disabled/elderly healthcare and security system. Which can keep tracking a location, and we have attached biomedical sensors which will give his/her health status body temperature and pulse rate to the concerned authorities via SMS/Android Application. This is very useful for patients, elderly people, and disabled people and also useful for children. The Device is continuous monitoring and sending a base station which is an android cell phone. Also, a base station/doctors/ family members can get directions for the patient. Using image processing we are capturing the facial expression of a person for emergency situations using the live camera.**

Keywords*— Microcontroller, GPS, GSM, Biomedical sensors, Tracking, SMS, Low Cost

I. INTRODUCTION

Comprehension the requirement of disabled people for the sustained their life hasslefree, Various systems/machines/technology has been already implemented for their support, systems, and technology that contributes in some way to adapt and give facilities to the people [2].

Alzheimer is a very common disease in the world; According to current figures from Alzheimer's Foundation of America that worldwide, approximately 44 million people are suffering from Alzheimer., estimated over 5.1 million Americans have Alzheimer's disease. The ratio is about to 1-in-4 people with Alzheimer's disease have been diagnosed. This disease is raising a line with the aging population. It an unrepairable and continuous growing brain disorder which can slowly demolish the memory and thinking skills. First symptoms can appear for most of the people in their mid-60s and most common cause in adults which has the loss of cognitive operating, memorizing and thinking, it also causes an effect on behavior abilities which are interfaces with persons daily life and activities. [5]

Signs and Symptoms: First sign of the Alzheimer decease is a memory problem; some people with evocation (memory) difficulties have a condition called mild cognitive impairment (MCI). In MCI, people have more memory problems than normal for their age, but their symptoms do not restrict with their everyday life. The first manifestation of Alzheimer's varies from person to person. For many, the diminish in non-memory aspects of awareness, such as word-finding, vision/spatial issues, and impaired reasoning or judgment, may indicator to the very early stages of Alzheimer's disease. [6]

In the previously proposed system of existing solutions for healthcare and security system has the capability to send real-time alerts to the system in the tracking system. This system has cost-effective, well-grounded and has the function of accurate tracking. If tracking of the vehicle is possible by an accurate network of GPS then we can use this system for human also. We can track them for the security purpose. [2]

In GPS based assistant has national security purpose and put the idea of tracing the soldier's activity and seamanship's between soldier to soldier and leads such as knowing their speed, distance, height. The base hub will guide the soldier on the accurate path if he is lost on the battlefield also keep monitoring on soldier's health. Need to monitor from a PC terminal in the war zone, this system is not useful in day-to-day life for common people and cost-effective. [3]

The idea of design this project began with a research about automation technologies that can help create a device which can help to elderly/disabled people. In the global market already have a large field of applications, some of them with a high cost. A really important interest to improve these technologies to give support to disabled people. Based on a combination of several projects that have been designed during the last years, this project will improve some systems and will reduce costs besides being a commercial system really easy to acquire.

II. PROPOSED SYSTEM

Multiple devices and application are available for purpose of security or health care system. But here we are tried to design a total security system and health care system for both elderly and disabled people. There are many ways of controlling appliances in the day to day life but some are very expensive but they have limitation also.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Study of Various Attacks and Routing Protocols in MANETS

A. N. Kulkarni
Department of E&TC
Zeal College of Engineering & Research
Pune, India
anushri.kulkarni@zealeducation.com

R. R. Bukate
Department of E&TC
Zeal College of Engineering & Research
Pune, India
rohit.bukate@zealeducation.com

S. D. Nanaware
Department of E&TC
Zeal College of Engineering & Research
Pune, India
suchita.nanaware@zealeducation.com

Abstract - **MANET i.e. Mobile Adhoc Network is basically a network which do not have a proper infrastructure. It mainly uses multihop relay process, from one source or node to other node or destination. MANETS have various routing protocol used for the selection of smallest and comparatively optimum best route for the transfer of message or information.**

These protocols are of various categories, for example, table driven as well as on demand.. etc..

The responsibility that these routing related protocols have is to exchange the information between source and the destination mote by finding the most reliable and shortest path. Here the in between intermediate nodes / motes will be acting as router depending upon the hop count.

Table – driven protocols for routing are also well-known as proactive while the on the demand protocols are also known as reactive in their nature.

Keywords-MANETS, Routing Protocols, AODV, DSR, DSDV

I. INTRODUCTION

A mobile ad hoc network (MANET), which can also be termed as a wireless network which is ad hoc in nature or reversely ad-hoc wireless network, continuously and repeatedly self-configures itself, It is a network have no specific infrastructure for the mobile devices which are connected to each other wirelessly.

Each mote in the MANET is randomly moves from one place to another, and will have to update its connection with rest of the devices regularly. Each mote must forward packets not associated to self use, and for this reason acts as a router. The main & most primary challenge while constructing a MANET is occupying each mote to frequently update the routing related information necessary to efficiently route the traffic. Such types of networks self operative or it might also be connected to comparatively larger network such as Internet. They might contain either one or some more and different types of transceivers in between various nodes. This may also result in a highly dynamic as well as an topology which is autonomous.

MANETs are also an example of wireless ad hoc network in short known as (WANET) which usually has a networking environment constructing its route on top of the data link layer ad hoc network. MANETs also consist of a point-to-point, self- healing, self- forming network. MANETs approximately around 2000–2015 usually communicates with each other at radio frequencies (30 MHz – 5 GHz).

The growth of regularly used devices such as laptops and 802.11/Wi-Fi wireless networking has made MANETs a interesting and reknowned research topic since the mid-1990s. Many recent academic papers compare protocols and their abilities, assumes various degrees of mobility inside of a bounded space, usually having all nodes with a distance of a few hops of each other. Different routing protocols are then analyzed based on measures for eg. the packet drop rate, the overhead induced by the routing protocol, source to destination packet delays, network overall throughput, ability to scale, etc.

The challenges in MANET are specified as follows:
1) Routing in unique direction
2) Multidirectional routing
3) Dynamic and adaptive network topology
4) Scalability
5) Speed
6) Frequency of generation of updates
7) Network overhead
8) Routing based on Mobile agent
9) Energy efficient or Energy aware routing
10) Secure routing
11) Quality of Service (QOS)

II. LITERATURE SURVEY

Adnan Nadeem et. Al. used the knowledge of the residual energy i.e. the amount of battery left in the whole network. It was calculated by referring two fields related to header of repeat request packet (i) Average of remaining amount of battery of these nodes which will be encountered during the selected path. (ii) Number of hop count that will occur during the routing of RREQ packet. As per their survey and analysis, time required for the retransmission is almost approximately proportional to the residual battery energy. After the comparison, those nodes which have more amount of residual energy gets selected.

Lesser hop count is at the end, selected at the stage wherein most of the motes have same retransmission time. Power of Individual battery of a node is being considered as a metric to extend the network lifetime in [3]. Authors of the paper have used an optimized function which takes into consideration the nature of the packet, size of the sent packet and distance between the source and destination nodes, number of hops and overall transmission time are also considered for analysis. In [4] initial population of network

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Review on: Real Time Lane Departure Awareness System & Maintenance in Reducing Road Accidents

Prof. Snehal J. Banarase
Assistant Professor
ZCOER, Pune
Maharashtra, India
snehal.banarase1@gmail.com

Prof. V. N. Jadhav
Assistant Professor
ZCOER, Pune
Maharashtra, India
vnj9594@gmail.com

Prof. S. M. Sutar
Assistant Professor
ZCOER, Pune
Maharashtra, India
samadhansutar147@gmail.com

***Abstract*—The objective of this paper was to reduce road accidents which happened due to unawareness of driver about the vehicle and marked lane. Proposed method detects position of vehicle as per marked lane boundary and aware driver by providing alarming signals about the boundaries. The proposed approach helped to move vehicle as per lane so that it could reduce road accidents as well as human life. Proposed method is based on region of interest contrast level which is improved by using piecewise linear stretching function (PLSF). The proposed algorithm is implemented on the basis of Euclidean distance transform & Piecewise linear stretching functions. For this implementation of contrast level region of interest, Hough transform is used for independent side of road that is right side & left side. For this lane departure, threshold is defined. During driving, if driver will exceed the decided threshold warning message will be provided by the system. The detection rate of proposed algorithm under different lighting condition is 97% & false alarm is around 3%. This result will be helpful to implement this algorithm in real time system for ideal as well as non-ideal road conditions.**

Keywords—Lane departure, ROI, Threshold, Hough Transform, PLSF

I. INTRODUCTION

Now days, everyone is in hurry to reach to the desired destination by means of vehicle with less time consumption. All are desired to cover a longer distance within shorter period of time which is resulting into heavy traffic condition.

India is one of the high population regions, which ultimately increases vehicle population which again causes heavy traffic & road accidents. Now a day's it is a necessity to save human life by implementing various strategies to control robustness while driving, because most of the road accidents had happened just because of loosing awareness for fraction of period. So, monitor & control while driving is an important area of research.

Most of the accidents had happened due the use of mobiles, fatigue and drowsiness of driver while driving. From many years Intelligent Transport Systems (ITS) had taken an initiative to improve security & traffic efficiency, worldwide. The main goal of the Intelligent Vehicle Systems is to improve the road safety and to reduce the traffic capacity.

Over the last century automobile popularity is increasing. Majorly road accidents have become an important cause of fatalities. Each year, near about ten million people become traffic casualties, and two to three million of these people are seriously injured. For instance, in 2003, the United Nations reported almost 150, 000 injured and 7, 000 killed in accidents.

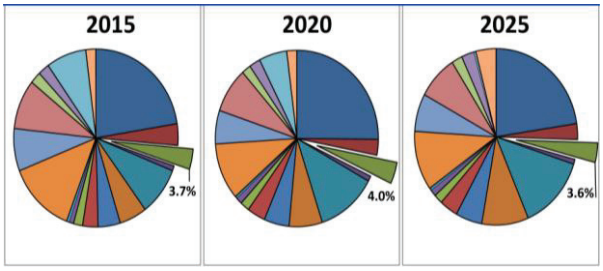


Fig. 1. Automotive ADAS Market Share forecast

Figure 1 shows Automotive ADAS Market Share forecast 2015, 2020, 2015 (Source: Vision gain 2015).

II. RELATED WORK

For lane marking detection ample amount of work has been effectively addressed to avoid on road accidents & it's impact. Robustness under various environmental conditions are overcome by implementing different methods as well as algorithm. Different image processing techniques are used by many researchers to improve detection accuracy. Next section summarizes different methods used for lane detection by many researchers.

A. Lane detection using Hough Transform

Yassin Kortli [1] et al proposed LDW (Lane Departure Warning) system. This method is carried out in four steps i.e.

1) *ROI & Gray scale conversion*
2) *Canny edge detection*
3) *Hough Transform*
4) *Lane departure warning (LDW)*

This system detects position of vehicle as per marked lane boundary. It identifies lane marking & control the vehicle direction as per marked lane. The proposed work is focused on ROI (Region of Interest) for identification & control. They used Gaussian filter for data pre-processing. Canny edge detector algorithm is used to enhance lane boundaries. This method gives awareness message to driver after checking vehicle position within marked boundaries. The proposed algorithm gives good results in various conditions like types of roads & various conditions of light. his method is based on vision based lane marking detection which is categorized into two method i.e. feature based method & model based method. Out of these two models based method is somewhat complex as compared to feature based method. Adaptive Hough transform is used which is most popular method because it is less sensitive to noise which easily detects digital lane marking. Firstly, colour images are converted into gray scale images based on only R & G channel which has good contrast effect. B channel is

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Modern Street Lighting System with Intensity Control based on Vehicle Movements and Atmospheric Conditions using Zigbee

Prof. Smita A. Bhosale
Department of Electronics and Telecommunication Engg
Zeal College of Engineering & Research
Pune, India
Smita.bhosale@zealeducation.com

Tejaswini Ankalkote
Department of Electronics and Telecommunication Engg
Zeal College of Engineering & Research
Pune, India
Teju.ankalkote@gmail.com

***Abstract*— Now a days environment norms & energy is important aspects for street lighting systems design. Developing countries like India, where these street light monitoring & control system plays important role to reduce the specific power consumption. This paper represents a remote street light system with intensity control based on vehicle movement, weather & climatic conditions like humidity, loudly weather, rainy season; it is based on LED and wireless sensors network like zigbee. The system is automatic controlling of street light according to seasonal variations, which includes auto loop system with respective time dependent, while vehicle crossing the road. It will give large impact of saving electricity.**

Keywords- Wireless sensor network, LED street light system, control system, energy saving, PIR sensors, LDR, Zigbee.

I .INTRODUCTON

The outdoor lighting is prime Safety of people during night time therefore street lighting system is required. Street lighting is of 53 percent of outdoor lighting use over world. Nowadays, Environmental issues are the big challenges like raining in any season, earthquake, Tsunami so street lighting utmost importance for safety of people in night time. An expense in percentage of consumption of electricity in street lighting is of thirty five to forty five percent for municipal city budget . Smart based lighting control system can reduction municipal costs up to seventy percent. The importance of Street lighting is main public service given by public authorities at local and city level Lighting is necessary for safety of people, vehicle, also avoid crimes etc., whosoever person ride bike, walk in dark will have better visibility. Therefore. road accident is reduced. Good Street lighting also prevents crime, thereby, increasing safety of person, as well as the security of adjacent public and private properties [1]. A Street light use HID (High-Intensity Discharge) Lamp as light source. Global concern considerable as HID lamps consumed power & carbon dioxide is released in atmosphere. LED array illumination is being suitable solution for an energy reduction. LED illumination requires Approximately 1/3rd to ½ of the power required for HID light. Life of an LED may be higher than three times of an HID light and LED system has less maintenance [2].

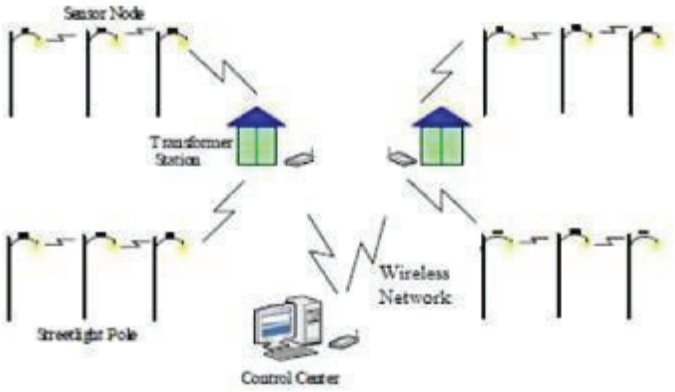


Fig.1: Structure of street light Power Monitoring using WSN [1].

Cut in &Cut out of light depend on time also modulate the intensity of the street light as per need. Auto mode operation is being used in this system Therefore, large saving in Electricity will be acquired [3]. Furthermore, the outdoor lighting market is increasing (according to the analysis compound annual growth rate of is about forty five percent during the year 2011–2012) It involves the wireless communication to track at remote area and control the actual energy consumption of the street lights and to reduce the specific power consumption measures through power conditioning and control. The controller will control LED Street lighting depending on density of traffic, and will transfer the data to individual street light to controller via wireless communication to monitor the system [4]. In recent years, Modern intelligent street lighting system controls light intensity depends on density of traffic & movement of vehicle due to which some lights will illuminate in high intense & others will dim out, [5]. The position of controller is on pole lights which associate with microcontroller, sensors and wireless module zigbee [6].

II. WHY WE ARE USING LED

As compare with HID lamps, LED lamps have 3 times higher age than HID lamp. Replacement of defective fixture is easier in LED light [2].LED system has less maintenance. It required higher initial cost for manufacturing and installation. Therefore LED system can be used in hilly area. Due to the higher reliability, less maintainability & higher efficiency. These smart LEDs would become good choice in street lighting system [2].

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Easy Navigation of Bus using Alert system

Prof. Snehal A.Ghodake[1]
Department of Electronics and Telecommunication
Zeal College of Engineering and Research, Pune
Snehal.nichale@gmail.com

Prof. Megha Pallewar[2]
Department of Electronics and Telecommunication
Zeal College of Engineering and Research, Pune
megha.pallewar@zealeducation.com

Ms. Rajashri Bandal[3]
Department of Electronics and Telecommunication
Zeal College of Engineering and Research, Pune
bandal.rajashri14@gmail.com

Abstract— **For most of the city public transport travelers, bus arrival time is a most important information. In the recent year popularity of Bus alert system has been increased to avoid passengers excessively long waiting time at bus stops. The bus alert system may contain micro-controller to process bus route information, RFID reader to read bus route and number arrive at bus stop, LCD to display bus route, bus number and bus arrival status information. The aim of this paper is to get bus time information and bus status like cancel or delay information for passengers who are available on the bus stop also providing flexibility for blind passenger to walk down to any bus route path to get the bus instead of any specific bus stop using wired and wireless technologies achieved through RS485 and RFID communication. Programming has been developed in Keil environment for ARM controller operation and MPLAB for PIC controller and VB programming for PC database to log the status of bus.**

Keywords: ARM, RISC, CISC, RFID, transport travelers, Keil, PC, VB.

I. INTRODUCTION

In world, Public bus transport has been well developed. The most efficient and inexpensive means of public transport, On an average, the bus system in Singapore in 2011 serves over 3.3 million bus rides daily with around 5 million residents [2]. Effective movement of goods and people are possible by effective transportation system, which contribute to the quality of life in every society. Vehicle population is rapidly increasing in India due to outcome of population boom.

