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Dr. D. Y. Patil School of Engineering, situated in "Oxford of the East" Pune, has Proven to be "Avant-grade" in field of Engineering over past few years in this region. The Institude , located in Lohegaon Pune , is spread over an area of 100 acres interspersed with various sport facility , wellness center a world class auditorium and lush green campus. Pune city is well connected with all states & metropolitan cities like Delhi, Mumbai, Kolkata, Chennai, Banglore etc. by regular flights and is on the main railway line route. The institute is 10 Km from Pune railway station and 7 Km from Pune International Airport (Lohegoan). Many industries, such as those Software, Mechanical, Automobile, Steel etc., are located in vicinity of the institute giving it a unique advantage for industry-institute interaction in various disciplines of engineering.

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A Survey on Detection of Inorganic Substances in Vegetables and Fruits

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ABSTRACT

The population of earth is increasing exponentially but the natural resources are limited. Food is among the three basic needs of humans. Farmers continuously try to increase the production of crops. Artificial fertilizers help in boosting the growth of the crops than the natural ones, therefore farmers try to maximize the produce by using them. These may lead to the increase in production but in turn degrade the quality of produce. Due to excessive use of fertilizers and pesticides these chemicals enter the food chain and ultimately cause bio magnifications causing an adverse effect on our health. Hence we need a portable device that can analyze the organic components of the fruit/vegetable. This research focuses on determining the organic as well as inorganic components of the fruit/vegetable so that the consumer may know whether the eatable is fit for consumption or not. There should be a device that would show the ratio of organic components to inorganic components. The consumer can use this ratio as a benchmark to buy the eatables fit for.

Keywords : Inorganic Substances, fertilizers, pesticides, Chlorophyll, Pesticides and Fertilisers, NDVI.

I. INTRODUCTION

India ranks second in the production of vegetables and fruits after China with 13.4% of total world's production. Among the total population of 1.25 billions, approximately 110.7 million comes under the category of farmers. Also, India ranked fourth in the world in the production of agrochemicals and fertilizers. Survey conducted by various institutes indicates that 45-75% of vegetable and fruit production are contaminated with pesticide residues. Also, pesticides on crops are use by farmers above the legal residue limit that is defined by WHO, The short answer is not quite yet. In spite of all the methodologies, finding out the inorganic contents in day to day life isn't possible.

1.Chlorophyll: Cholorphyll is a green synthetic substance which is used for the performance of photosynthesis. It absorbs red light hence plants containing chlorophyll are green in color.

2. Pesticides and Fertilisers: Pesticides are used to kill insects which infect the plant. Fertilisers are mixed with the soil to boost the growth of the plant and keep it healthy.

3. NDVI: Normalized Difference Vegetation Index as shown below uses the NIR and red channels in its formula. Healthy plants (chlorophyll) reflect more near-infrared (NIR) and green light compared to other

wavelengths. But it absorbs more red and blue light. The value ranges between -1 and +1. A low reflectance (or low value) in the red channel and a high reflectance in the NIR channel, will yield a high NDVI value. And vice versa.

$$NDVI = \frac{(NIR - Red)}{(NIR + Red)}$$

II. LITERATURE SURVEY

Steven J. Lehotay, KaterinaMastovska, Aviv Amirav,Alexander B. Fialkov, Tal

Alon, Perry A. Martos, Andre´de Kok and Amadeo R. Ferna´ndez-Alba., "Identification and confirmation of chemical residues in food by chromatography-mass spectrometry" [5]

Gas-liquid chromatography (GLC) is often used to determine monosaccharides—both qualitatively and quantitatively. To determine the monosaccharides present in a food product, they are first extracted (with water) from the product.

Polyphenolic compounds of fruit may play an important role in physiologic functions related to human health. Different polyphenolics may have different biological activities including antioxidant activity. The objective of this study was to investigate the profiles of polyphenolic compounds in different apple varieties and different parts of an fruit. The total and individualn polyphenolics differed significantly among the eight apple cultivars grown in Ontario, and the peels had higher concentrations than the fleshes done by High performance liquid Chromatography.[2]

Leaf chlorophyll readings as an Indicator for spinach yield and nutritional fertilizers Applications.[9] The field scout 1000 device is a portable device which is a point and shoot gun which is hovered over the plants and the ndvi normalized difference vegetation index of the plants is displayed on the gun itself. This method is a non destructive one but due to its high cost, it is not feasible.