Private car usage, fuel Consumption and traffic congestion can be reducing by bus public transport services. Arrival time and the travel time are the primary information for both the passengers and public transport system. Public transportation system should satisfy these passenger's needs who are traveling. By the use of wireless communication and other devices, passengers are having information about the arrival time of the transit vehicle. The passenger should know the bus accurate arrival time at bus stops. Traveler may discourage when waits for long time at the bus stop. Timetable provided on the web by bus operating companies which is available easily. Limited information provided by bus timetable ex, time intervals and operating hours which are not timely updated. Accurate real time bus arrival time provide by bus information providers companies to the public. They are providing such services, usually requires the cooperation of the bus driving companies e.g., installation of special location tracking devices on the bus which increases worth cost [3].

This paper presents an efficient and effective way to get bus arrival information at particular bus stop by making use of ARM controller, PIC Controller, 2.4GHz Transceiver (wireless), RFID reader (wireless), GSM Modem (wireless) and RS485 (wired) technology.

II. LITERATURE SURVEY

Numerous definitions are presented in the Literature Survey for bus alert system.

'How Long to Wait? Predicting Bus appearance Time with Mobile Phone Based Participatory sense". This Paper proposed predicting coming motor vehicle instance with cellular phone. Ii was based on Participatory Sensing of phone which support additional participants to start the reachable resource to assemble the system because the amount of sharing passengers affects the computation accuracy in system. At least one sharing passenger is on the public automobile transport eager to report the motor vehicle position which makes this system as passenger dependent [1].

"Implementation of Real Time Bus Monitoring and Passenger Information System" designed Real-time motor vehicle Monitoring and tourist Information method pathway the accessible position of all the motor vehicles and calculate their appearance instant at various stops in their particular routes. Calculation of time is restructured occasionally. Distribution of this information takes place to travelers using show terminals at bus stops [2].

"RFID Based Intelligent Bus Management and Monitoring System". In this paper GSM modem is used for price efficient SMS service o transfer data. The LCD displays are installed at motor vehicle stop to supply information regarding the motor vehicle location approaching towards the bus stop. The system is also well-organized handling the urgent situation for example in case of any technical error occurred in the bus ,bus will delay or cancel , The machinist at BASE-Station is informed and the leaving time between the buses is compacted. In case of the heavy crowd, the passengers waiting at the bus stops can be effortlessly informed with the delay by displaying on LCD at the bus stop [3].

"Smart Tracking System for School Buses Using Passive RFID Technology to Enhance Child Safety". A lot of school kids find out themselves locked in a school motor vehicle in the parking after falling sleeping, can fail to see the motor vehicle, step into the incorrect motor vehicle, or children go away at the incorrect place with no method to pathway them. Radio frequency identification (RFID) equipment is used for tracking and monitoring children during their journey to and from school on school buses [4].

"Vehicle Tracking, Monitoring and Alerting System: A Review" The objective of this paper was to study tracking,

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

A Survey on Black Hole Attack in Mobile Ad Hoc Networks

Sandeep Lalasaheb Dhende
Assistant Professor, Department of Electronics and Telecommunication Engineering,
SCTR's Pune Institute of Computer Technology,
Pune, India.
sldhende@pict.edu

Dr. S. D. Shirbahadurkar
Professor, Department of Electronics and Telecommunication Engineering,
Zeal College of Engineering and Research,
Pune, India.
s_shir00@yahoo.co.in

Dr. S. S. Musale
Professor, Department of Electronics and Telecommunication Engineering,
MKSSS's Cummins College of Engineering for Women,
Pune, India.
sandeepmusale@yahoo.co.in

Shridhar K Galande
Assistant Professor, Department of Electronics and Telecommunication Engineering,
SCTR's Pune Institute of Computer Technology,
Pune, India.
skgalande@pict.edu

Abstract— **A MANET consists of a group of wireless mobile nodes. These nodes are arbitrarily moving and communicating one another over wireless links. Due to some unique characteristics such as open medium, changing network topology, distributed cooperation, limited battery power, and limited bandwidth information exchange in the MANET becomes challenging job. In infrastructure less network node needs to cooperate to each other to provide necessary network functionality. AODV routing protocol is most preferably used in MANET. An information exchange is an important task in the security of whole network. In this article we study the routing security problems of MANET and examine "Black hole attack" which can easily be employed against the MANET in detail.**

Index Terms — **Manets, black hole, security, nodes, routing, AODV**

I. Introduction

A MANET is a group of autonomous nodes which are capable to communicate one another without use of a fixed infrastructure or base station. The fixed base stations are used in an infrastructure based network which plays a vital role by coordinating communication between the autonomous nodes. The ad hoc network does not have fixed infrastructure, where nodes are responsible for routing the information between them. A wireless ad hoc network has a dynamic network topology. In which the nodes join and leave the network at any instant of time and their movement in the entire network is random hence the name Mobile Ad hoc NETwork (MANET). A MANET have many potential applications such as military service for connecting soldiers in the battlefield, maritime communication, vehicle networks, campus networks, robot networks, casual meeting and so on [1]. In these networks, every node works as a host as well as a router, forward packets to the intended node in the network even though it is not in the transmission range of sender.

Unlike the conventional network, MANET has some fundamental characteristic such as open medium, changing network topology, distributed cooperation. There are some other characteristics of a MANET such as limited bandwidth and limited battery power [1]. These characteristics makes MANET more vulnerable to several different attacks, for instant black hole attack, wormhole attack, link spoofing attack [2], to name a few. One of the major attacks possible in MANET that can easily be implemented is black hole attack. In this attack, a suspicious node utilizes the routing protocols to advertise itself as having minimum distance to the node whose packets it wants to drops. A gray hole attack is kind of black hole attack, in which the suspicious node silently drops some or all the data packets sent to it [3]. The suspicious node forms a group and work together to have more serious attack which is called as cooperative black hole attack.

In [4], the author survey several detection schemes for ordinary black hole and cooperative black hole attacks to protect routing protocol in a MANET. In [1], author surveys the network layer attacks. Some of them are wormhole attack, link spoofing attack and colluding misrelay attack.

In this article, authors discuss single black hole attack as well as cooperative black hole attack in MANET. Moreover, to protect routing protocol in MANET several black hole attack detection and prevention methods are discussed.

The rest of article focuses reactive routing, proactive routing and hybrid routing protocols in section II. In section III authors describe the single and cooperative black hole attack in AODV protocol in details and to detect and prevent

978-1-5386-3039-6/18/$31.00©2018 IEEE

INDEX

3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during a year 2018-19

Sr. No	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference
1	Dr. S.A.Ubale		Block Level Design For Secure Data Sharing In Cloud Computing	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
2	Prof. Rahul Bhole		A Study of Apache Kafka in Big Data Stream Processing	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
3	Prof. Amar Chadchankar		Cloud Computing based Television System	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
4	Prof. Sneha Vanjari		Efficient Exploration of Algorithm in scholorly Big data	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
5	Prof. Pranalini Joshi		Generation of Brand/Product Reputation Using Twitter Data	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology

6	Prof. Shital Bachpalle		Integration of Sensors for Location Tracking using Internet of Things	2018 International Conference on Information, Communication, Engineering and Technology (ICICET 2018)	International Conference on Information, Communication, Engineering and Technology
7	Prof.Amruta Vikas Patil		Search Engine Optimization Technique Importance	2018 IEEE Global Conference on Wireless Computing and Networking (GCWCN)	International Conference on Information, Communication, Engineering and Technology
8	Prof.Amruta Vikas Patil		SEO: On-Page + Off-Page Analysis	2018 International Conference on Information, Communication, Engineering and Technology (ICICET)	International Conference on Information, Communication, Engineering and Technology

ZES's Zeal College of Engineering & Research, Dept. of Information Technology, Narhe, Pune-41

HOD
Dept. of Information Tech. Engg.
ZES's Zeal College
of Engineering & Research,
Narhe, Pune - 411 041

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Block Level Design for Secure Data Sharing in Cloud Computing

Dr. Ubale Swapnaja
Dept. of Information Technology
ZCOER, Pune
swapnaja.ubale@zealeducation.com

Ghadge Mayuri B.
Dept. of Computer Engineering
ZCOER, Pune
mkadlag88@gmail.com

Dr. Apte Sulabha S.
Dept. of Computer Engineering
SVERI's college of Engineering,
Pandharpur

***Abstract*—The approach of the dispersed registering makes ac- cumulating outsourcing transform into an extending design, which progresses the ensured remote data looking at a principal subject that appeared in the examination composing. The existing framework is utilizing the ensured (secure) recompense channel for information sharing. This execution is troublesome for training. All things considered, the current framework is experiencing conspiracy assault and uncertain key dissemination with a solitary cloud. There is no confirmation of the information privacy and openness. In the proposed framework block level data sharing in dynamic groups. The System is proposing a sheltered path for key dispersion without utilizing any secured correspondence channels and the client can securely get their private keys cloud server supplier utilizing KASE ideas .In this paper as proposed framework we utilize the symmetric adjusted fragmented piece plan (SBIBD),we display a novel square outline based key understanding convention that backings different members, which can adaptably broaden the quantity of members in a cloud situation as indicated by the structure of the square plan.**

***Index Terms*—Key Updating Protocol, Symmetric Balanced Incomplete Block Design (SBIBD), Dynamic Group Sharing, Key-Aggregate Searchable Encryption(KASE).**

I. INTRODUCTION

In the current past with the coming of quick systems administration advancements, there has a significant increment in the speed of the Internet and the level of network. Moreover, with the advancement in internet applications, for example, video conferencing, online joint workspaces, a mass talk, multi-client recreations and online interpersonal interaction applications, various potential outcomes for assemble interchanges have been made. Gathering members share basic interests and offer the duty of secure gathering correspondence.

In recent decades cloud computing and cloud storage has become popular. Each unit ever-changing the tactic which tend to measure and greatly improve. Now due to limited number of storage resources and need of easy to get and use of storage space, people prefer to store all kinds of knowledge in cloud servers, that's in addition more suitable for corporations and organizations to keep away from overhead of deploying and maintaining instrumentation use when data unit hold on domestically. The cloud server provides easily accessible storage space. That fitting well with need of person or group of person working together. Public storage facilities are easy to get. Data stored on public cloud may contain some valuable information so it need to protected.

A cloud system is also suffer from attacks by every malicious users and cloud service provider. Data sharing in cloud computing can provide flexible way of information exchange. Also provide greatest level of storage and computational resources to individuals and enterprises. Cloud computing also intimate many security and privacy features, such as data consistency, accuracy, authorized access, trustworthy, continue operating in event of same failure and like so. In is necessary to confirm the safety of the keep information within the cloud. Key agreement protocol is the basic cryptography element, which can provide secure communication among multiple participants in cloud environment. In cryptography, a key agreement protocol is protocol within which 2 or a lot of parties will agree on a key in such the simplest way that each influences the end result. By using the key agreement protocol, the participants of communication will firmly send and receive messages from one another. They agree upon common conference key share between them. Specifically, a secure key agreement protocol is wide utilized in interactive communication environments with high security needs.

A. Motivation

A cloud system may be suffer from attacks from both malicious users and cloud service provider. It is necessary to protect the stored data in the cloud. Which may contain some sensitive information. Several schemes were used to protect the outsourced data. But these schemes only provide protection to application consist of single data owner. In some applications, multiple data owners are involve. They share their data in a group manner. They wish secure communication between them. Therefore, a protocol that supports secure group data sharing under cloud computing is needed. Propose a scheme that provides the security, data sharing in dynamic group and data can access the from dynamic group. To calculated the fault tolerances and fault detection of user side if hacker hack any file of owner tolerance level increases.

B. Objective

1) To detected the fake user from application.
2) Data are divided into block level from user data.
3) Data security.
4) Achieve fault tolerance.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

II. REVIEW OF LITERATURE

Information partaking in distributed computing enables numerous members to unreservedly share the gathering information, that enhances the power of work in helpful situations and has across the board potential applications. Be that as it may, an approach to ensure the security of information sharing inside and share the outsourced learning in an exceedingly assemble way square measure impressive difficulties. Note that key assertion conventions have contended an extremely important part in secure and practical gathering information partaking in distributed computing. By exploiting the symmetric adjusted fragmented square style (SBIBD), introduce a novel piece configuration based key assertion convention that backings numerous members, which may adaptability broaden the amount of members in an exceedingly cloud surroundings the structure of the piece outline[1].

Hybrid cloud is broadly utilized cloud design in huge organizations that can outsource information public cloud, while as yet supporting different customers like cell phones. Be that as it may, such open cloud information outsourcing raises genuine security concerns, for example, how to safeguard information privacy and how to manage get to strategies to the information put away out in the open cloud. Hybrid cloud design that backings information sharing safely and effectively, even with asset restricted gadgets, where private cloud fills in as an entryway between people in general cloud and the information client. Under such engineering, propose an enhanced development of quality based encryption that has the capacity of appointing encryption/decoding calculation, which accomplishes adaptable services in cloud and protection safeguarding in information use even with cell phones. Broad investigations demonstrate the plan can additionally diminish the computational cost and space overhead at the client side, which is very proficient for the client with constrained cell phones. During the time spent assigning the majority of the encryption/unscrambling calculation to private cloud, the client can not reveal any data to the private cloud. An attribute-based encryption technique is used, which provides flexible access control in the cloud and privacy-preserving in data utilization. This scheme is able to resist some attacks between private cloud and data user by employing anonymous key agreement but in this approach only AES algorithms is applied on the data[2].

Authentication and key foundation are basic building hinders for securing electronic correspondence. Cryptographic calculation for encryption and respectability can't play out their capacity unless secure keys have been set up and the clients know which parties offer such keys. It is fundamental that conventions for giving and key foundation are fit for their motivation. Proposes another and productive key foundation convention in asymmetric (public key) setting that depends on two pass key assertion convention which comprises of three stages; Transfer Phase and Verification Phase and Key Generation Phase. This convention is solid against potential attacks with low unpredictability, likewise it give confirmation between the two elements previously trading the session key. It serves the authentication process between two parties before exchanging the session keys. Data integrity cannot be performed and user know which parties share such keys[3]. With the quick advancement of distributed computing, distributed storage has been acknowledged by an expanding number of associations and people, in that filling in as a helpful and on-request outsourcing application. Notwithstanding, after losing nearby control of information, it turns into a pressing requirement for clients to check whether cloud specialist co-ops have put away their information safely. Thus, numerous analysts have dedicated themselves to the outline of reviewing conventions coordinated at outsourced information. Propose a proficient open evaluating convention with worldwide and examining square less confirmation and in addition group inspecting, where information flow are considerably more productively bolstered than is the situation with the cutting edge. Note that the novel dynamic structure in our convention comprises of a doubly connected information table and an area exhibit. In addition, with such a structure computational and correspondence overheads can be diminished generously. In addition, numerical examination and genuine trial comes about show that the proposed convention accomplishes a given effectiveness in practice. Efficient public auditing protocol with global and sampling block less verification and batch auditing, but using this scheme only structured data can be stored on the dynamic group[4].

Capacity cloud information stockpiling has given huge advantages by enabling clients to store monstrous measure of information on request in a financially savy way. To secure the information store on cloud, cryptographic role based access control plans have been created to guarantee that information must be gotten to by the individuals who are permitted by get to agreements. These cryptographic methodologies don't address the issues of trust. The trust models give a way to deal with the proprietors and parts to decide the reliability of individual parts and clients separately in the RBAC framework. The proposed trust models consider part legacy[5].

Clients dither to submit negative criticism in notoriety frameworks because of the dread of striking back from the beneficiary client. A security safeguarding notoriety convention ensures clients by concealing their individual input and uncovering just the notoriety score. Introduce a protection saving notoriety convention for the malevolent ill-disposed model. The malevolent clients in this model effectively endeavor to take in the private input estimations of legitimate clients and also to disturb the convention. Our convention does not require concentrated substances, trusted outsiders, or particular stages, for example, unknown systems and put stock in equipment. Also, our convention is proficient. It requires a trade of messages, where and are the quantity of clients in the convention and the earth, individually [6].

Provable information possession (PDP) guaranty the confidentiality of information outsource over cloud. Proficient PDP plot for conveyed data stockpiling help the versatility of management and information handling. Agreeable PDP (CPDP) conspires in light of homomorphism confirmable reaction and hash list chain of command. Security with respect to multi-saying zero learning verification framework which can fulfill culmination, information soundness and zero-information properties [7].

Provable data possession technique provide integrity of data outsource over cloud services. Cooperative verifiable data possession in hybrid clouds handle scaling of services and data movement, in which existence of multiple data service providers which cooperatively store up and sustain the clients data. For verification of this method requires a small, constant amount of overhead, so minimum communication complication[8].

Multiple-replica attestable data possession scheme that enables a client authenticate through challenge response. Each distinct replica is generated at challenge. Storage system stored single replica storage space t times. MRPDP extends data ownership proofs scheme. Handle a file in distributed client/data server storage.MR-PDP to stored t replicas. Single-replica PDP format with single replica store t replicas separately in dissimilar files. So MR-PDP is efficient and less complex. It also generates further replicas on requirement with very small expense when some of the necessary replicas are fails[9].

III. SYSTEM OVERVIEW/SYSTEM ARCHITECTURE

In Block level Design there are many important roles in application such as the user which register with dynamic group and search the data and data owner upload the data with group while uploading cloud server provider double encryption and data are divided into different block and that block are divided by size of file.

A. Proposed system Architecture

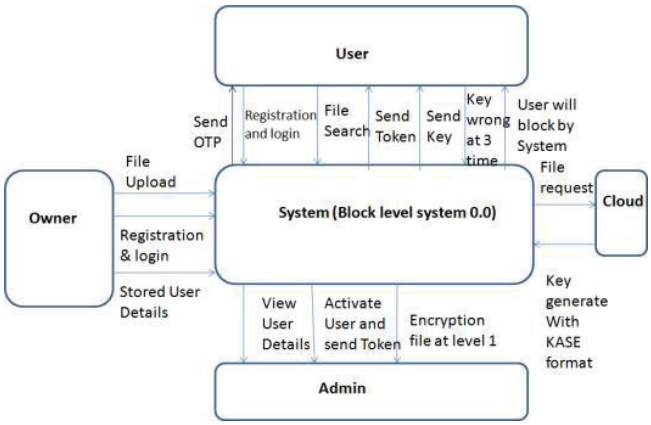


Fig. 1. System Architecture

Consist of

1) Data Owner: Owner responsible to upload the Data in Dynamic Group. And Check the set the value of Fault Tolerances and Detect the User.
2) User: User Search the Data from application in dynamic Group.
3) Admin: Admin activated the user and applied the Encryption at content level.
4) Cloud Server Provider: CSP Applied the KASE concept and applied the Encryption at second level (File Level).