Sr. No.	Paper Name	Author Name	Advantages	Limitations
1.	Method for the determination of pesticides in food via gas chromatography with electron-capture detection.	Ronald E. Hunter, Anne M. Riederer	High Resolution Quick analysis Small sample needed	During injection of sample proper attention required Fixed gas analysis
2.	Analysis of Organic Acids in fruits and vegetables by liquid chromatography.	Pilar Flores, Pilar Hellin, Jose Fenoll	High accuracy High speed Good sensitivity	High Cost Complex Method
3.	Leaf chlorophyll readings as an Indicator for spinach yield and nutritional fertilizers Applications.	Andrew Smith, Yan-Ju Liu, Yi-Ping Tong, Yong-Guan Zhu, Hui Ding	Portable Easily available online	Costly(approximately 1,20,000rs per unit) Needs information about software

TAXONOMY CHART

Paper Name	Portable	Cost Effective	No Prior Knowledge	No Laboratory setup	No attention required
Method for the determination of pesticides in food via gas chromatography with electron-capture detection.	NO	NO	NO	YES	NO
Analysis of Organic Acids in fruits and vegetables by liquid chromatography.	NO	NO	NO	YES	YES
Leaf chlorophyll readings as an Indicator for spinach yield and nutritional fertilizers Applications.	YES	NO	NO	YES	YES

III.CONCLUSION

As we have seen in the introduction and literature survey some of the above mentioned methods are destructive, also the required equipments are not easily available in the market.Some of the methods don't have portable devices. The field scout 1000 device is a portable and non destructive one but due to the high end technology it's complex and not feasible.Therefore a method to check the inorganic contents should be deviced which is portable, feasible, non destructive i.e without taking any samples or cutting or damaging the eatables, which can be used by vendors and farmers. It will spread awareness among the masses and help them with their day to day eatables. So, we can check any eatable like in our houses, ports, shops, etc, without any fuss. It should give us values of the organic content instantly. So, no more waiting for the lab results. The current methods for checking quality of fruit/vegetable need a lot of time and proper lab equipment is required. It is cumbersome method and it is not possible to check each and every sample before eating.

IV. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on “A Survey On Detection Of Inorganic Substances In Vegetables And Fruits” . We would like to take this opportunity to thank Dr. Pankaj Agarkar, Head of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr M. Z. Shaikh, Principal DYPSOE who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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Survey on Autonomous Vehicle Control Using Reinforcement Learning

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ABSTRACT

In this paper we study the demonstration of the application of deep reinforcement learning to autonomous driving. From randomly initialised parameters, the model is able to learn a policy for lane following in a handful of training episodes using a single monocular image as input. The paper provides a general and easy to obtain reward: the distance travelled by the vehicle without going of the lane. Model use a continuous, model free deep reinforcement learning algorithm, with all exploration and optimisation performed on-vehicle.This demonstrates a new framework for autonomous driving which moves away from reliance on pre determined logical rules, mapping, and direct supervision. The paper discusses the challenges and opportunities to scale this approach to a broader range of autonomous driving tasks.

Keywords : Reinforcement Learning, Deep Learning, Self-Driving Cars, Imitation Learning, Autonomous cars and Lane Detection.

I. INTRODUCTION

Now-a-days self driving cars are more and more popular for quick transportation, safety and economic advantages but these cars would only follow orders about destination and route, and may only adopt some lane-keeping or car-following guidance whereas in order to make autonomous driving a truly ubiquitous technology, paper advocates for robotic systems which address the ability to drive and navigate in absence of maps and explicit rules, relying-just like humans - on a comprehensive understanding of the immediate environment and the various objects in the environment, predict their possible future behaviors and interactions, and then plan how to control it in order to safely move closer to their desired destination while obeying the rules of the environment. This is a difficult robotics challenge that humans solve well, making reinforcement learning a promising approach. Reinforcement learning is one of the strongest paradigms in AI domain, which can be used to teach machines how to behave through environment interaction. The concept of deep reinforcement learning was introduced recently and was tested with success in games like Go or Atari 2600, proving the capability to learn and understand a good representation of the environment. Reinforcement Learning allows the agent to learn its behaviour based on feedback that is received from the environment. This behaviour can be learnt at the beginning once and for all, or keep on adapting as time goes by. If the problem is modelled with care, some Reinforcement Learning algorithms can perform remarkably well and converge to the global optimum; this is the ideal behaviour that maximises the reward. This automated learning scheme implies that there is no or little need

for a human. The time spent designing a solution will be less, since there is no need for hand-crafting complex sets of rules as with *Expert Systems*, and all that is required is someone familiar with Reinforcement Learning. The motive of these paper is about getting insights reinforcement learning to the level where it has a shot at driving a real vehicle; although the same insights may apply to other domains as well.

II. LITERATURE SURVEY

Here we discuss the literature review of existing techniques:

Alex Kendall, Jeffrey Hawke, David Janz, Przemyslaw Mazur, Daniele Reda, John-Mark, Allen Vinh-Dieu Lam, Alex Bewley, Amar Shah [1], they demonstrate the first application of deep reinforcement learning to autonomous driving. It has been previously demonstrated that it is possible to drive a fully autonomous car on rural country roads, using GPS for coarse localisation and LIDAR to understand the local scene proposed system is developed in MATLAB which uses state and action sets. They suggest that the generality of reinforcement learning makes it a useful framework to apply to autonomous driving. Most importantly, it provides a corrective mechanism to improve learned autonomous driving behaviour. The main task they use to showcase the vehicle is that of lane-following however done on a real vehicle as well as on simulation, and done from image input, without knowledge of lane position. For both simulation and real-world experiments they use a small convolutional neural network. The model has four convolutional layers, with 3 × 3 kernels, stride of 2 and 16 feature dimensions, shared between the actor and critic models. The testing is done on the 3D simulator developed using Unreal Engine 4. The car understands the environment and quickly learn through interactions, The autonomous driving capabilities of the real car is quite remarkable.

Mayank Bansal, Alex Krizhevsky and Abhijit Ogale [2] they propose imitation learning technique that is robust enough to drive a real vehicle. They built their system based on leveraging the training data (30 million real-world expert driving examples, corresponding to about 60 days of continual driving) as effectively as possible. They use a perception system that processes raw sensor information and produces our input: a top-down representation of the environment and intended route, where objects such as vehicles are drawn as oriented 2D boxes along with a rendering of the road information and traffic light states. They present this mid-level input to a recurrent neural network (RNN), named ChauffeurNet, which then outputs a driving trajectory that is consumed by a controller which translates it to steering and acceleration. The further advantage of these mid-level representations is that the net can be trained on real or simulated data, and can be easily tested and validated in closed-loop simulations before running on a real car. The first finding of this paper is that even with 30 million examples, and even with mid-level input and output representations that remove the burden of perception and control, pure imitation learning is not sufficient. The key challenge is that we need to run the system closed loop, where errors accumulate and induce a shift from the training distribution. They find that this challenge is surmountable if they augment the imitation loss with losses that discourage bad behavior and encourage progress, and, importantly, augment our data with synthesized perturbations in the driving trajectory. These expose the model to nonexpert behavior such as collisions and off-road driving, and inform the added losses, teaching the model to avoid these behaviors. They evaluated their system, as well as the relative importance of both loss augmentation and data augmentation, first in simulation. they then show how their final model successfully drives a car in the real world and is able to negotiate situations involving other agents, turns, stop signs, and traffic lights. Finally, it is important to note that there are highly interactive situations such as

merging which may require a significant degree of exploration within a reinforcement learning (RL) framework. This will demand simulating other (human) traffic participants, a rich area of ongoing research.

Nihal ALTUNTAS, Erkan IMAL, Nahit EMANET, Ceyda Nur OZTURK [3], they propose a system to solve mobile robot navigation by opting for the most popular two RL algorithms, Sarsa(λ) and Q(λ). The proposed system is developed in MATLAB which uses state and action sets. It is defined in a novel way, to increase performance as much as possible. The system can avoid obstacles and guide the mobile robot to a desired goal. The success rate in both simulated and real environments is remarkable. In addition to that, it is possible to observe the effects of the initial parameters used by the RL methods, e.g., on learning, and also to make comparisons between the performances of Sarsa(λ) and Q(λ) algorithms. While implementing this proposed system, they found out it was essential to define the state and action sets in order to perform successful learning, since continuous environments have infinite possible states and actions. Thus, discretizing the continuous space determines the performance of the implemented RL algorithms. Their proposed system defines a state set using dynamic variables so that after the system learns how to behave in an environment, it can be successful in different environments where the target and obstacles are located in different points. An additional decision criterion is how to describe the reward function, which is the response of the environment to the actions of the intelligent agent. Although their implemented system gives promising results, it can be enhanced to increase its learning speed and performance. For instance, Q-values in the algorithms used by these systems are represented in tabular form, which requires a large space in the memory and complex mathematical calculations. As a substitute for the tabular form, it is possible to integrate a supervised learning algorithm to represent Q-values in order to reduce memory requirements and provide faster convergence to optimal policy.