B. Implementation Status

User enters in application by registration and login. Then admin activate the user and give the specific token. After entering the token user can login successfully. After login user search the owner file and cloud services provider give the key in format of KASE. If user enter the wrong key then level of fault tolerances is increases and if level goes up to 3 then owner knows the user information and if owner block that user then after words user can be blocked from particular owner or system so the user will not able to get file of particular owner. Therefore, system ensures security constraints. When the data owner upload the data from cloud then that file goes to admin, then admin check the data and done the first level encryption and generated the key and that encryption file send to the cloud server provider, CSP get the File and key and done the seconds level encryption.

C. Advantages of Proposed System

1) Fault Detection from user side.
2) Fault Tolerances acheive. Fault tolerance value set by Data Owner.
3) Provide two level securities.
4) Decreases the Complexity of hacking the Data from Cloud.
5) Provide secure data sharing using two level encryption.

D. Software Requirements and Specification

- Operating system: Window 7
- Coding Language : Java (Jdk 1.7)
- Platform : Eclipse
- Server : Apache tomcat 7
- Database :MYSQL 5

Operating system use are window 7,8,10. The Language used to implementation is java which required the JDK (Java SE Development kit). JDK have many version such as the 1.2, 1.3 and up to 1.7. Platform which used for JDK is eclipse. To run the code in eclipse required the server as the Apache tomcat 7.Data base used as the MYSQL version 5.

IV. MATHEMATICAL MODEL

Let us consider S= (DO,U,A,C,S1,G,DG,D,FT)Where Do,U,A,C,S1,G,DG,D,FT are the element of the Set

1) Do=Data Owner
2) U= User
3) A=Admin
4) C=Cloud Server provider
5) S1=Search File
6) G=Get Key from user
7) DG= Dynamic Group
8) D=Download the File using key
9) FT=Fault Tolerances

Do Upload the Data in DG.

Admin activated the user and Encryption at level.

FT value are decided by the Data Owner.

V. ALGORITHMS

A. Generation of a (v,k+1,1) design

To support a group data sharing scheme for Multiple participants apply an SBIBD. Our system design an algorithms to construct the (v,k+1,1) design to establish the group data sharing model for v participants can perform the key agreements protocol. In this v denote number of participants and number of block. Every block consist of k+1 participants and every participants appears k+1 time in these block.

Algorithm:

$$fori = 0; i <= k; i++do \quad (1)$$

$$forj = 0; j <= k; j++do \quad (2)$$

$$if\, j == 0 then \quad (3)$$

$$B(i, j) = 0; else \quad (4)$$

$$B(i, j) = ik + j; \quad (5)$$

$$endif \quad (6)$$

$$endfor \quad (7)$$

$$endfor \quad (8)$$

$$fori = k + 1; i <= (k^2) + k; i++do \quad (9)$$

$$forj = 0; j <= k; j++do \quad (10)$$

$$if\, j == 0 then \quad (11)$$

$$B(i, j) = [(i - 1)/k] \quad (12)$$

$$Else \quad (13)$$

$$B(i, j) = jk + 1 + MODk((i - j + (j - 1)[(i - 1)/k]) \quad (14)$$

$$Endif \quad (15)$$

$$Endf\, or \quad (16)$$

$$Endf\, or \quad (17)$$

B. The Reconstruction of Block:

The structure B of the (v; k + 1; 1)- design is constructed for v participants, should have the property that each block Bi embraces participant i. Here, Bi is the ith block of the structure of the (v; k + 1; 1)-design, and the order of the appearance of these v blocks is represented by i. If the structure B constructed by above algorithm does not have the required property then some transformations of the structure of B are needed. Reconstruction algorithm can be employed to accomplish the re-construction of B to E after the structure of B is created by Generation of(v, k+1, 1)design.

Algorithm:

$$E(0) = B(0); \quad (18)$$

$$Fort = 1; t <= k; t++do \quad (19)$$

$$E(t) = B(tk + 1) \quad (20)$$

$$B(tk + 1)[Flag] = 1; \quad (21)$$

$$E(Et, 1) = B([Et, t - 1/k]) \quad (22)$$

$$B(tk + 1)[flag] = 1 \quad (23)$$

$$Endfor \quad (24)$$

$$Fori = k + 1; i <= k^2 + k; i++do \quad (25)$$

$$IfB(i)[Flag] != 1 then \quad (26)$$

$$E((Bi), [i + 1/K]) = Bi \quad (27)$$

$$Endif \quad (28)$$

$$EndFor \quad (29)$$

VI. CONCLUSION AND FUTURE WORK

As an improvement in the innovation of the internet and cryptography, aggregate information partaking in distributed computing has opened up another region of helpfulness to PC systems. With the assistance of the gathering key assertion convention, the security and effectiveness of gathering information in cloud platform can be incredibly moved forward. In particular, the outsourced information of the information proprietors encoded by the normal meeting key are shielded from the attack of enemies. Contrasted and gathering key dissemination, the meeting key understanding has characteristics of higher well being and dependability. Meeting key understanding requests a lot of data communication in the framework and more computational cost. To battle the issues in the meeting key assertion, the SBIBD is utilized in the convention plan. In future, system can be extended to provide various properties (anonymity, traceability) to make it applicable for a variety of environments.

REFERENCES

[1] Jian Shen and Tianqi Zhou, and Debiao He,"Block Design-based Key Agreement for GroupData Shar- ing in Cloud Computing" IEEE Transactions on Dependable and Secure Computing 2017.

[2] Xuejiao Liu and Yingjie Xia, "A Secure and Ef- ficient Data Sharing Framework with Delegated Capabilities in Hybrid Cloud" International Sym- posium on Security and Privacy in Social Networks and Big Data 2015.

[3] Law, A. Menezes, M. Qu, J. Solinas, and S. Van- stone,"An Efficient Protocol For Authenticated Key Agreement" 28th National Radio Science Confer- ences 2011.

[4] J. Shen, J. Shen, X. Chen, X. Huang, and W. Susilo, "An efficient public auditing protocol with novel dy- namic structure for cloud data" IEEE Transactions on Information Forensics and Security, 2017, doi: 10.1109/TIFS.2017.2705620.

[5] Lan Zhou,Vijay Varadharajan,and Michael Hitchens,"Trust Enhanced Cryptographic Role- based Access Control for Secure Cloud Data Storag" IEEE Transactions on Information Forensics and Security, vol. 10, no. 11, pp. 23812395, 2015.

[6] Omar Hasan, Lionel Brunie, Elisa Bertino, Ning Shang, "A Decentralized Privacy Preserving Rep- utation Protocol for the Malicious Adversarial Model" IEEE Transaction on Information Forensics and Security. vol. 8, no. 6, june 2013.

[7] D. Boneh, C. Gentry, and B. Waters, ”Collusion resistant broadcast encryption with short ciphertexts and private keys in Proc. Adv. Cryptol., IEEE Trans- action on computers 2005, vol. 3621, pp. 25827.

[8] D. Boneh, A. Sahai, and B. Waters,”Fully collu- sion resistant traitor tracing with short ciphertexts and private keys” in Proc. 25th Int. Conf. Theor Appl.Cryptographic Tech., 2006, vol. 4004, pp. 573592.

[9] D. Boneh and M. Naor,” Traitor tracing with con- stant size Cipher text”, in Proc. 15th ACM Conf. Comput. Comm. Security, 2008, pp. 501510.

[10] Baojiang Cui, Zheli Liu,Lingyu Wang,”Key- Aggregate Searchable Encryption (KASE) for Group Data Sharing via Cloud Storage” IEEE Transactions on Computers Volume: 65, Issue: 8, Aug. 1 2016.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

A Study of Apache Kafka in Big Data Stream Processing

Bhole Rahul Hiraman
Assistance Professor, Department of Information Technology
Zeal College of Engineering & Research, Narhe, Pune,India
rahul.bhole@zealeducation.com

Chapte Viresh M.
Assistance Professor, Department of Information Technology
Zeal College of Engineering & Research, Narhe, Pune,India
viresh.chapte@zealeducation.com

Karve Abhijeet C.
Assistance Professor, Department of Information Technology
Zeal College of Engineering & Research, Narhe, Pune,India
abhijeet.karve@zealeducation.com

***Abstract*— Big data the name implies huge volume of data. Now a days streaming of data is more popular model which enables real time streaming data for data analytics. In current era Apache Kafka is most popular architecture used for processing the stream data. Kafka is scalable, distributed, and reliable result into high throughput. It also provides an API similar to messaging system.**

Keywords*— *Big Data, Stream data, Apache Kafka, Crypto-Currency

I. INTRODUCTION

Data is one of the new ingredient for Internet-based applications. In new trends for internet applications, data used for real time analytics is become a part of production data. Data is generated in a large volume through various activities for example, a social network platform produce from clicks, in retail data produce through order, sales & shipment etc. This types of data can be considered as stream data [1]. Stream processing is now became a popular paradigm which allow us to get result for real time & continuously for large volume of fresh data.

A. What is stream Processing?

A stream processing system refers to combination & processing of data before the data is store in storage medium. This system is built on multiple elements called as SPE (Stream Processing Element) [2], each SPE takes an input from data production perform computing & generates output.

B. What is Messaging system?

Messaging system is used for transferring of data from one application to another application, applications can focus only on data not on how data is shared. There are many traditional massing system but most of these dose not handle the big data in real time environment. Distributed messaging system focus on reliable messaging queuing. There are two types of message pattern, one is P to P (point to point) [3] [4] and second is public-subscribe. The public-subscribe which is also called pub-sub is used in massing system.

P to P messaging system (point to point)

In this system sender send the messages in queue and at the receiver end receive message in queue. The example of this system is order processing system. The figure 1 shows the P to P messaging system.

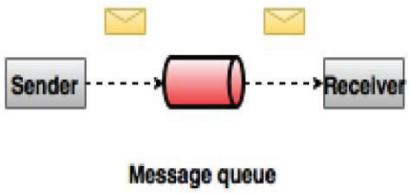


Fig. 1. P to P messaging system

Public-Subscribe (pub-sub)

In this system message sender is called as publishers & message receiver is called as subscriber. A real-life example of system is Dish TV which play different channels like movies, music, sports, news etc. here any one can subscriber to that particular Dish TV & subscribe for the available channels.

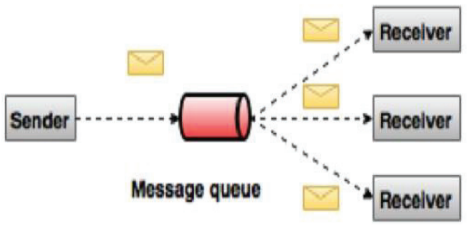


Fig. 2. Pub-sub messaging system

II. APACHE KAFKA MODEL

Apache Kafka is a platform for real time environment using distributed public-subscribed messaging system & it can handle a large volume of data which enables you to send messages at end-point. Apache Kafka is developed at LinkedIn & available as an open source project with Apache Software Foundation.

Following are some points that describe why Kafka.

1. Scalability: This framework scale easily without down time.
2. High-volume: it is designed to work with high volume of data.
3. Reliability: Kafka is partitioned, replicated, distributed & fault tolerance.

4. Data Transformations: this frame work should provide provision for ingesting the new data stream from producer.
5. Low latency: to focus on traditional messaging, requires low latency.

A. *Apache Kafka Framework*

Apache Kafka is public-subscribed messaging system which is designed to be scalable, fast, reliable & durable. Fig 3 shows the Kafka Framework.

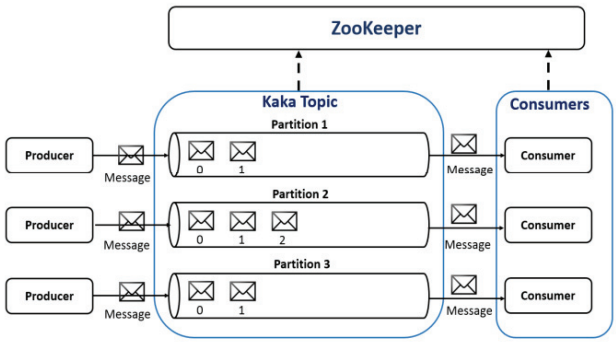


Fig. 3. Apache Kafka Framework

For knowing the Kafka framework we must have aware of some terminologies.

1. **Topic**: A topic is feeding system through which messages are stored & published, all Kafka messages are organized into topics. If you wish to read a message you read it and if you wish to send a message you send it to a specific topic. Producer applications write data to topics and consumer applications read from topics. A Kafka Topic divided into multiple partitions.
2. **Producers:** Producers are the publisher of messages to one or more Kafka topics. Producers send data to Kafka brokers. Every time a producer publishes a message to a broker. Producer can also send messages to a partition of their choice.
3. **Consumers:** It read data from brokers. Consumers subscribes to one or more topics and consume published messages by pulling data from the brokers
4. **Connectors:** It responsible for pulling stream data from Producers and delivering stream data to Consumers or Stream Processors.
5. **Stream processor:** Stream Processors are applications that transform data streams of topics to other data streams of topics in Kafka Cluster.
6. **Broker:** Kafka cluster typically consists of multiple brokers to maintain load balance. Kafka brokers are stateless, so they use Zookeeper for maintaining their cluster state.
7. **Zookeeper:** Zookeeper is used for managing and coordinating Kafka broker. Zookeeper service is mainly used to notify producer and consumer about the presence of any new broker in the Kafka system or failure of the broker in the Kafka system.

III. Related Work

Traditional message system exists from long time & play important role for data processing [5] [6] IBM WebSphere MQ allows an application to insert message into multiple queues automatically. . In JSM [7] individual messages acknowledge after processing. Recently Hedwig system [8] is available for distributed pub-sub system which is developed by Yahoo! It is scalable & offers strong durability guarantees. Apache Kafka works in combination with Hbase, spark for real-time analytics & performing streaming data. Now a days many MNC companies that are using Apache Kafka in there use cases they are as follows.

- Twitter: Twitter uses Kafka as a stream-processing infrastructure.
- LinkedIn: Apache Kafka is used at LinkedIn for the streaming data. This data uses in various product such as news feed & offline analytical system.
- Yahoo!: Kafka is used by Yahoo for their media analytic team in real time analytics.
- Netflix: Kafka used by Netflix as the gateway for data collection, this application requiring billions of messages to be processed daily.

IV. Testing Apache Kafka

We conducted the experiment on crypto-currency comparison [9] like BitCoin, Either & LiteCoin which is trending now a days. For this experiment we have written a code of publisher & subscriber in simple HTML file as Kafka uses on pub-sub messaging system.

Sample Code for Publisher

```
<html>
<head>
        <title> Crypto Publisher </title>
<script
src="https://cdn.pubnub.com/sdk/javascript/pubnub.4.18.0.
min.js"> </script>

</head>
```

Sample Code for Subscriber

```
<html>
<head>
        <title> Crypto Subscriber </title>
<!--<script
src="https://cdn.pubnub.com/sdk/javascript/pubnub.4.18.0.
min.js"> </script> -->
<scripttype="text/javascript"src="https://pubnub.github.io/e
on/v/eon/1.0.0/eon.js"> </script>
<linktype="text/css"rel="stylesheet"href="https://pubnub.git
hub.io/eon/v/eon/1.0.0/eon.css">
</head>
```

V. RESULTS

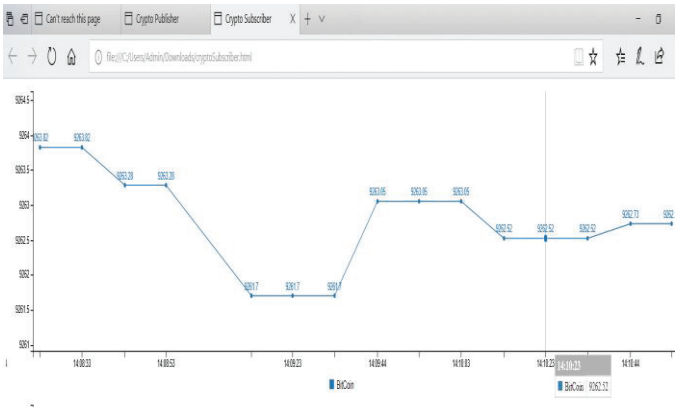


Fig. 4. Screen Shot 1

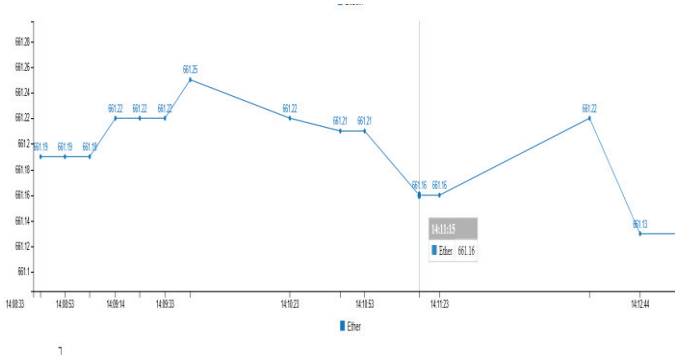


Fig. 5. Screen Shot 2

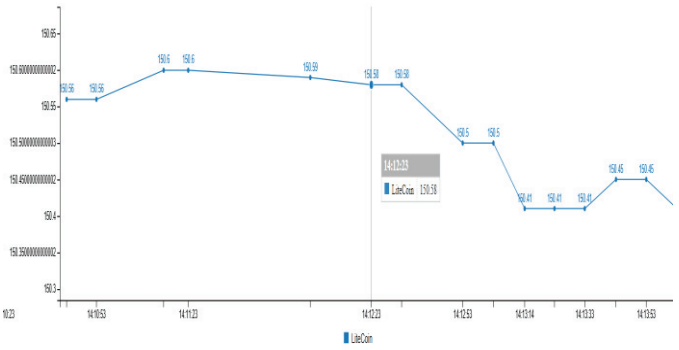


Fig. 6. Screen Shot 3

VI. CONCLUSION

In this work we focus on how to deal with Kafka & how to tune with its deployment. Kafka will help stream processing developer for effective use their big data processing architecture. Kafka defines a pull based model that allows application can consume data whenever needed.it achieves higher throughput than the traditional messaging system

REFERENCES

[1] Jay Kreps, Neha Narkhede and Jun Rao, ―Kafka: a Distributed Messaging System for Log Processing‖, LinkedIn Corp.

[2] https://www.htcinc.com/wp.../apache_kafka_event_stream_processing_solution.pdf

[3] https://www.tutorialspoint.com/apache_kafka/index.htm

[4] https://kafka.apache.org/quickstart

[5] http://activemq.apache.org/

[6] IBMWebsphereMQ: http://www01.ibm.com/software/integration/wmq/

[7] JAVA Message Service: http://download.oracle.com/javaee/1.3/jms/tutorial/1_3_1-fcs/doc/jms_tutorialTOC.html.

[8] https://issues.apache.org/jira/browse/ZOOKEEPER-775

[9] https://en.wikipedia.org/wiki/Cryptocurrency

[10] Nishant Garg, ―Apache Kafka‖ , PACKT Publishing

[11] V. Ta, C. Liu, G.W. Nkabinde, "Big Data Stream Computing in Healthcare Real-Time Analytics", 2016, IEEE International Conference on Cloud Computing and Big Data Analysis, Pages: 37 -42, doi: 10.1109/ICCCBDA.2016.7529531.

[12] A. Sotsenko, M. Jansen, M. Milrad, J. Rana, "Using a Rich Context Model for Real-Time Big Data Analytics in Twitter", 4th International Conference on Future Internet of Things and Cloud Workshops, 2014, Pages 228 -233, DOI 10.1109/W-FiCloud.2016.55.

[13] B. Yadranjiaghdam, N. Pool, N. Tabrizi, "A Survey on Real-time Big Data Analytics: Applications and Tools," in progress of International Conference on Computational Science and Computational Intelligence, 2016.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Cloud Computing based Television System

Prof. Amarnath Chadchankar
Department of Information Technology
Zeal College of Engineering & Research, Pune
Savitribai Phule Pune Unviersity, Pune, India
amar.chadchankar@zealeducation.com

Prof. Preeti Amarnath Chadchankar
Department of Information Technology
Zeal College of Engineering & Research, Pune
Savitribai Phule Pune Unviersity, Pune, India
preeti.chadchankar@zealeducation.com

***Abstract*— New technologies set has come along with need and affordable computing, has enabled an on demand. Cloud computing is model for activating convenient, on demand network access to a shared pool of configurable computing resources. Many TV stations have started to keep their serials and films on Internet. Several cloud vendors are gearing up to introduce new products that bring the Internet along with TV using cloud as a platform.**

Keywords—Cloud Computing , Multimedia, Television

I. INTRODUCTION

NIST defined that Cloud Computing is a model which enables on demand and convenient access of scalable and configurable computer resource [10]. The cloud computing provides storage space and services through internet. Cloud computing provides share, computing and applications available from any location any time ,high speed on demand on paying per usage basis.

A. Cloud Service Models

A cloud service models categorized into three models. Cloud helps to users by software installation, up gradation, license issues. Cloud can adopt latest version of software on the system by paying per usage by SaaS model. Cloud also provides users with resource to use application through Paas. In Iaas hardware is provided by provider for users to manage.

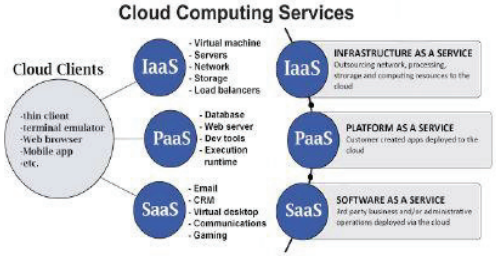


Fig. 1. Service and Deployment of Cloud Computing Model

B. Cloud Deplyment Models

Public Cloud, Private Cloud, Community Cloud, Hybrid models are categorized under deployment cloud[13][14]. Public Cloud (Google, Salesforce, Yahoo) are managed by third authenticated party known as Cloud Service Provider(CSP)[15]. In Private Cloud all Infrastructures are managed by own. Private cloud resides in organization area which presents Flexibility to managing Security of data. The Hybrid model is combination of any two or more than two models which carries properties of respective models.

II. NEED OF MULTIMEDIA IN CLOUD COMPUTING

VCDs, Films, DVDs were the part of distribution of media. Now days we have many resources are easily available on low cost and applicable such as digital camera, smart phones. Low power life, small storage capacity, efficiency of processor, these are some limitations of such systems. But unfortunately these disadvantages can't be overcome by computational systems. We have alternative solutions to minimize these kinds of problems where software are combined with cloud system that enables complex computations. And also cloud computing is useful for services of million users by online and wireless network.

Cloud computing resources are high requirement because of following points:

A. Hardware Mobile Device:

Devices such as notebook, tablets, mobiles, they are small in size, as well as memory size is very small with limited power life. These parameters are affected the speed, efficiency of system [11].

B. Huge Demand Resources:

Images, MPEG, MP3, Power point presentations, online playing games are needed in current days, as well as in forthcoming Days. These media required large space for storage as well as computation [12].

C. Efficiency through Cloud System:

Cloud System provides shared access to all types of data such as images, Audio and Video file which requires installation and updating in cloud system. This kind of system improves the users experience.

Multimedia is forthcoming as well as important service in Cloud that provides services for Multimedia such as gaining , updating, storing, creating of media such as MP3 , Video , Images.

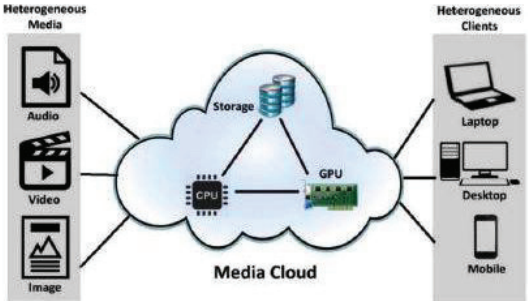


Fig. 2. Multimedia model in Cloud Computing

III. LITERATURE STUDY

[1] States that the basic concepts of cloud computing with types of sources as well as deployment models. Also reviewed, how cloud provider handles the multimedia using DHT with distributed parallel processing. In this paper [2] the author proposed a solution about IPTV using cloud computing. Also scheduled videos at same time in program of many channels. [4] This paper explained the basic idea behind Cloud and also discussed the cloud used in television industry. In this paper [5], author present the ORMM model which is present resources of media technology.[6] this paper provides a brief information of cloud computing that increases mobile computation efficiency and also multimedia information. In the cloud media technology is used in that [7] explained how algorithm is used for allocation of cloud resources for multimedia application.

IV. RESOURCE DISTRIBUTION OF TELEVISION APPLICATIONS

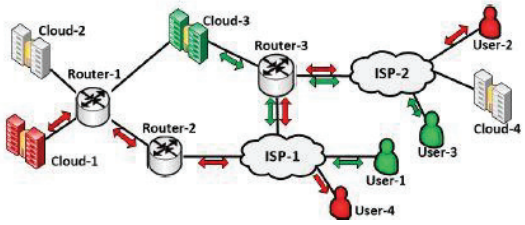


Fig. 3. Architecture of TV distribution System

Fig shows that the example of network architecture of TV distribution System network. In this architecture two users groups are connected to the Internet Service Provider (ISP). ISPs are also known as access nodes. The four processing nodes which called as resources and three routing nodes. SDN architecture [8] exists, enabling the centralized application to sense and controls the total network, So capable of enforcing the optimal route for each consumer based on location.

In this work, it is assumed that all nodes are in network , supports multicast , new user may join , withdraw, or migrate from particular user group and also create new user group. A single node which is processing node works for each user group. Processing node also may be part in the distribution operation.

V. RESOURCE ALLOCATION FOR CLOUD TELEVISION

In the PaaS cloud network architecture, data centers provides VMs to operate and storage resource for applications and send resource data using fiber-optic cable network. Clients

Connected to data centers via access-network to request multimedia applications services which are operated at more than one data centers. The total cost time of resource sending T between data centers is having of four parts of time:

Tprop: the propagation delay Time,
Ttran: the transmission Time,
Tproc: route processing delay Time,
Tqueu: the route queuing delay Time.

$$T = T_{prop} + T_{tran} + T_{proc} + T_{queu} \quad (1)$$

$$\approx (\text{File Size}/B) + (\text{Distance}/C)$$

We can get three main factors:

The size of File to send (Transmit) Filesize, the bandwidth B, the actual distance between data centers Distance. C is the speed of light which is a fixed

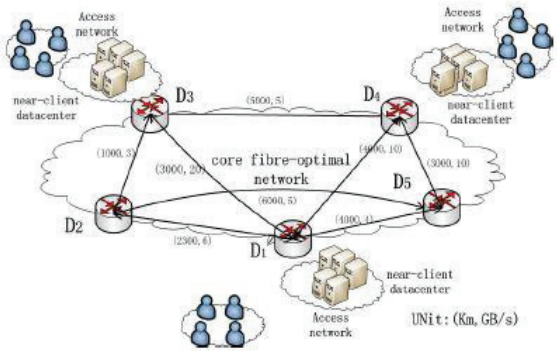


Fig. 4. Network of Multimedia of Cloud Datra centers

VI. CLOUD COMPUTING SYSTEM TELEVISION

In this system infrastructure layer with Iaas model, get all resources, allocate all resources if needed and use cloud flat form for resource managing and scheduling. The service layer with using Paas model, provides plate form as services, the application layer with Iaas model, focus on customer services, create model with developers which are operated independently.

- Developing HD/3D by Cloud Computing:

HD and 3D TV creating a lot of stress on power as well as storage space. The cloud computing is a good solution for many problems. HD /3D are mainly based on "Cloud Media Asset" technology [9], which uses cloud computing in Media Asset. Media Asset having many advantages. Media Asset storage setup with cloud computing can collect previously scattered information for management, minimize the workload of information migration, also saves energy power and disaster recovery. The cloud media asset system can provide full access. Cloud media asset provided many services like storage space, performance of network, renting time for choose virtual asset. So only media asset is very popular in TV and Radio industry.

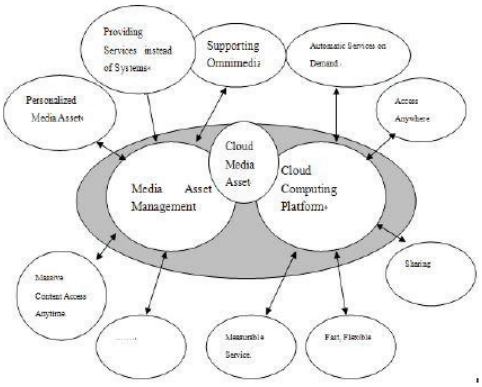


Fig. 5. Cloud Media Asset

VII. CONCLUSION

In this paper we described the basic concept of cloud computing along with services and deployment models. Basically cloud computing is used for storing information such as images, videos and many type of information. TV and Radio industry need to store data. It is opportunity and

challenge for TV and broadcasting area. Cloud computing has changed the Television broadcasting area in business process.

REFERENCES

[1] Shilpi Harnal, Dr. R.K. Chauhan," Multimedia Support From Cloud Computing: A Review",2016 International Conference on Microelectronics, Computing and Communications.

[2] Zinelaabidine Nadir, Miloud Bagaa, Tarik Taleb. "Cost aware Caching and Streaming Scheduling for Efficient Cloud based TV" IEEE ICC 2017 Next Generation Networking and Internet Symposium.

[3] V. Aggarwal, V. Gopalakrishnan, R. Jana, K. K. Ramakrishnan, and V. A. Vaishampayan. Optimizing cloud resources for delivering iptv services through virtualization. IEEE Transactions on Multimedia, 15(4):789–801, June 2013.

[4] Wei Na, Xu Pin Cloud Computing and Its Application in Televsion and Broadcasting Industry. IEEE 2012

[5] Chao Xu, Xuewen Zeng, Zhichuan Guo," Online Resource Monitoring Model in Cloud TV" 2013 International Conference on Information Science and Cloud Computing.

[6] Majdi Rawashdeh; Awny Alnusair; Nasser Mustafa; Mahmoud Migdadi,"Multimedia Mobile Cloud Computing: Application models for performance enhancement" 2016 IEEE International Conference on Multimedia & Expo Workshops (ICMEW) Year: 2016

[7] Gosala Kulupana; Dumidu S. Talagala; Hemantha Kodikara Arachchi; Anil Fernando," Resource allocation for cloud-based social TV applications using Particle Swarm Optimization" 2015 IEEE International Conference on Communications (ICC)Year: 2015

[8] X. Nan, Y. He, and L. Guan, "Optimal resource allocation for multimedia application providers in multi-site cloud," in IEEE Int.Symp. on Circuits and Syst. , Beijing, China, 2013, pp. 449–452.

[9] Cloud media owned radio and television network video solutions to help develop, http: //info. broadcast. hc360. Com /2012 /09/ 110922523834. shtml

[10] Peter Mell, Timothy Grance, "The NIST Definition of Cloud Computing", NIST Special Publication, September 2011.

[11] J. Flinn, Cyber Foraging: Bridging Mobile and Cloud Computing via Opportunistic ffload. Morgan & Claypool Publishers, 2012

[12] Reza Farahbakhsh, Angel Cuevas, Ruben Cuevas et al.,"Understanding the evolution of multimedia content in the Internet through BitTorrent glasses", IEEE Network, November-December 2013, Vol. 27, pp. 80-87, DOI: 10.1109/MNET.2013.6678931.

[13] R.J. Bayardo, and R. Srikant (2003) Technological Solutions for Protecting Privacy. IEEE Computer, 36(9), p. 115-118, DOI: 10.1109/MC.2003.1231199, 2003.

[14] R. Buyya, C. S. Yeo, and S. Venugopal, "Market-oriented cloud computing: Vision, hype, and reality for delivering it services as computing utilities," in Proc.10th IEEE Int. Conf. High Performance Computing and Communications, pp. 5–13, DOI: 10.1109/HPCC.2008.172, 2008.

[15] Mohamed H. Sqalli, Fahd Al-Haidari and Khaled Salah, "EDoSShield- A Two- Steps Mitigation Technique against EDoS Attacks in Cloud Computing", 4th IEEE International Conference on Utility and Cloud Computing, DOI: 10.1109/UCC.2011.17, 2011.

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Efficient Exploration of Algorithm in Scholarly Big Data Document

MS.Sneha P Vanjari
Department of Information Technology
ZOER Narhe,Pune
snehavanjari9900@gmail.com

Mrs Kirti P Balsaraf
Department of Information Technology
ZOER Narhe,Pune
Kirti.balsaraf@gmail.com

***Abstract*—Algorithms are used to develop, analyzing, and applying in the computer field and used for developing new application. It is used for finding solutions to any problems in different condition. It transforms the problems into algorithmic ones on which standard algorithms are applied. Day by day Scholarly Digital documents are increasing. AlgorithmSeer is a search engine used for searching algorithms. The main aim of it provides a large algorithm database. It is used to automatically encountering and take these algorithms in this big collection of documents that enable algorithm indexing, searching, discovery, and analysis. An original set to identify and pull out algorithm representations in a big collection of scholarly documents is proposed, of scale able techniques used by AlgorithmSeer. Along with this, particularly important and relevant textual content can be accessed the platform and highlight portions by anyone with different levels of knowledge. In support of lectures and self-learning, the highlighted documents can be shared with others. But different levels of learners cannot use the highlighted part of text at same understanding level. The problem of guessing new highlights of partially highlighted documents can be solved by us.**

***Index Terms*—Algorithms,Pseudo codes, Scholarly big data, Sentence Extractor, Steaming, TFIDF**

I. INTRODUCTION

To solve problems, Algorithms are used everywhere in Computer field and over a exact technique. Every single form of human life has been affected by algorithms. Improvement of the current algorithms and evolution of new algorithms for unsolved problems is being made by researchers. Updating search engines are not optimized for searching any particular algorithm. Also, they can't be distinguished which documents contain an algorithm and which is not. They produce results in that contain a mixture and not usable data. For example,the user enters a query into the search engine for searching a KNN algorithm. After processing search engine give the result that contains KNN term, but it any specific information with regard to algorithmic aspects of KNNs. The document which is relevant to the algorithm is not necessarily come up in the results due to inappropriate ranking schemes. For algorithm searchers who are unfamiliar with document search, they facing problem are very bad. Particularly important and relevant textual content can be accessed the platform and highlight portions by anyone with different levels of knowledge. For oral lessons or individual learning, the documents which are highlighted may be given to the learning people. However the learners having the different levels of knowledge respectively, highlights are generally incomplete or unsuitable. Are going to develop the system on its own identities and pulls out algorithm from the given scholarly input. This kind of system can be very useful to assist the indexing, finding and a vast quantity of the required knowledge of the algorithm and carry out a detail study of evolution of the algorithm and may increase the output quality of the user. The representation of the algorithm is not written in a specific format in that include symbols, mathematical expression, various font styles, etc. So it becomes a challenge to user for discovery and extraction of algorithms. To overcome this disadvantage we propose this system. In this system we first detect PCs and APs by using different methods, then we find the textual metadata that can be instantly extracted from various documents with the use of Application Program Interface and generate different types of models fitted to various levels from a group of documents that are highlighted of knowledge to forecast new output. We provide links, indexing of the extracted metadata and make it searchable to the user and it can increase the productivity of users with the help of this system.