III. TAXONOMY CHART

Algorithms	Learning to drive in a day(2018)	Learning to Drive by Imitating the Best and Synthesizing the Worst (2018)	Reinforcement learning-based mobile robot navigation(2016)
Training Dataset			
Real World Driving			

Simulations			
MDP-Markov Decision Process			
Deep Deterministic Policy Gradients			
Sarsa(λ) and Q(λ) - learning			
Monte Carlo			

IV.CONCLUSION

We study various techniques such as MDP, Monte Carlo, Sarsa(λ) and Q(λ) learning. Some of these algorithms are robust enough to drive a real vehicle such as Wayve from the paper Learning to Drive in a Day[5]. Whereas some of these papers propose methods to drive a car in a virtual environment. Through this paper we understand to attain truly ubiquitous technology in self driving cars the need of reinforcement learning is significant. Also, this paper helps us to understand the advantages and challenges using various algorithms.

V. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on "Survey on Autonomous Vehicle Control using Reinforcement Learning". We would like to take this opportunity to thank Dr.Pankaj Agarkar , Head of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. E B Khedkar, Director DYPTC who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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Mobile Rescue Robot

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ABSTRACT

In this modern era, technological development lead the creation of sky scraper buildings and dwellings which increase risks of losing life due to natural and manmade disasters. Many humans died by trapping under debris as their presence cannot detect by the rescue team. Sometimes, it is impossible to reach at certain points of the disasters in such calamity hit zones. The situation is worst for developing country like Bangladesh because of low quality construction and design. Hence in this project, we focus on a system named as "Mobile Rescue Robot" which will work in disaster environments of manmade structures like war fields, collapsed buildings etc. It can be assisted for firemen, police, and disaster agencies with appropriate reconnaissance, human detection, site evaluation etc. In the existing technology, we have used a wireless Zigbee technology interfaced with micro controller 8051. The main aim of this project is to build the multipurpose Robot which can be controlled through computers by using Zigbee interface and navigates around the disaster areas and tries to find the humans who need help. This method is very cost effective. In the proposed technology a human body detection Embedded system using reliable specific set of sensors like IR, Fire and Ultrasonic sensor to know the distance between human and robot and a camera to acquire a video and image of scene of the environment in which the set of sensors trigger the camera to show live scene. The video is then displayed on pc or laptop which is enhanced by Android programming. This proposed system is less cost effective than the existing technology.

Keywords : Wireless Zigbee Technology, Android programming, PCA, RCNN

I. INTRODUCTION

Disaster sites may be hazardous and complex to be reached for rescue and there is a great risk and threat linked to rescue workers and survivors trapped in such accidental places. Natural disasters include storms, floods, cyclones, bush fire earthquakes etc. whereas human induced disasters includes industrial accidents, transportation accidents, major fires etc. Hence in this project, we focus on a system named as “human detection robot system” which will work for the purpose of rescuing people. Common situation that employ rescue robots are urban disasters, mining accidents, explosions, and hostage situation. In the existing technology a wireless Zigbee technology interfaced with microcontroller 8051 is used. The main aim of this project is to track the victims in disaster and tries to find the humans who need help. This method is very cost effective. In the proposed technology a human body detection Embedded system using reliable specific set of sensors like IR, Fire and Ultrasonic sensor to know the distance between human and robot and a camera to acquire a video and image of scene of the environment in which the set of sensors trigger the camera to show live scene. The video is then displayed on pc or laptop which is enhanced by Android programming. This proposed system is less cost effective than the existing technology.

II. LITERATURE SURVEY

This paper, they have planned an edge matching algorithm for edge segmentation and human edge segmentation from 2D images by means of the histogram of oriented gradients technique and SVM classification. The algorithm having four steps, namely human detection, image sequence acquisition, human edge segmentation and edge segmentation, were carried out in this project. Data was collected from 710 full body human image [1].

In this context, they proposed a new method for human body detection using extended PCA namely bidirectional PCA. There are two advantages of bidirectional Principal component analysis. The first one is preserving the shape structure of objects and the second one is effective computation mechanism [2].

This study, human detection is generated by using Face Detection for the first mechanism and for the second mechanism is Head and Shoulders Detection. Both mechanisms are formed in master/slave. Thus, if the master function which is the Face Detection cannot recognize the object as a human, then the Head and Shoulders detection is going to be shown. To minimize the detection failure, the night vision feature is also presented in this study for the surveillance camera prototyping [3].