II. REVIEW OF LITERATURE

Prasenjit Mitra et al have studied that to identify and extract algorithmic representations of scholarly documents. A novel set of scale able techniques used by AlgorithmSeer.They use hybrid machine learning techniques for algorithm representation. These techniques to pull out meta data for each algorithm are used. The user searching some algorithm for the CiteSeerX data set, this site gives so many documents with his relevant search. On the search result all document index with his best ranking and extract all data related document. This document is in the form of a synopsis, on the search keywords and the algorithm and gives out-put to users. Especially they suggested detecting algorithms in scholarly documents. For this purpose they used a group of scale able machine learning based methods. Finally ,they show how algorithms are indexed and made searchable. All the extracted algorithms and their related textual meta-data are then cataloged using SOLR18, which then makes the algorithms searchable.

Elena Baralis et al have studied that the concept of high-lighter. They have introduced about a HIGH-LIGHTER is a new technique to inevitably generating focus of learning documents. By using this concept issue of automatically generating document highlights is resolved by them. Highlights are marked part of the textual content which can use regularly. For example, the most substantial parts of the text can be underlined, colored, or circled. The significance of the highlight

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

points used for learning purposes. Teachers and learners can easily share the highlighted documents through e-learning platforms. Nevertheless, the manual generation of text highlights is time absorbing. So minimizing such problem they generate classification models. These models are delivered to learners to increase the quality of their learning experience. To start the process of highlighting learning documents, they use text classification techniques. It appraises the capability level of the highlighting users to drive the generation of new highlights.

Saurabh Kataria et al studied that an important source of information that is largely under-utilized are two dimensional plots in digital documents on the web. They explain how data and text can be pulled out inevitably from these 2-D plots. For extracting data and text from two-dimensional plots they advanced automated methods from digital documents and implement it to documents published on the web. This method minimizes the time absorbing manual process of retrieving this data. The algorithm pulls out axes, the ticks on the axes, the text labels associated with the ticks and the labels of the axes. To extract each data point symbol and its textual description from the legend, it discovers the legend as a text-dominated box in the figure and pulls out the lines from the legend and segments the lines. To identify their shapes and records the values of the X and Y coordinates for that point they developed a tool. Overlapping data points can be addressed by them to overcome the problem of segmenting. The data and text extraction from the 2-D plots are fairly accurate as indicated by experimental results.

Bhatia et al have taken into account an algorithmic search engine for software developers. To solve any problem developer first develop algorithms. Algorithms can be crucial and are very important for absolute software projects. In this system they propose an algorithm search engine that keeps abreast of the latest algorithmic developments. Using a PDF to text converter all the files in the system are first converted to the text file. To sort out the algorithm that is filled out sequentially along with the metadata related to them. The extracted text is then examined cautiously. In the next the engine which is used for query processing, then approves the appropriate query given by the user by taking into consideration the query interface and after that its task to search the index for associated similar algorithms. Then finally it shows sorted list of ranks of algorithms to the user.

J.B.Baker et al have studied the methods of analysis of mathematical documents from the particular PDF. It is very challenging job of document analysis of mathematical part of PDF even if the digital document which is available in the standard format. In the context of PDF documents, they suggest the solution for this type of problems. To carry out the character recognition at the same time with the virtual link network generally used for structural analysis they found out OCR approach. To direct extraction of symbol information out from the PDF file, they used another approach with two stage parser for pulling out layout and expression structure. In the context of mathematical expressions related to first character identification and second structural analysis they match the efficiency and correctness of these specified two different techniques qualitatively as well as quantitatively in context of layout analysis.

C.L.Giles. et al has studied that finding algorithm in scientific articles. The Algorithms a very important part of computer science. To solve any problem first required algorithm. In this system, to check whether there is a presence or not of algorithm they first examine documents. After that document's text is examined to find out sentences which content the algorithm, if an algorithm is detected. Algorithm a like metadata which is present in the document is pulled out and it is arranged I order. To calculate the connection of algorithms with query given by users, the information related with algorithm is used and with decreasing order of connection the algorithms got submitted by the users. In this system a vertical search engine which finds out the algorithm available in that document is delivered and pulled out to form a related metadata of the algorithm.

D.M.Blei. et al has studied that Latent Dirichlet Allocation (LDA) technique. They developed LDA, relating to probabilistic model for the accumulation of distinct data. LSI and pLSI methods are opposed to the LDA method. It is used for setting of reduction in dimension for the given input collection and a basic model. The actual planning for methodical way which includes probabilistic models may be given us to offer circumstantial setup in a domain which is made up of different levels of structure. The LDA can be easily implanted with a very messy model which is not influenced by LSI as a probabilistic model. This permits a given structure in the potential available space and in specific permits a type of document clustering ,which is unique in the form that is required to get by shared topics. LDA consist of basically three level hierarchical Bayesian model. In this model every particular entity of a given collection is designed related to limited combination as compared to an underlying group of topic. Every topic in this particular model is designed as a very compact combination over different group of various possibilities. By using a various methods and algorithm they developed an efficient inference module for calculating Bayes parameter. This module is used for showing a different representation of a given document.

S.Bhatia et al focused on make summary of various items on the published scientific document such as algorithms ,figures, tables . For document-elements to help in finding out quickly algorithms, tables, figures, by the user .The user is using this method to point out the problem of generating summary by them. To find outlook alike sentences within a given document text with the help of a specific group of features which subsequently uses context and content data relevant to this element for machine-learning techniques are used by them.

To finalize exact content to select in the summary relevant to the main part and original sentences from the elements of documents and uniqueness of the sentence to the original sentence they proposed a simple model. The model attempts to compare the content in the information and range of summary so that the collected information and would be output must be accurate and useful. To pull out useful data from the summary which includes the elements of a document at the same time system uses the first set of methods. They use two different classifiers. In this first to finalize exact content to select in the summary relevant to the main part and original sentences from the elements of documents and uniqueness of the sentence to

the original sentence they proposed a simple model.They study the problem of choosing the advantageous outcome synopsis size that shoots a balance between the information content and the size of the generated synopses.

J. Kittler et al have studied that combining classifiers. They focus on classifier combination. They develop a structure for classifier grouping. Also make a decision many current schemes can be taken into account where all the representations are used collectively. To make up generally used combination schemes of classifier like sum rule, min rule,max rule, median rule, product rule for calculating voting by majority they used different types of assumptions and various approximations. Then they equated experimentally different mixture of scheme. Interestingly outcome came out of this is very surprising. This mixture evolved with much difference and restrictive assumption; from all classifier mixture schemes the sum rule is the best performed scheme. They investigate all the mixture schemes to calculate errors in this finding. The same rule is most flexible to estimation errors as shown by the sensitivity analysis. They follow two steps. In first step they give theoretical ideas of giving mixtures scheme for combining the suggestion of experts, giving a unique pattern representation. In the second step to improve the understanding of their properties they analyze the sensitivity of these schemes to calculate errors.

III. SYSTEM ARCHITECTURE / SYSTEM OVERVIEW

In our proposed system documents are processed to find out algorithm present in documents. In this system we use two text processing steps. First is stemming and the second is stopword elimination. After these steps the document is converted into a term frequency-inverse document frequency (tf-IDF) matrix. TFIDF is used to study the fact of single terms in the document. For this purpose we created the classification model. It is used to calculate focus point, if in the background file, there is no information about the level of knowledge of the users. Otherwise, the knowledge level of the highlighting users is calculated because it is assumed as appropriate to perform accurate highlight predictions.

Algorithm Seer is presented as a prototype of an algorithmic search engine. This is used to extract the text from the PDF document. We use PDFBox to pull out the text and change the package, also to pull out the font and location of information

From a PDF document. After extracting text follows three processes one by one. The First process is documented segmentation. By using this process, we find a section of the document. After complete this process we detect PC from text the by using the PC detection method and third process is AP detection. It first identifies APs by using AP detection method to then remove stop words and prepared broken sentences. After finding PC and AP we can link the relevant algorithms. Then we produce results for users such as unique algorithms as well as highlighted points.

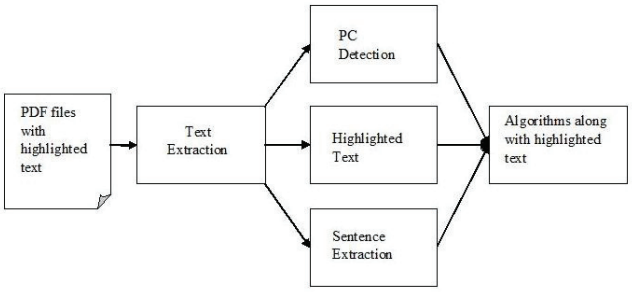


Fig. 1. Architecture of proposed system

A. Methods

TFIDF: It stands for Term Frequency-Inverse Document Frequency. It is used for information retrieval and text mining. This method is used to calculate the importance of words. It counts the number of words present in documents.

Algorithm Identification: This method is used for identyying an algorithm. Plain text is extracted from the PDF file. For extracting purpose, we use PDFBox. By using this tool we can pull out text and modify the information from a PDF document. This process is divided into three modules.The First module is documented segmentation which is used for finds sections in the document; second module is PC detection,which is used for finds PC from documents, and third module is AP detection. It first cleans extracted text and repairs broken sentences after that identifies APs. After finding PC and AP we link relevant algorithm together and give the final output that is a unique algorithm to the user.

Detecting Pseudocodes (PCs): PCs show the stepwise procedure of algorithms. PCs are considered as document elements. For detecting PCs we use three methods: first is Rule Based method (PC-RB), second is Machine Learning based method (PC-ML), and the third is Combined Method (PC-CB). PCRB finds PCs by discovering the presence of their captions. Machine learning based (PC-ML) method directly finds the presence of PC contents. The PC-ML first finds and pulls out sparse boxes, then classifies each box whether it is a PC box or not. Last is a collective method (PC-CB).It is a combination of PC-RB and the PC-ML.It follows the two steps:

STEP1 To run both PC-RB and PC-ML for a given document STEP2 For each PC box detected by PC-ML, if a PC caption detected by PC-RB is in proximity, then the PC box and the caption are combined.

Detecting Algorithmic Procedures (AP):AP detection method is focus to find APs from given documents. There are two methods used for detecting AP indication sentences: a Rule Based method (AP-RB) and a Machine Learning based method (AP-ML).

Stemming: This process minimizes the words to their base or root form. In this process various forms of word are reduced and shows in the common form. It increases the performance of the Information Retrieval system. This process also used for indexing purpose.For example, nouns, and verbs in general form, and past tenses are re-conducted to a common root form.

Stop word elimination: This process is useful for finding the stop words. It discards very common word from the language during indexing. Examples of stop words are articles, prepositions, and conjunctions. In this process text is examined, then those words are not usable which are rejected.

B. *Mathematical Model*

Let us consider our system as S

$$S = s; e; i; F; o \quad (1)$$

S represents our proposed system.

s represents start state of the system.

i represents input of the system that is PDF Documents.

o represents output of the system that is set of unique algorithm.

e represents end state of the system.

$$F = f1; f2; f3; f4; f5; f6 \quad (2)$$

F represents Functions of the system.

f1= Document Segmenter

f2 = Pseudo code detector

f3 = Text cleaner

f4 = Sentence Extractor

f5 = algorithm procedure detector

f6 = algorithm linker

f7 = Stemming

f8 = Stop-word Remove

f9 = TF-IDF Calculation

In this model taking input as PDF files and applying above function on that document for extracting text then user get the output as unique algorithm along with highlighted documents considering level of thinking of user.For detecting the PC and AP from documents we can use sparse box extraction technique. Suppose given a set of sparse boxes B extracted from a document d, the coverage is defined as follows

$$\text{Coverage} = \frac{\text{j fl j l b; b B; l is positiveg j}}{\text{j fl j l b; l is positiveg j}} \quad (3)$$

IV. SYSTEM ANALYSIS

Existing system gives only algorithm while our proposed system gives extracted algorithms as well as highlighted document. In this system user submit queries to the system. Textual metadata contains relevant information about detecting algorithm. After processing document textual meta data is pulled out. Then this metadata is indexed. Query processing is done with meta data and final results are returned to users. Non-textual content happening in the text is automatically screened out before running the learning process. For this purpose we can use the basic structure of the previous system.Along with this we are taking those documents highlighted by users with different levels using those we create training dataset where we collect highlighted words and sentences and using those we find levels of users and using those we find new sentences which can be related to already highlighted sentences and likewise share those highlighted documents to users with levels so that they can understand those documents.So new system gives better result as compared to old one. Following figure shows the how to work our system.

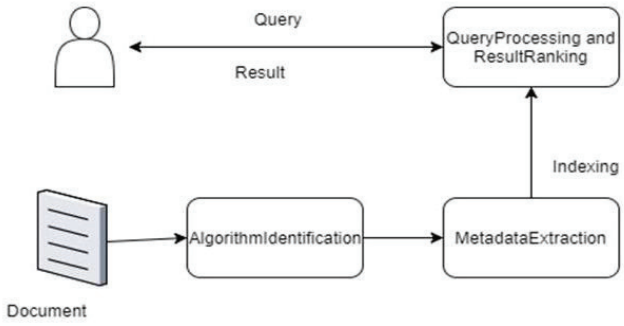


Fig. 2. Architecture Of Basic System

A. *Performance Measures Used*

Performance measurement is the process of collecting, analyzing and/or reporting information regarding the performance of an individual, group, organization, system or component. It can involve studying processes/strategies within organizations, or studying engineering processes/parameters/phenomena, to see whether output are in line with what was intended or should have been achieved. Performance measurement is generally defined as regular measurement of outcomes and results, which generates reliable data on the effectiveness and efficiency of programs. As per the current status of system gives unique algorithm.Following figure shows example of extracted algorithm.

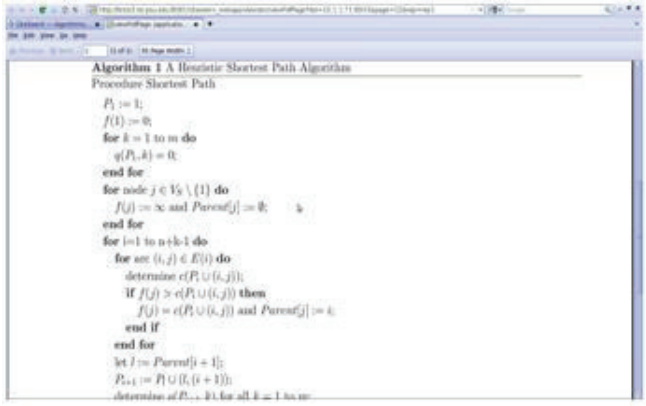


Fig. 3. Algorithm Extracted From PDF

B. *Expected Outcome*

The expected output of the proposed system is we can find user level with the help of highlighted points. We proposed a set of scalable machine learning based methods to detect algorithms in scholarly documents, we discussed using the synopsis generation and document annotation methods to extract textual metadata for pseudo-codes, and finally we explained how algorithms are indexed and made searchable.

V. CONCLUSION

Professional researchers developed an enormous amount of high-quality algorithm. We have discussed prototype of AlgorithmSeer. It is a search system for finding an algorithm in a collection of documents . We also provides, such type of model for searching algorithm.These models are made for giving the unique algorithm to the user and various kinds of knowledge levels from a group of given documents which are highlighted to give new highlight to users which are provided to increase the quality of user experience of learning.

REFERENCES

[1] Sumit Bhatia, Prasenjit Mitra Senior Member and C. Lee Giles Fellow AlgorithmSeer: A System for Extracting and Searching for Algorithms in Scholarly Big Data 2016

[2] Elena Baralis, Memberand Luca Cagliero Member Highlighter: automatic highlighting of electronic learn-ing documents 2017

[3] S. Kataria, W. Browuer, P. Mitra, and C. L. Giles. Automatic extraction of data points and text blocks from 2-dimensional plots in digital documents. In Pro-ceedings of the 23rd national conference on Arti cial in-telligence - Volume 2, AAAI08, pages 11691174. AAAI Press, 2008.

[4] J. B. Baker, A. P. Sexton, V. Sorge, and M. Suzuki. Comparing approaches to mathematical document anal-ysis from pdf. ICDAR 11, pages 463467, 2011.

[5] S. Bhatia, P. Mitra, and C. L. Giles. Finding al-gorithms in scienti c articles. 2010.

[6] D. M. Blei, A. Y. Ng, and M. I. Jordan. Latent dirichlet allocation. J. Mach. Learn. Res., 3:9931022, Mar. 2003.

[7] J.Kittler, M. Hatef, R. P. W. Duin, and J. Matas. On combining classi ers. IEEE Trans. Pattern Anal. Mach. Intell., 20(3):226239, Mar. 1998.