The main objective of this work is to compare the performance of two different human detection algorithms. One is the human detection based on shape and another one is human detection based on Daubechies wavelet Transform. The shape based detection uses the shape information of human body to classify the moving objects. Daubechies wavelet transform is shift invariant in nature. Thus, the algorithm is able to detect even small hand or head movements [4].

They proposed a human object identification by using a simplified fast region-based convolutional network (RCNN). Human identification is a problem of considerable practical movement. Human detection consists of the body part detectors which detect head and shoulder, torso, and pair of legs, with three, two and four different appearances respectively [5].

This describes, body parts detection for pose estimation is implemented. The proposed method have used segmentation techniques to obtained skin tone detection and salient region areas. After successful silhouettes extraction, body parts estimation is applied by using body parts model [6].

It presents a human detection method based on HOG features. The method uses a depth map instead of visible light image. We have additional information about the scene through the comprehensive distance information analysis. During the experiment, we used maps of depth received from the Kinect v2 visual sensor [7].

III. SYSTEM REQUIREMENT

- **Hardware Requirements:**

1. System : Intel I3 Processor and above.
2. Hard Disk : 200 GB.
3. Monitor : 15 VGA Color.
4. RAM : 4GB.
5. Mobile : Android

- **Software Requirements:**

1. Operating System: Windows 7 and above.
2. Coding Language : Java 1.8 Python, PHP
3. Tool Kit : Android 2.3 and above
4. IDE : Android Studio, Python

IV. CONCLUSION AND FUTURE SCOPE

This system can detect the existence of human, temperature, humidity, visibility in order to trace the location of victim in disaster areas. The application of wireless sensor network can realize the real time monitoring of affected areas by the natural calamities. For future work, by adding voice command it helps to communicate with receiver end designated officers with the field war troops.

V. ACKNOWLEDGEMENT

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Survey on Efficient and Automated Online Recruitment System

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ABSTRACT

The problem with interviewing and selection of graduated and graduating candidates along with experience candidates is to occupy right job according to their skills and qualifications. And this is the major challenge faced by recruitment team. To overcome this problem, our team accepted this challenge and has purposed a new system, named as – Efficient and Automated Online Recruitment System. This system will make fair decisions on CV / Resume analysis and it will also provide Job Recommendation for shortlisted candidates to HR (Human Resource) department.

Keywords : CV/Resume Ranking, Job Recommendation, Back Propagation Algorithm, Personality Prediction, Neural Network, Machine Learning, Organisation Specific

I. INTRODUCTION

Efficient and Automated Online Recruitment System is a combination of two different systems, that is, Test System and Prediction System. First System (Test System) is all about Aptitude Test and Psychometric Test. And second system (Prediction System) is all about CV / Resume Analysis along with Job Recommendation.

Aptitude Test comprises of two sections, that is, Quantitative Test and English Test. And Psychometric Test comprises of Big Five Theory Model having five different parameters – Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

This system is a two way system with Admin-Login and User-Login credentials. After matching of respective credentials, the system will allow Admin-Login or User-Login to proceed for further tasks.

- Admin Login – Is allowed creating Aptitude Test and Psychometric Test along with their correct answer(s). He / She can add, delete, edit or update the question bank, if required. Admin is also allowed to view the test results of candidates who appeared for the tests. And based on their test scores, admin will shortlist the candidates who are fitting in the recruitment criteria.

- User Login – At first, candidate(s) need to register themselves to appear for respective online recruitment test. After that, they are allowed to proceed for the test. Candidates need to browse and upload their respective CV / Resume.

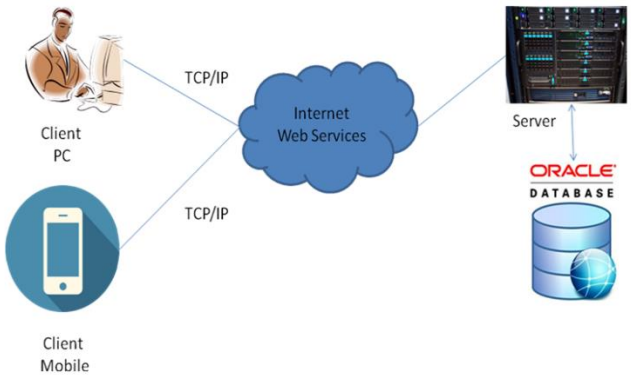

Figure 1:- System Architecture

Client can be Mobile / Desktop / PC. It is mandatory for client to have operatable Internet Web Services to get access into the system.