[8] S. Bhatia, S. Tuarob, P. Mitra, and C. L. Giles. An Algorithm Search Engine for Software Developers. 2011

[9] T.A. Asuncion, M. Welling, P. Smyth, and Y. W. Teh. On smoothing and inference for topic models. In Proceedings of the Twenty-Fifth Conference on Uncer-tainty in Arti cial Intelligence, UAI

[10] G. W. Klau, I. Ljubi, P. Mutzel, U. Pferschy, and R. Weiskircher. The fractional prize-collecting Steiner tree problem on trees. Springer

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Generation of Brand/Product Reputation using Twitter Data

[1]Prof. Pranalini A. Joshi
Department of Information Technology
Zeal College of Engineering and research
Pune, India
pranalini.ketkar@gmail.com

[2]Garry Simon
Department of Information Technology
Zeal College of Engineering and research
Pune, India
garysimon7777@gmail.com

[3]Prof. Yogesh P. Murumkar
Department of Information Technology
Zeal College of Engineering and research
Pune, India
yogeshpm5555@gmail.com

Abstract— **Sentiment Analysis is a variant of Opinion Mining. It basically deals with going through volumes of already existing data collected from the Social Networking Websites such as Twitter, and processing that data in order to derive conclusion(s) from it. Not only that, it takes it a step further, where it not only gathers and analyses the data, but also categorizes the same primarily into three categories namely positive, negative and sometimes even neutral. The data from Twitter is collected and analyzed on the fly to get sentiments out of the public for a particular brand. This very feature of Sentiment Analysis can be used to recognize the market value of a business brand by its users and after comprehending the overall value of the brand in the eyes of its consumer, the brand owners can determine how their product is performing in the market in order to take, corrective action, if the need arises, to improve their product and strategically take over the market. Thus, this paper proposes a smart method to campaign for a business brand, whereby the business owner determines his position in the market, and how well(or bad) his business is doing ,by mining data and deriving inferences from the same, rendering them the capability to make insightful and well-informed decisions, thereby providing a cost-effective as well as a highly efficient method to review a business. Thus, it gives the business owners an ability to add value to their business and acquire a competitive edge.**

Keywords— Sentiment Analysis, Opinion Mining, Social Brand Monitoring, Social Media Analytics, Business Analytics

I. INTRODUCTION

Business Analytics has been in boom since several decades. Many organizations have realized the importance of the same and have invested significant amount in this global phenomenon. This has enabled organizations to take cognizance of the current market scenario and strategically steer their businesses to success, reaping exponential profits and unprecedented growth. Social Media Analytics is a branch of Business Analytics(BA) and has practically grown into a profound and widely used technical strategy in the business spheres. Social Media Analytics can be concisely defined as an analytic capability to analyze and break-down huge of data, both semi-structured and unstructured data from Social Media. Social Media is the "new big thing" which has happened to the world and not without good reasons. It is a revolution in itself, which has given the organizations, an alternate and unique medium of communication, where they have unlimited access to huge amount of useful data. Since the advent of World Wide Web 2.0, the Internet has been redefined in every way and nothing has ever been same, its capabilities have only rapidly multiplied and its reach has substantially grown. Social Media Platforms form an integral component of the World Wide Web revolution. Social Media has provided the customers a new and incomparable channel to interact with the organizations, businesses and also provides them an unprecedented opportunity to offer their opinions, suggestions, remarks on their products and the services that are being offered. Social Media possesses the unparalleled ability to influence the perspective of the customers and their interests and inclination in purchasing the products or services. Thus, with the launch of the Social Media, the customers are equipped with an ability to give their opinions about any topic under the sun and not only that, this ability could be further extended to discussions, public polls, debates etc. on a public platform. Thus, Online Social Networks, along with the micro-blogging websites, have become the top priority for the user to express their thoughts on a particular product or an event or any activity, and that too in real time. Sentiment Analysis is used to derive inferences from diverse texts. This appealing property of the Sentiment Analysis can be used to extract reviews, to conduct election polls and to determine answers to trending questions. By studying and interpreting the user's behavior on the social online networks, the users determine as to how the customers take their products and services, and also figure out, ways and means, to better their brand reputation and exponentially increase their electronic commerce.

II. LITERATURE SURVEY

Following are among the many challenges in the domain of Sentiment Analysis which need to be dealt with and resolved:

i)"Hidden Sentiment Identification" is to analyze and comprehend the actual emotion in the data rather than simply classifying into any of the three polarities i.e. positive, negative or neutral.

ii)"Handling Polysemy" is nothing but having more than one meaning of the same word leading to multiple sentiment polarity.

iii)"Mapping Slangs" is to narrow down the slangs in the data and to determine their associated meanings and conclude their polarity. Generally, the practice has been that, in order to figure out the reputation of any business, tools or services are provided by various agencies, wherein several sentiment analysis algorithms are implemented to determine

the sentiment in a sentence or extract the opinion from the text. Now algorithms used to determine the polarity of the text in question, consist of using lexical resources. Other popular approaches are based on Machine Learning where popular algorithms such as Support Vector Machines or Naive Bayes Classifiers are utilized. Along with extracting the sentiment in the text, the other advantage of the Sentiment Analysis, is to evaluate and determine the influence of the users on the Social Networking portals or the microblogging sites. Various Social Media Monitoring tools and Social Media Services are available which evaluate how much a particular brand is visible on the social networks. Brand Watch and Sysomos are few of the prominent examples which are used for business marketing and to understand how the customers really feel about them.

III. METHODOLOGY

Hadoop Map-Reduce Framework

Hadoop is an open source software project written in Java. It used to optimize the usage of massive volumes of data. It is essentially a software framework, for the distributed processing of large datasets across large clusters of commodity servers. Hadoop is based on simple programming model called the MapReduce model. It basically provides reliability through Replication.

A. Hadoop Ecosystem

In the Hadoop Ecosystem, there are two components:

i) HDFS (Hadoop Distributed File System) for purpose of storage.

ii)MapReduce for Processing.

Hadoop Distributed File System

It is one of the primary components of the Hadoop clusters and it is designed in the structure of the Master-Slave Architecture.

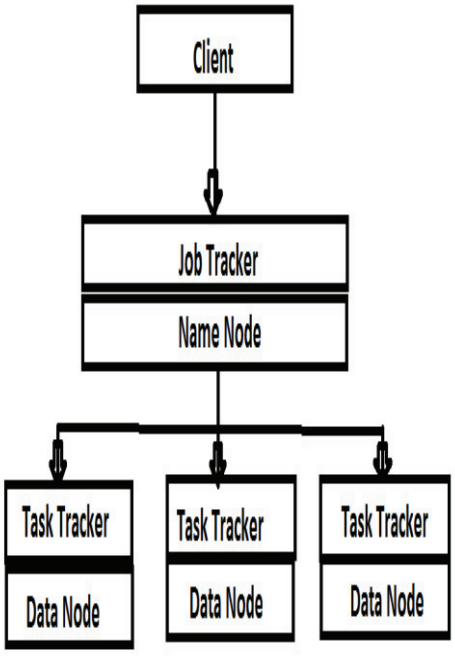


Fig. 1. Hadoop Master/Slave Architecture

Operations such as opening, closing, renaming file and directories are managed by the Master (Name Node) along with the mapping of blocks to Data Nodes. It also regulates access to files by clients. Slaves (Data nodes) are responsible for serving read and write requests from the client along with block creation, deletion and replication upon respective instructions from the Master (Name Node).

B. Hadoop Map Reduce Framework

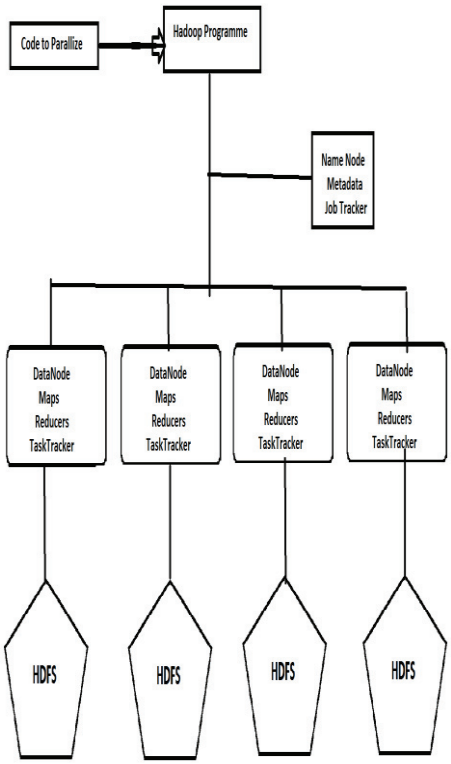


Fig. 2. HDFS Architecture..

When a client makes a request for a Hadoop cluster, this request is managed by the JobTracker. The JobTracker, working with the NameNode, distributes work as closely as possible to the data on which it will work. The NameNode is the master of the file system,

Providing the metadata services for data distribution and replication. The JobTracker schedules map and reduce tasks into available slots at one or more TaskTrackers. The Map and Reduce operations are performed on the Data Node which are slaves to the NameNode. When the map and reduce tasks are completed, the TaskTracker notifies the JobTracker, which identifies which all tasks are complete and eventually notifies the client after the conclusion of the job.

IV. PROPOSED SYSTEM

This system has the capacity to gauge the feelings of the customers about the product and hence understand their position in the market. By analyzing the content produced by the users, the organizations can obtain an effective idea about what the users think of their products, as a result, they can effectively manage their reputation in the market and take corrective action before the user gets to respond on a particular product, with the help of ad-hoc marketing campaigns and digital marketing, in order to assess the

sentiment of their customers. More importantly, the data available on the Social Media Platforms is free of cost and hence no question of being burdened financially and hence this freely available data can be used to create the prediction models in order to accurately predict the sentiment. Hence, more or less the objective of the system is to obtain the recent tweets in the required time frame, and to evaluate the tweets in order to get the sentiments of the users from the text after it has been analyzed. So that, on the collection and collation of these tweets, the overall image of the business can be generated.

V. SYSTEM DESIGN

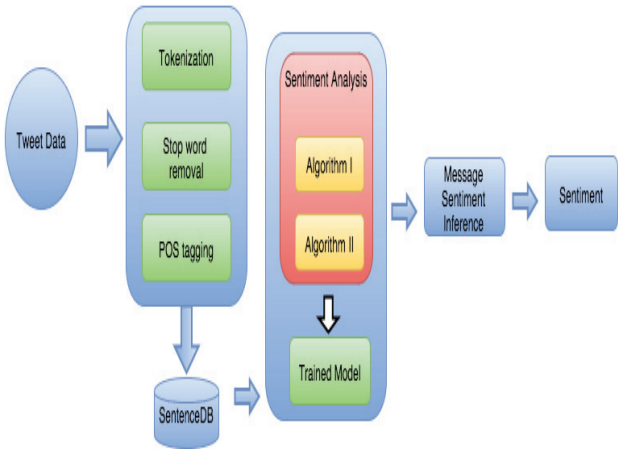


Fig. 3. Process of Sentiment Analysis-The Flow

Tweet Data is accumulated using streaming API, known as Twitter4j, which provides Tweet Data for the particular topic.

Twitter 4j API, renders us the ability to crawl the web and in this case, Twitter. This API can be simply obtained by possessing a Twitter account and being registered as a developer.

The collected Twitter Data is analyzed by gathering the adjectives in the tweet and categorizing the data into positive, negative or neutral. The analysis of the data is executed in parallel using Apache Scala and their RDDs(Resilient Distributed Datasets). Data is prepared using the following set of procedures: - i) Stop Word Removal: -Stop Words are the words that don't generate any sentiments, and hence are dead weights. Thus, it is mandatory to get rid of them, in order to optimize the process ii) Tokenization: -is used so that the tokens can be singled out and identified i.e. the given text is broken down to its individualistic components so that the text is pre-processed for tagging the different Parts of Speech iii) POS (Part of Speech) tagging: -Several Parts of Speech such as nouns, adjectives, verbs and more are found out in this phase. The objective of Part of Speech, is to separate out the adjectives from a phrase so that the underlying latent emotion can be identified with ease. The emphasis is laid out more on disintegrating the sentence and isolating adjectives from them.

Apache Scala is used to stream the data from Twitter using Twitter4j API and the data is acquired and stored in the JSON(JavaScriptObjectNotation) format, which is light-weight format used for the purpose of communication.

Once the Data has been prepared, groomed and refined, the next and the most vital stage is to extract and identify the sentiment hidden in the text and it is achieved through the Maximum Entropy Algorithm. This enables us, not only to determine the polarity in the sentence but also to comprehend the influence of the user on Twitter who wrote it. Ordinarily the approach used to gauge the influence of a particular user is, by getting hold of his followers, his mentions on Twitter and reactions to his tweet. The pre-classified data for training the model is provided by a dictionary known as the SentiWordNet dictionary. The Maximum Entropy Algorithm, uses Entropy as a criterion to polarize the text into the concerned classes of Positive, Negative and Neutral with the help of the training data provided. The Maximum Entropy Algorithm, is a probabilistic model, that excels in the classification of text. It also takes relatively less time to train the data when compared to other algorithms. Moreover, Laplacian Smoothing is used to deal with the words that have not been encountered in the Training Model. Another noteworthy aspect of this system is that Maximum Entropy Algorithm is used in combination with Part of Speech Tagging so as to achieve and maintain the best possible accuracy. Also, Negation Handling techniques are employed to take care of "not" in sentences, so that the meaning of the sentence is not altered.

A. Emoticons

These are entities used in sentences in order to convey a feeling or an emotion in a given text. They are most widely used and found in written communication. Over the last decades, they have dominated the Social Networking sites. Some examples of Emoticons are as follows: - Emoticon for a positive feeling/emotion :-) Emoticon for a negative feeling/emotion :-(and our application makes use of them in order to classify the post into different classes of Polarity.

B. System Architecture

The entire application consists of three distinct function tiers.

i) Presentation Layer: -This is what the end-user sees and where the input is collected and the output is displayed. This is the layer established for the purpose of interaction with the end-user. Input is taken from the user in the form of keywords to be searched for or with name of the brand/product along with start-date and the end-date of the search, in the data streamed from Twitter.

ii) Application Layer: -This layer is used for executing all the Logical Operations. This layer is created using the Apache Scala Language. This layer accomplishes its task of Sentiment Analysis by seeking adjectives in the given tweets and polarizing them into categories of classes of Positive, Negative or Neutral.

iii) Database Layer:-It is the layer used for the purpose of storage. Data from Twitter is streamed into the HDFS using Twitter4j API. Using this interface, all the content in the Twitter regarding a particular feature, can be pulled from its database and stored in this layer.

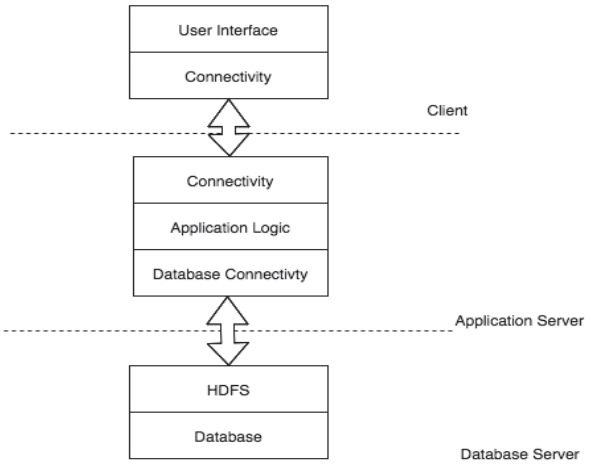


Fig. 4. System Architecture

Finally, the result is displayed using a Graphical Format such as pie-chart, donut or a half-donut. Then, the overall Sentiment is derived and summarized into any of the following emotions: - i) Joy ii) Disappointment iii) Furious iv) Thrilled. The Polarity in every tweet is categorized into the following sets: i) 0 ii) 1 iii)-0.5 iv) 0.5. Since the system is analyzing real time data, the data is collected and analyzed on the fly and thus, this application is successful in providing Sentiment Analysis over any topic in Real Time, hence, characterizing it as a Real Time Application.

VI. RESULT

A Keyword, in the form of a string, is accepted from the user. The user can type-in the Text box provided next to the Search button, any string, which is relevant for a brand.

A pre-decided number of tweets are drawn from the Twitter Database, which are found to be relevant to the string keyed-in and then are analyzed to conclude the holistic sentiment regarding the keyword. The results are then visualized, in the graphical format, using various Graphical representations such as Pie-charts or Donut-shapes etc. and tables. The sentiment is graphically shown and the polarity is displayed in the tables for every tweet collected.

VII. CONCLUSION

Sentiment Analysis is the need of the hour for any and all businesses; to not only determine their market value in the eyes of the customer, but also to give them a competitive advantage by offering deep insights in the market scenario. It is proved that our application can be used to derive accurate conclusions, from data that is collected in real time and scrutinized also in real time, thereby, providing results on the fly.

REFERENCES

[1] Guerrero, J. Olivas, F. Romero, and E. Viedma, "Sentiment analysis: a review and comparative analysis of web services," Information Sciences, vol. 311, pp. 18–38, 2015.

[2] "Sentiment analysis AP Is" [online]. Available :https://konghq.com/blog/list-of-20-sentiment-analysis-apis/

[3] "Sentiment analysis tools track social market ing success"[online].Available: https://www.iprospect.com/en/ca/blog/10-sentiment-analysis- tools-track-social-marketing-success/

[4] Pang Bo, Lee Lillian,Vaithyanathan Shivakumar, "Thumbs up? Sentiment Classification using Machine Learning Techniques," Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP). pp. 79–86, 2002.5

[5] www.apache.org

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

Integration of Sensors for Location Tracking using Internet of Things

Prof. Shital D. Bachpalle
IT Department, ZCOER
(SPPU University)
Pune, India
sbachpalle@gmail.com

Prof. Minakshi R. Shinde
IT Department, ZCOER
(SPPU University)
Pune, India
minakshishinde34@gmail.com

***Abstract*—nowadays, localization of things having a tremendous growth, due to continuous change of location wireless localization techniques and sensing techniques interest has been increased. Tracking moving elements is a big challenge for that wireless networks for localization systems and applications are required. To provide this services localization based services are comes into picture using Internet of Things and to obtain required data for transmission is collected by different sensors for objects using different localization techniques. This paper is used to present current improvement in the localization and tracking. In this paper we discuss the current technologies for location tracking with the help of sensors.**

Keywords—Internet of Things, Wireless Sensor Networks, Localization, Tracking, WiMAX.