Client can be Admin or User. And details of client are stored in a database which will be helpful for checking login credentials. Also, database will store the data of Test System and Prediction System.

II. LITERATURE SURVEY

In this section we have discussed the literature view of already existing online recruitment system.

Dr. Nedhal A. Al-Saiyd and Amjad S. Al-Takrouri [1] proposed a system named as - Prediction of IT Jobs Using Neural Network Technique. In this model, they are predicting IT Jobs for candidates based on their knowledge, experience and key skills using back propagation Artificial Neural Network (ANN) . To screen the result, they have gathered dataset of 50 graduated students and used it in multi-layer feed-forward neural networks which uses back-propagation algorithm models and are arranged in with 35 specified input factors. Parameters for testing and 35 input factors for training of 50 candidates that cover IT job skills.

Md. Tanzim Reza and Md. Sakib Zaman [2] proposed a model named as- Analyzing CV / Resume using Natural Language Processing and Machine Learning. In this model, they are fetching necessary information from their semi-structured text data format in a CV or Resume and ranking it as per preferences instructed by associated company along with certain requirements. Their system works in three phases, that is, Segmenting CV / Resume, Extraction of useful data in structured format from the unstructured data, and Evaluation of structured data by various algorithms such as – Decision Tree and then training their system.

Allan Robey, Kaushik Shukla, Kashish Agarwal, Keval Joshi, and Prof. Shalmali Joshi [3] proposed a system named as – Personality Prediction System through CV Analysis. This system conducts online aptitude test and personality test which helps to predict the personality of candidate and short-listing of candidate with respect to their skills and decision making ability.

Mayuri Pundlik Kalghatgi, Manjula Ramannavar, and Dr. Nandini S. Sidnal [4] purposed a model named as – A Neural Network Approach to Personality Prediction System based on the Big-Five Model. This system works with respect to four modules, that is, Data Collection, Pre-processing, Transformation, and Classification. And their system completely runs on Hadoop. Their work predicts the personality traits of an individual via Big-Five Model.

The discussion of above survey is normalized in tabular format as follows,

SR. NO.	PAPER NAME	AUTHOR	METHOD PROPOSED	LIMITATIONS
1.	Prediction of IT Jobs Using Neural Network Technique	Dr. Nedhal A. Al-Saiyd Amjad S. Al-Takrouri	Back Propagation Artificial Neural Network using multi-layer feed-forward neural network.	No online aptitude and psychometric test.
2.	Analyzing CV / Resume using Natural Language Processing and Machine Learning.	Md. Tanzim Reza Md. Sakib Zaman	Segmenting, Extracting, and Evaluating unstructured data format into structured data.	No online aptitude test and psychometric test. And no job recoomendat-ion.
3.	Personality Prediction System Through CV / Resume Analysis.	Allan Robey, Kaushik Shukla, Kashish Agarwal, Keval Joshi, and Prof. Shalmali Joshi	Conducted an online aptitude and psychometric test	No job recommendation.
4.	A Neural Network Approach To Personality Prediction System	Mayuri Pundlik Kalghatgi, Manjula Ramannavar, and Dr. Nandini S. Sidnal	Data Collection, Pre-processing, Transformation and Classification. And it predicts the personality traits of the candidates.	No online aptitude test and job recommendation system. No data filtration.

III. Taxonomy Chart

	Job Recommendation	Aptitude Test	Psychometric Test	CV / Resume Analysis	Short-listing Of CV / Resume
Prediction of IT Jobs Using Neural Network Technique.	✓	✗	✗	✓	✓
Analyzing CV / Resume Using NLP and ML	✗	✗	✗	✓	✓

Personality Prediction System Through CV / Resume Analysis					
A Neural Network Approach To Personality Prediction System					
Our Purposed System					

IV. CONCLUSION

The purposed system has additional functionalities as compared to other existing online recruitment system and the purposed system justifies this comparison in Taxonomy Chart. After studying and understanding some other online recruitment system, we can conclude that the purposed system is feasible in all three formats, that is, Market Feasibility, Technical Feasibility and Financial Feasibility.