I. INTRODUCTION

Wireless Sensor Networks (WSNs) are used for localization of the objects, assets, etc. for this localization is categorized into two types centralized and distributed technique as mentioned in paper [1]. Figure 1 is used to represent overall architecture for wireless sensor network. Sensors nodes are connected to each other for communication purpose through gateway which is then connected to internet through base station. Here sensors are used to collect data and used to transfer among different sensors connected through the networks. In centralized technique of WSNs all sensors will acquire data and transfer to centralized server and the server is responsible for calculating its location. In distributed technique every sensors calculate the position by itself [2]. If we compare centralized and distributed approach of localization then distributed approach is more efficient compared to centralized approach and it can be used in large scale networks, but in some specific types networks centralized approach is implemented for example road traffic control system, health monitoring system in which data need to be processed centrally.

Central approach provides greater accuracy compared to distributed approach but central approach of network may suffer from scalability type of problem which is provided in distributed approach. Another drawback of centralized approach is that loss of data may possible.

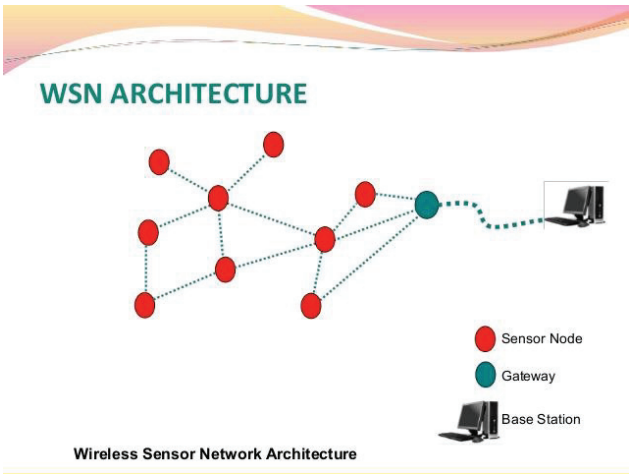


Fig. 1. WSN Architecture

The IoT is used to find the way for businesses operate along with more control and evolve daily operations whatever data collected from this activity is very large and it is difficult to handle this data. But analysis of this data is possible by using AXON platform [3]. Now it is possible to capture and manage data in real time. You can capture your assets, you can monitor and you can analyze your data in real time.As represented in Figure 2 sensors can be used in different applications with different mobile devices to provide flexible and reliable communicationwith the help of wireless sensor network.

Through WSN long distance data transmission is possible. Internet of things is used to provide internet connectivity to these sensors. Localization and tracking of things those are connected through sensors are not very new applications. Through GPS it is already possible to track mobile phone. But recently localization and tracking of elements is possible using Internet of Things which is getting very large attention [4]. Real Time Locating System (RTLS) is another methodology used for finding real-time location information of the objects, people and assets. For location tracking RTLS tags and reader are used which transfer location information to receiver [5]. TRLS is a form of local positioning system which is used to provide only location information. It does not provide identification information or any other details like speed, direction, etc.

978-1-5386-5510-8/18/$31.00 ©2018 IEEE

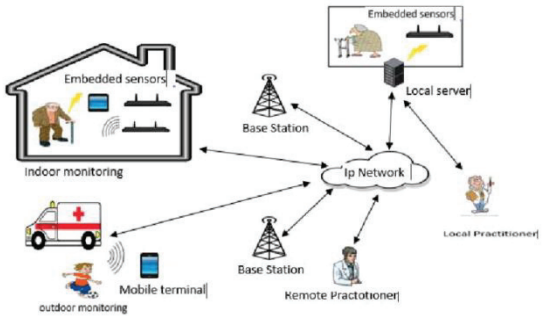


Fig. 2. WSN Architecture with Sensors

RTLS is generally use in buildings and it does not used for global converge purpose like GPS. RTLS tags and fixed reference points can be either transmitters or receiver.

Applications of RTLS

Locate and manage assets or objects such as shopping cart and warehouse.

New location notification through alert

Locate people for item delivery.

To track people or assets through process automatically.

The most famous wireless RTLS are based on RFID for indoor localization or ultra-wideband (UWB) technology [5,6,7,8].

The Smart City application has been realized which renovate the traditional city concept [6]. It is a fully remote controlled isle of lamp posts based on new technologies. The central unit is realized with a Raspberry-Pi control card due to its good computing performance at very low price.WiMAX transceiver, which is connected, via radio link, to the World Wide Web. Figure 3 is used to represent schematic image of the on street system as represented in paper[6]. The integration between Internet of Things (IoT) with the cloud (IoT-Cloud or sensor-cloud) has received significant interest from both academia and industry [7,8,9,10].Based on mobile user location tracking, the IoT-cloud plays a role as a controller, which makes schedules for physical sensor networks on-demand. In this way, resource-constrained sensors are required to report their sensing data only when there is a mobile user entering their region and requesting for sensing data[11]. As proposed in paper [12] mobile devices have GPS to use location tracking services. Existing system for location monitoring that monitors mobility patterns collectively in a large number of moving objects for a large city. The accuracy of the current localization techniques is suitable for their model [12].

II. Location Tracking

A. Wide-Area Tracking

Recently location tracking is very demanding technique; companies want to track their objects across the country or the world. GPS is the most famous tracking technology over big areas. GPS receiver will be used for tracking objects. As the GPS satellites track the vehicle position crosses the country. Using GPS, request through operator for current positioning can make at any time. But, GPS facility is limited in case of indoors or smaller geographical areas.

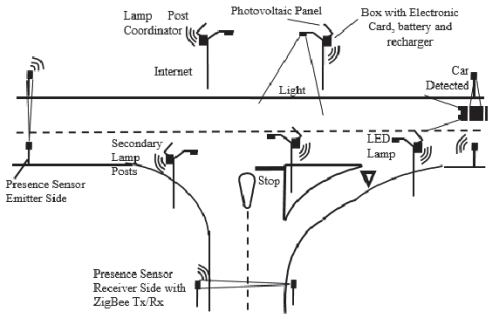


Fig. 3. Schematic image of the on street system.

Local-Area and Indoor Tracking

In some examples GPS is not appropriate for tracking objects is in hospitals or a house. The correctness in case GPS is not adequate for a small area or local area. Deliberate all of the conditions in hospital that need to track like medical equipment, patients, wheelchairs and gurneys. For smaller areas like healthcare organizations and companies would probably use a tracking technology RFID tags and readers to identify the location of resources or inventory. In such type of systems each entity need be tagged with an RFID tags, and to read accurately those tags within specifies inches the readers will be used and placed in planned locations. So that employees in hospital will be capable to find the current location of wheelchairs and retailers will be capable to find an item.

Another best example is in tracking location of children in some fun parks. A wristband with an inserted RFID tag for child is prepared and child will wear that wristband. All the park staff members can track the location using tag attached to wristband through location receivers which is placed around the whole park. A system which already in use at Legoland in Denmark, which allows registration of tag number with parents cell phone.

Tracking location is not just restricted to permitting an association to recognize where its resources are, will also help marketers and retailers to get better target. The future requirement of location tracking is that a tag is placed on the object, person or animal need to be tracked.

III. Tracking Technology

Today's technologies used for tracking location and to create Service-based systems which are as follows:

- Geographic Information Systems (GIS) – It is necessary for huge-scale location-tracking systems, to get geographic information and store. Geographic information systems also can be used to capture, to store, to evaluate and to generate report on geographic captured information.
- Global Positioning System (GPS) - GPS uses a constellation of satellites that used to send location related information of objects and timing information from space to directly your phone. GPS receiver needs to be there in phone to receive signals from one of the three satellites, it will show your location on a flat map. GPS technology is ideal for outdoor locating, such as farming, surveying, and transportation or military use.

- Radio Frequency Identification (RFID) – It is electromagnetic fields which are used to identify automatically and track tags attached to items. Small, microchips that need to be attached to consumer belongings, vehicles and other objects to track their location movements and position. RFID tags can be passive which only transfer records if stimulated by reader. The reader transfers radio waves that used to activate the RFID tags. Then via a radio frequency the tags then transmits information. This information is collected and transmitted to the database.
- Wireless Local Area Network (WLAN) – Is a network of devices that connected through radio frequency, such as 802.11b. In this devices transfer information through radio signals and provide network to users with a range of 70 to 300 feet.

IV. WiMAX

WiMAX is a wireless broadband IEEE 802/16 based standard data communication high speed technology, which provides points to multipoint wireless technology. It is very high speed but very cheap data network, basically used for rural area users who want fast access. It is also used to provide high speed network access to moving devices through mobile applications.

TABLE I. WiMAX PROTOCOL STACK

Network Layer
MAC sub concurrency sub layer
MAC Layer
MAC provide Sublayer
PHY Layer

Table I is used to represent WiMAX MAC layer used to transfer/receive data between the various layers. The additional layer that is convergence sublayer is an interface between MAC layer and Network Layer. WiMAX layer is used to allocate different bandwidth to different users. Connection identifier is used to generate link between user and mobile station with base station, which is uniquely identified by using connection ID data will be transferred over a WiMAX link. There are different types of network architecture figure 4 is used to represent mobile WiMAX Mesh architecture with Routing techniques. There are two types of network architecture one is client/server and another is peer-to-peer. On client side architecture one computer works as a server that provides services to other computers on the same network. Client/server networks are typically used when large files required by multiple users.Whereas in Peer-to-peer architecture all computers are having equal capabilities to share resource.

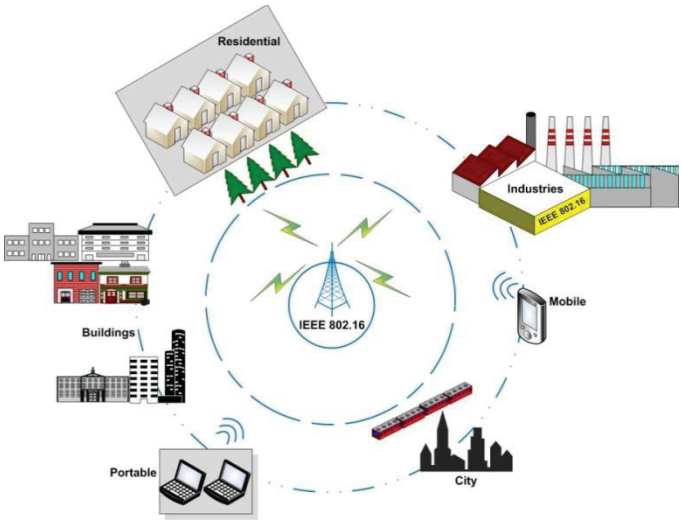


Fig. 4. A Mobile WiMAX Mesh with Routing Techniques

V. LOCATION TRACKING USING IOT

Tracking and locating the things is possible using internet of things.Location tracking is possible using hardware device or through applications. Every device is build up with location sensors such as mobile phones with GPS, which is used to locate devices. Location measurement is one technique and there are multiple solutions or algorithms for this, one solution is by measuring nearby points or location information will be saved into some variable through which we can able to calculate the exact location of device over map using Wi-Fi, RFID, Bluetooth Beacons and GPS. All these technologies are used to gather location related information and then the information is transferred to intermediate node or system or through scanner, same information will be transferred to remote server for further calculation. To track the things geo-coordinates like longitude and latitude are used to compute exact location of object using map. Here sensors can be used to sense location information which is then transferred to remote server.

Creating an real time environment through which assets or objects tracking management performed are having wide range by using RFID system for location tracking, including barcodes it is much more easier process but still time consuming. RFID tagging using handled readers can offer a simple and efficient way be maintain a continuous check on inventory in real time through RFID tags is used to gather more detailed information about the things.

Fig. 5. Location Tracking

VI. CONCLUSION

In this paper we have discussed about the current available location tracking technology in IoT using sensors.There are lots of technologies available in market but we have covered some of them for some specific purpose. The main aim of this paper is to expose new efficient strategies for location tracking and combining with new technologies. Integration of sensors with internet of things to get the large coverage for locating things. WiMAX is used to design fully controlled system from remote station.We can use these technologies in different applications to provide security which is another objective of this paper. Sensors are required to report their sensing data periodically regardless of whether or not there are request for their services. The widely used and most efficient way to track location of resources is through RFID tags and sensors.

REFERENCES

[1] Mao, G.; Fidan, B.," Localization Algorithms and Strategies for Wireless Sensor Networks", Information Science Reference-Imprint of IGI Publishing: Hershey, PA, USA, 2009.

[2] Anup Kumar Paul and Takuro Sato, "Localization in Wireless Sensor Networks: A Survey on Algorithms, Measurement Techniques, Applications and Challenges", J. Sens. Actuator Netw. 2017, 6, 24; doi:10.3390/jsan6040024

[3] https://greenwavesystems.com/product/axon-conversational-iot/

[4] J. Guo, H. Zhang, Y. Sun, and R. Bie, "Square-root unscented Kalman filtering-based localization and tracking in the internet of things," Personal and ubiquitous computing, vol. 18, no. 4, pp.987 – 996, Apr. 2014.

[5] "Real-Time Location Systems" (PDF). clarinox. Retrieved 2010-08-04.

[6] Fabio Leccese , Marco Cagnetti and Daniele Trinca, "A Smart City Application: A Fully Controlled Street Lighting Isle Based on Raspberry-Pi Card, a ZigBee Sensor Network and WiMAX ",, 14, 24408-24424; doi:10.3390/s141224408.

[7] Babu S., Lakshmi A., Rao B. A study on cloud based Internet of Things: CloudIoT; Proceedings of the Global Conference on Communication Technologies (GCCT); Thuckalay, India. 23–24 April 2015; pp. 60–65.

[8] Fazio M., Puliafito A. Cloud4sens: A cloud-based architecture for sensor controlling and monitoring. IEEE Commun. Mag. 2015;53:41–47. doi: 10.1109/MCOM.2015.7060517. [Cross Ref]

[9] Dinh T., Kim Y. An Efficient Interactive Model for On-Demand Sensing-As-A-Services of Sensor-Cloud. Sensors. 2016;16:992doi: 10.3390/s16070992. [PMC free article] [PubMed] [Cross Ref]

[10] Dinh T., Kim Y., Lee H. A location-based interactive model for Internet of Things and cloud (IoT-cloud); Proceedings of the Eighth International Conference on Ubiquitous and Future Networks (ICUFN); Vienna, Austria. 5–8 July 2016; pp. 444–447.

[11] Thanh Dinh,Younghan Kim, and Hyukjoon Lee, "A Location-Based Interactive Model of Internet of Things and Cloud (IoT-Cloud) for Mobile Cloud Computing Applications". Sensors (Basel). 2017 Mar; 17(3): 489

[12] Kim B., Lee S., Lee Y., Hwang I., Rhee Y., Song J. Mobiiscape: "Middleware support for scalable mobility pattern monitoring of moving objects in a large-scale city". J. Syst. Softw. 2011;84:1852–1870. doi: 10.1016/j.jss.2011.06.068.[CrossRef]

Search Engine Optimization Technique Importance

Prof.Amruta Vikas Patil,
Department of Information Technology,
ZCOER, Pune.
amrutayadav2010@gmail.com

Prof. Vikas Madhukar Patil.
Department of Computer Engineering,
ZCOER,Pune.
patilvikasm@gmail.com

***Abstract*— The basic aim of search engines is to search the relevant information. Ranking of any website can be increased with the help of search engine optimization technique which is collection of techniques and practices. There are two parts of search engine techniques of which one is on page and second is off page. Here we are going to discuss the role, importance and working of search engine. The concept and overview of search engine optimization and its types is also described here.**

Keywords— Crawler, Search Engine, SEO, Website.

I. INTRODUCTION

Search engine is nothing but the software program available on the web or we can say that its script available on the web which returns us the list of keywords as a result when we search for a particular keyword or file. With their own features and techniques today the no of search engines are available on the internet. To improve the visibility of any site on the internet , search engine optimization plays an important role.

II. BACKGROUND

Archie was the first search engine in the search engine industry. Archie was used to search for the FTP files (File Transfer Protocol). Veronica is the first text based search engine. Search engines not only search for the pages but also after searching for the particular keyword it displays the result depending upon the importance because large search engines contains millions sometimes billions of pages. By using various algorithms we can determine this importance. Today there different search engines available in the market some them are Google, Yahoo, Ask.com, Bing, Alta vista etc. these are displayed in Figure 1

Figure 1: Different Types of Search Engines

The detailed working of search engine is shown in below diagram. We can divide the working of search engine in two parts as crawling and indexing. The job of web pages retrieving is done by the program called crawler, commonly for use by search engines. Visiting the pages that are mentioned in the search and then grabbing the contents of that particular pages is done in the crawling process. Indexing is the process done after the crawling process in the database. Hence indexing and crawling are the two main processes included in the working of search engines. The whole process includes the tokenization, removing the stop wards, extracting the location of each word in the page, importance of each word, back links to other pages and so on. Hence ranking of each page is decided by this data, it also determines which page should be displayed and in which order. After having a search operation generally the data is divided into number of files and it is then saved to different computers or different servers or it can be loaded into the memory so that it can be used to perform search operation [1].

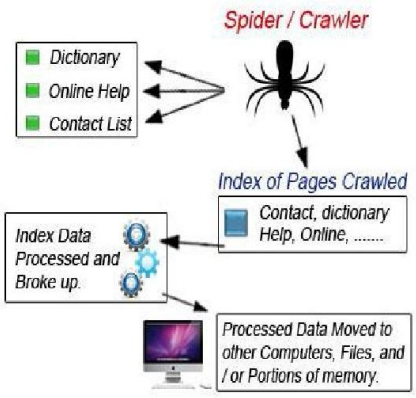


Figure 2: Spider or Crawler Methodology

The links from one page to another is followed by the web crawlers and the content is indexed. Regular basis visit to the website is not possible by the crawler. Although today many

search engines work on the real-time basis like Google , it is not possible for the crawler to visit the site The working of Google is shown by the following block diagram.

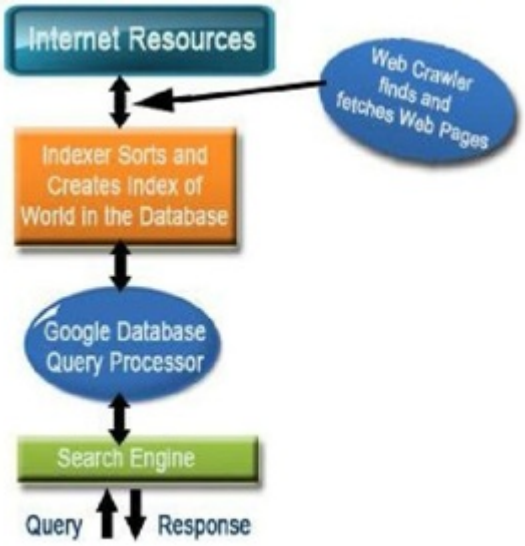


Figure 3: Working of Google Block Diagram

III. ASSORTMENT OF SEARCH ENGINE

Search Engine is divided into following types:

A. Full Text Search Engine:

Apart from traditional database engines full text search engines evolved later on, because more and more unstructured textual data in electronic format was found by corporations and governments. These new text documents didn't fit well into the old table-style databases, so the need for unstructured full-text searching was apparent.

B. Directory Search Engine

It can not be called as a true search engine. All the entries of directory listing is retrieved by it.

C. META Search Engine

Depending upon the user's query search results from multiple search engines is provided by it simultaneously.

D. Vertical Search Engine

Specific search field and search demand are considered by Vertical Search Engine [2].

There are many of search engines like Google, Yahoo, Bing and Ask but most popular search engine is Google. More than 80% first visit to the site comes from the search engine, which is a result according to the survey of which more than 76% uses Google worldwide web. Furthermore, it shows that "84%" of Google searchers never go beyond the second page of search results, and 65% hardly ever click on paid or sponsored results. Therefore, getting top position in search engine results is critical to the constant flow of users to the websites, and this is where the value of Search Engine Optimization comes in. The search engine algorithm has the daunting task of parsing and analyzing HTML pages in order to categorize them so that relevant pages can be found out. In order to bring order to the Internet by helping to categorize web pages and increase their visibility, Search Engine Optimization (SEO) has increased popularity in recent years.

IV. WHAT IS SEARCH ENGINE OPTIMIZATION?

Search Engine Optimization is a technology used to improve the visibility results that we get on a free search engine for the keyword searched for. The optimization can be done with the different types of targets such as images, videos, academic articles, etc. With the help of Search Engine Optimization we can manage the visibility of web pages that we see on a search engine. The aim of this research is , to provide the user assisted ranked results to the user so that user can select the priority links by designing a user assisted, reliable, search based on the keyword based analysis, where user can discard the spam links over the web and efficient search optimization model over the open web can be possible. Here our main aim is to work in a user friendly environment and analyze under different parameters.

Figure 4: Search Engine Optimization

A webmaster or a website is helped by a SEO in order to ensure that search engine can reach to the site and thus there will be the chances that the search engines will search and reach to the site.

Not to click through pages and pages of search results is a best practice for web users, so for guiding more and more user traffic toward the website where a site ranks in a search is essential. Naturally ranking of a site in a organic search increases the chance to visit that site.

The method of improving the website or web pages is nothing but the search engine optimization. Generally if the rank of the website or the web page is higher i.e if the web page appears earlier in the search result, it will be visited by large no of users. The different kinds of search, including image search, local search, video search, academic search, news search and industry-specific vertical search engines can be targeted by SEO. SEO looks for how search engine works, the keywords used by search engines, what actually target audience search for, which search engine is used by the target audience and using all these data the search engine makes a strategy . To optimize the website it may required to edit the contents of the site, HTML and it may required to edit the coding of the corresponding coding so as to increase its relevance to specific keywords and to remove barriers to the indexing activities of search engines.

V. Flavors of Search Engine Optimization (SEO)

Search engine optimization technique can be categorized into three flavors:

Figure 5: Search Engine Optimization Flavors

A. White Hat CEO

WHITE HAT SEO technique. Is a proper and best way to optimize any website according to user requirement All search engines appreciates and supports this type of optimization technique, particularly the Google. If the website is regularly updated with quality and unique content, then this type of SEO technique is recommended and natural way to optimize the website and gets better links from relevant niche websites and blogs. This means that the webmaster does not take a single attempt to mislead search engine and does not try to cheat.

B. Gray Hat SEO

In this technique the links of other sites are exchanged between the sites to improve the search results .But this technique is irrelevant and it is not accepted by the search engines. The optimization achieved using such techniques is not of long term supported by search engines.

C. Black Hat SEO

Optimization done with spamming in the links or if webmaster builds or makes some irrelevant links with the help of niche websites then such optimization technique is termed as black hat SEO, this will be considered as Black Hat SEO Technique

VI. Types of Search Engine Optimization

SEO techniques can be categorized into two parts. These are on page SEO and off page SEO.

A. On Page SEO

Here the optimization is done in the coding of the website.

On Page SEO Elements:

- **Title Tag:** The most important part in good search optimization is the title part. The content of this tag is crawled on the priority basis. Whatever search engine look for the first time is the title.
- **Meta Tag:** The keyword and description tag are the two meta tags used by SEO.
- **Alt Attribute:** Only the alt attribute of the image tag is read by the search engine.
- **Header tags (H1, H2 and H3):** According search engine point of whatever the HTML tags are also important.
- **Permalinks of Web Pages:** The URL of the website must and should be prepared according to the keywords.
- **Internal Linking:** Internal links are nothing but the hyperlinks used in the website coding .These hyperlinks are also equally important in search engines
- **Keyword Density:** The percentage of times a keyword or phrase appears on the web page compared to the total number of words on the page is called as a keyword density. Keyword Density is really important in terms of SEO.
- **Sitemap:** In Sitemap, all important website links are available with date and updated information of page. Search Engine will crawl the sitemap links on the priority basis [4].

B. Off Page SEO

This is the technique for making back links. Back links are normally termed as link back from other website to our website. Back links are important for SEO because search engine algorithms give credit, if any website has large number of back links. As well as back links increase, website popularity will increase.

VII. SEARCH ENGINE OPTIMIZATION BENEFITS

- **Popularity:** By this technique popularity will increase.
- **Increase Visibility:** Once a website has been optimized, it will increase the visibility of website in search engine. More people will visit website.
- **Targeted Traffic:** Search Engine Optimization can increase the number of visitors to the website for the targeted keywords.
- **High ROI (Return of Investments):** An effective SEO campaign can bring a high return of investment than any other marketing. it will increase the volume of sales.
- **Online Marketing And Promotion:** best strategy for promotion [6].

VIII. CONCLUSION

Search Engine is really useful tool in present era of web. There are many of search engines available in market, but most popular search engine is Google. So for getting topmost results in web, we have to use search engine optimization technique. Both on page and off page search engine optimization techniques are important for better search result. In the three flavors of SEO, White Hat SEO technique is the best and long term as well.

References

[1] Sergey Brin and Lawrence Page, "The Anatomy of a Large-Scale Hypertextual Web Search Engine,". [Online].Available: http://infolab.stanford.edu/~backrub/google.html

[2] Meng Cui, Songyun Hu, "Search Engine Optimization Research For Website Promotion, Transport Management College, Dalian Maritime University, Dalian, 116026, China". [Online]. Available:http://www.ftsm.ukm.my:8080/kt/attachments/article/69/06113701.pdf

[3] Joeran Beel, Bela Gipp, Erik Wilde. UC Berkeley School of Information." Academic Search Engine Optimization (ASEO): Optimizing Scholarly Literature for Google Scholar & Co."[Online].Available: http://www.beel.org/files/papers/2010-ASEO--preprint.pdf.

[4] "10 SEO Techniques All Top Web Sites Should Use".[Online].Available: http://freelancefolder.com/10-top-seo-techniques/.

[5] "Search Engine Optimization". [Online]. Available: http://en.wikipedia.org/wiki/Search_engine_optimization.

[6] "Ultimate Benefits of SEO".[Online]. Available: http://www.nextsbd.com/seo/benefits-of-seo.php

2018 International Conference on Information, Communication, Engineering and Technology (ICICET)
Zeal College of Engineering and Research, Narhe, Pune, India. Aug 29-31, 2018

SEO: On-Page + Off-Page Analysis

Mr. Vikas M. Patil
Department of Computer Engineering
ZES's Zeal College of Engineering & Research, Narhe
Pune, India
patilvikasm@gmail.com

Mrs. Amruta V. Patil
Department of Information Technology
ZES's Zeal College of Engineering & Research, Narhe
Pune, India
amrutayadav2010@gmail.com

***Abstract*— With fast development of information technology search engine optimization technology has attracted a lot of and additional attention. Search Engine optimization is very important technique for web site to boost the rank in search engine. Every owner of web site expects to visualize their web site in top most list before alternative web site so that user visit their web site. There are such a lot of techniques to boost the result or rank in search engine. This paper put idea social media marketing technique that has an effect on to search engine optimization. These techniques will facilitate to boost rank in search engine result.**

***Keywords*— SEO, Search Engine, off and on page SEO Social Media, backlinks, website Submission.**

I. INTRODUCTION

Today's owner of any organization expect to increase popularity of their organization so making use of digital media like web site and so internet become very large source of data with such a large amount of websites being generated daily.

People who make the use of keyword in search engine to search out websites only care about top most links of search engine result.

To attract the users on web site search engine optimization is an tool which use an owner of web site to stay strong in market with their compotator by putting their web site link before others link.[3]

As search engines don't public their algorithmic rule its very difficult task to boost rank of websites from billion of websites

SEO technique make use of original result which analyzed by search engine to boost ranking in search engine result & its additionally facilitate to boost the recognition of particular web site.

To improve the rank of web site in search engine the SEO consider various parameter domain, architecture of website, content of web pages, site update frequency, keywords, back links and so many.

Over all SEO is tool which is used increase traffic on website so that website put their presence in top most list of search engine optimization result.

This paper mainly focuse on off-page SEO methods and techniques. The paper organized with section in Section I with on-page SEO techniques, in Section II deeply discussed off page SEO method using social media marketing and in section III website submission techniques. Finally added conclusion of this paper.

After understanding the overall process of Search Engine Optimization like keyword analysis- top targeted keywords, competitive analysis of websites and reporting and goal setting for SEO let us see on some SEO type and their methods.

II. ON-PAGE SEO TECHNIQUES

If user type on page SEO in google moz defines it is best practice of optimizing individual web document to improve rank in search engine. This technique refers both content and html source code of page that need to be optimized. Major factor influencing this technique is that how web page is relevant to query submitted by user to search engine.[6]

Putting effort and strategies someone can boost a traffic on website and increase presence of website in search engine result. Following are the some techniques which categorized in on-page seo.

1) Meta Tag

Most on page SEO efforts develop a tags. Basically meta tag gives information of web pag to search engine which help full to increase top most visibility in serach engine result.

2) Title tags

Which define what the pages is about the titile is what the user sees in search engine.

3) Meta Description

Meta description gives information what user will find on this page. This is related description of content in page.

4) Heading Tags

Some can increase visibility by adding H1 tags in landing page of website.

5) URL string

URL should be concise, short and easily readable. The way to use effective URL in SEO each word in URL should be separated with hyphen

6) Keyword

Use of effective keyword in content are also help to improve highest visibility in search engine result someone can make use of targeted keyword with content. Use of transactional, informational, location based keyword are very usefull.

7) Optimizing image

By adding images in content by using adding top targeted keyword in Alt text and assigning unique title to images.

All this techniques should be used altogether for effective search engine optimization.

III. OFF-PAGE SEO TECHNIQUES

Working with On-Page SEO techniques is quite easy due to work related to on webpage by considering content and html source code of webpage.

Off page SEO focuses on increasing authority on your domain through the act of getting links rom other websites. This analogy matched with example like water tub with rubber duckies in it. Duckies are the pages and water is like links if water starts filling in tub the duckies are all going to top. The biggest off page SEO factor is the number and quality of backlinks to owner's website example like creating awesome content that people want to link because it is valuable.

1) Creating Sharable Content

Effective and helpful contents are continuously king of search engine optimization, making effective and helpful content is smart way to generating additional and a lot of backlinks to web site.

2) contribute as guest author

There are number of excellent and quality blogs that are always open for guest post from varied other write wonderful content contents for guest post.

3) Social Media Engagement

If owner wants to to make website popular engage with people on social media

4) Social Bookmarking

Social media is another way to promoting website. Make the use of social book marking on popular sites like dig, propeller.

5) Link Baiting

Putting website link as reference to other website from where webpages have copied or published another websites news.

6) Classified Submission

Classified submission is that the one of the necessary a part of off page seo strategy. Through classified ads one get instant traffic and leads by doing and creating additional ads within the classified submissions. There are many web-sites where one will post their ads at no cost or can promote their businesses by posting the relevant ads. And these sites are providing many facilities to the users such that the strategy of advertising, buying/selling, promoting, marketing etc. has been changed forever. so as to profit from classified advertisement posting, it's necessary to make sure that the directories have a decent page rank.

7) Profile Creation

Profile creation is one of the effective ways to list business on varied platforms. this will provides a wider reach a chance to show the url of web site in profile. it's a significant link building technique in which produce profiles at completely different skilled, personal, or any business platform's web site, as an example social networking, forum sites, the other kind of websites etc. business information link to it profile page from that website able to acquire higher back links to the website.

Profile creation site are very useful in gaining additional targeted traffic. Through it someone can get top quality links and attract internet users who actually would like the knowledge from web site that is extraordinarily necessary for SEO.

8) Blog commenting

Blog commenting is outlined as a relationship between blogs, bloggers and blog readers. it's an excellent way to exchange concepts, thoughts or opinions regarding what individuals feel for a specific topic or a blog post. blog comments helps the blog to attract traffic and makes it social.

Blog commenting is an action taken by the blog viewers, visitors, or blog readers; the blog readers or the guests leave a comment on to the blog posts within the form of queries if they require to raise something, or some can simply leave a comment for appreciating the knowledge shared or is also the blog author replying to the comments which are posted by the blog readers.

9) Article Submission

Article Submission is a method of publishing articles to the article directories to urge backlinks. It plays a crucial role in doing internet marketing campaigns. The article submissions helps to achieve most traffic from targeted audience.

Article submissions are done for specific websites when it involves seo.

Those specific websites are simply indexed by Google or alternative search engines as they're very optimised. This improves the searchability of article.

10) Q&A

Someone can participate in question and answer by asking relevant question and putting link to website in source section

11) Image submission

Share photos on popular image submission websites before submitting images make sure with correct URL & tags

12) Bussiness listing

There is no doubt about business listing do help improve overall online presence of websites. Different business information affect to the overall quality score with search engine result. Search engine like google look every place business is an online & assign quality score via complicated algorithm

One way to help to improve quality score is to make sure ever where business mentioned is correct even the things like adding a comma in wrong space knock quality score down in search engine eyes .

IV. WEBSITE SUBMISSION

Once website identified by all the web spiders by making the off-page and on-page SEO technique, still it is necessary to submit sitemap to every search engine, open directory.

1) Submit website

Starting with SEO process with website it is very useful if submit website address to search engine. Prepare sitemap of website in the form of xml file which contains each and every url of website and submit to search engine. Every search engine has provide tool for submit website. Example search engine like Google provide tools named Google Webmaster to submit website to search Engine and indexing of website. By submitting website is very useful to find

website by search engine with comparison of other technique.

2) Add to Directory Service

Directories are the massive databases, that hold vast range of internet sites segregated supported their categories and sub-categories. There are perpetually paid and free directories, a number of them take websites on the complete and a few accept only a webpage or a post.

Now a days directory submission has less priority with compare to the other SEO Technique, SEO experts thinking less about this technique after penguin update.

V. CONCLUSION

To improve ranking or visibility in search engine like google , yahoo search engine optimization is effective technique. By Improving rank and visibility in search engine result it helps to improve user interaction with website. In this paper we discuss the various technique to improve visibility and rank in result of search engine. Maximum focus of this paper in off-page SEO technique. This analysis specially off-page seo technique with on-page seo technique will help to improve result in search engine.

REFERENCES

[1] https://www.searchenginejournal.com/everything-need-know-page-seo/173577/ *(Online)*

[2] http://www.digitalthirdcoast.net/blog/on-page-off-page-seo-difference.(online)

[3] Joyce Yoseph Lemos and Abhijit R. Joshi, "Search Engine Optimization to Enhance User Interaction" in International Conference on I-SMAC (IoT in Social. Mobile,Analysis and Cloud)(I-SMAC 2017

[4] Samedin Krrabaj,Fesal Baxhaku and Dukagjin Sadrijaj,"Investing Search Engine Optimization Techniques For Effective Ranking: A case Study of Educational Technique" 2017 6th Mediterranean Conference on Embedded Computing (MECO) 11-15 June 2017, BAR, Montenegro

[5] Zhou Hui, Qin Shinging,Liu Jinhua,Chen Jianli, "Study on Website Search Engine Optimization" 2012 International Conference on Computer Science and Service System.

[6] https://moz.com/learn/seo/what-is-seo (*Online*)

[7] Gokhan Egria, Cockun Bayrakb "The role of Search Engine Optimization on keeping the user on site", Complex Adaptive System, publication 4, Missouri, University of Science and Technology, 2014 http://www.echovme.in/blog/off-page-seo-strategies/ (online)