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A Survey on Smart Mirror

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ABSTRACT

A smart mirror is a system that functions as mirror with additional capability of displaying date, time, current temperature, weather details. To design a smart mirror that receives a online news and display it using Internet of things (IoT) circuitry and to detect thief when nobody is in home. The smart mirror will consist Raspberry Pi, LED monitor, speakers, camera, microphone with two-way mirror and acrylic glass. With the help of voice recognition API, the mirror will communicate with the user through voice commands and responds them accordingly. The mirror could also support human movements. The mirror will highlight some basic amenities like time, local news, weather.

Keywords : Raspberry Pi 3+, Pi Camera, Smart Mirror, Voice assistance.

I. INTRODUCTION

Smart mirrors, such as Magic Mirror and Home Mirror have recently started to be developed by people in the Maker community, with varying degrees of interactivity. However, so far, the features of these mirrors have been limited. The short answer is not quite yet. There are a lot of concepts and prototypes being built but so far there's not a lot out there for the everyday consumer. Effective time management is an essential factor in increasing the production of day-to-day life. Integration of technology into people's daily live has made that time management possible. However, though successful technological products have been used to increase productivity, the use of technology has become another task in everyone's daily to-do list. Technology should mould to our schedule, not the other way around. That is where the "Smart" mirror idea originated. The Internet of Things with its enormous growth widens its applications to the living environment of the people by changing a home to smart home. Smart home is a connected home that connects all type of digital devices to communicate each other through the internet

II. LITERATURE SURVEY

In 2003, Phillip unveiled their Mirror TV that was built using the same principles that of smart mirrors. Their product was a normal TV that was put behind a two-way mirror so that the TV would appear as a mirror when turned on and as TV when turned on. They also had a option to have the mirror be larger than the TV. A usage example presented by Phillips was to have the children watch cartoons while brushing their teeth at the same time. This mirror is more in line with the smart mirror we've come to know today. The purpose of this paper is to investigate potential use of smart mirror in home environment and to facilitate the user's everyday life. The Smart

mirror takes voice commands as input to give response and Sonus is a speech to text library that can quickly and easily add VUI (Voice User Interface) to any hardware or software [3].

The overall finding of the above discussion is given below as Table-1

Table-1

Sr. No.	Paper Name	Author	Method Proposed	Limitations
1.	A Comparative Study and New Model for Smart Mirror	Mittal, V. Verma, R. Rastogi	Voice Assistance	Energy Consumption No Authentication.
2.	Smart Mirror Integrated with Smart Assistant	Prof. Sheetal Patil, Prathamesh More, Ritali Rajput.	Sending Notifications via Email Net Streaming	Internet Connection Database to store photos
3.	Smart Mirror using Virtual Voice Assistant	Amit Dhavle, Saurabh Chavan, Mayuresh Supe.	Music Player Pocket Friendly	Security Power Supply
4.	Design of Smart Mirror Based on Raspberry Pi	S. L. Herman and C. G. Garrard	Big Data	Security Issues
5.	Smart Mirror for ambient home environment	A. Korkin and F. Rosei	Home Automation System	Not Reliable Data Transfer

III. TAXONOMY CHART

	LIVE STREAMING	ALERT GENERATION	NET CONNECTION REQUIRED	MUSIC PLAYER	SECURITY CONSIDERATION
SMART MIRROR	NO	NO	YES	YES	NO
SMART MIRROR WITH ASSISTANCE	NO	NO	YES	YES	YES
SMART MIRROR VIRTUAL ASSISTANCE	YES	YES	YES	YES	NO

IV.CONCLUSION

The goals of the smart mirror were to aim to reduce time needed in a user's daily routine and provide a merger of user and technology that becomes an enhancement, not a new burden. Apps like calendar, music, news, to-do lists and weather will be available. The user doesn't even have to worry about turning on and off the system because the mirror will detect motion and do the work for them. This will help us reduce power consumption.

V. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on "PERSONALIZED SMART MIRROR". We would like to take this opportunity to thank Dr. Pankaj Agarkar, Head of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him for giving an opportunity to work with R&D cell of our department. Our special thanks to Dr M. Z. Shaikh, Principal DYPSOE who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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Survey on Automatic Quality Assessment of Echocardiograms Using Convolutional Neural Networks

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ABSTRACT

Neural network has been evolving day by day with many features. The core of the neural network lies in the interaction between the neurons in the hidden layer. The neurons interact with each other by considering the weights between them. This results in the output of the system. There are many applications in which neural network can be practiced. This paper proposes Convolutional Neural Networks in medical science. It focuses on echocardiography. The term echocardiography means that the internal structure of a patient's heart is studied through the images. The ultrasound waves create these images. The abnormalities in these images are found through echo.

Keywords : Convolutional neural network, Deep learning, Quality assessment, Echocardiography, Apical four-chamber.

I. INTRODUCTION

Data mining has been gaining number of eye consideration in the past decades. Data mining has proved to be very effective in many fields. This paper focuses on a very popular field i.e. healthcare field where data mining has served many applications. One of the applications in healthcare field is predicting the disease through some parameters which will be useful in decision making before diagnosis. This can save a good amount of life since the decision to be taken for diagnosis should be fast. But what if the decision in incorrect and contain some error? This kind of false decision for diagnosis can take a life out of a person. To avoid such kind of risk it is need to make a system which can be reliable and in which the doctor can easily trust. This paper has focused on echocardiography where the decision is to detect the defect in the four chambers of heart quick and this paper proposes Convolutional Neural Network.

II. LITERATURE SURVEY

Lasse Løvstakken and Fredrik Orderud have proposed, a method for the visualization of the effective aperture of phased-array transducers is described. The method operates in real-time during acquisition, and can indicate if a contiguous part of an aperture does not contribute in the image formation. They believe the method can be help ensure that a good image quality is obtained in contexts where the acoustic contact or window is likely to be reduced.

The method is based on the k-space formulation of the ultrasound imaging system, which has proven useful for investigating imaging system performance. [1]

J. H. Park1, S. K. Zhou proposed cardiac view classification of echocardiogram using a fully automatic system . After providing an echo study video sequence, the system provides an output as a view label among the pre-defined standard views. The built system is based on machine learning that extracts knowledge from an annotated database. It provides three features: 1) integrating local as well as global evidence, 2) utilizing view specific knowledge, and 3) employing a multi-class Logit-boost algorithm. In this system, the classification is done on standard cardiac views: apical four chamber and apical two chamber, parasternal long axis and parasternal short axis (at mid cavity). Proposed method helps to achieve a classification accuracy over 96% both of training and test data sets and the system runs in a second in the environment of Pentium 4 PC with 3.4GHz CPU and 1.5G RAM. [2].

Xavier Glorot Antoine Bordes Yoshua Bengio have proposed a technique, that shows rectifying neurons are an even better model of biological neurons and yield equal or better performance than hyperbolic tangent networks ,creating sparse representations with true zeros, which seem remarkably suitable for naturally sparse data. Deep rectifier networks reach their best performance without requirement of any unsupervised pre-training on purely supervised tasks . Hence, these results can be seen as a new milestone in the attempts at understanding the difficulty in training deep but purely supervised neural networks, and closing the performance gap between neural networks learnt with and without unsupervised pre-training. [3] Geoffrey E. Hinton and Vinod Nair have shown how to create a more powerful type of hidden unit for an RBM by tying the weights and biases of an infinite set of binary units, then approximated these stepped sigmoid units with noisy rectified linear units and showed that they work better than binary hidden units for recognizing objects and comparing faces. They also showed that they can deal with large intensity variations much more naturally than binary units. [6]

Sten Roar Snare, Hans Torp, Fredrik Orderud, Bjorn Olav Haugen have proposed a novel method for assisting no expert users in capturing the apical 4-chamber view in echocardiography has been presented. A Wilcoxon signed pair rank test yielded

Sr. No	Publication	Author Name	Paper Name	Year	Objective	Limitation
1.	IEEE	Eva Cavero, A´ lvaro Alesanco, and Jose´ Garc´ıa, *Member, IEEE*	Real-Time Echocardiogram Transmission Protocol Based on Regions and Visualization Modes	2014	Provide system for no expert users in capturing apical 4-chamber views (A4CH) during echocardiography.	Need to improve the detection of foreshortening/oblique cuts.
2	IEEE	Ronak Guptaz Santanu Chaudhuryz Navneeth Subramanian? Satish Govindy z Indian Institute of Technology Delhi, New Delhi, India ? GE Global Research, Bangalore, India y Narayana Institute of Cardiac Sciences, Bangalore, India	ECHOCARDIOGRAM VIEW CLASSIFICATION WITH APPEARANCE AND SPATIAL DISTRIBUTIONS	2015	Provides a single exclusive prediction for each image.	Need to Improve different loss function and used multiple objects per image.

Sr. No	Publication	Author Name	Paper Name	Year	Objective	Limitation
3	IEEE	*R. Mahmood1, T. Syeda-Mahmood2* 1Monta Vista High School, Cupertino 2IBM Research – Almaden, San Jose, CA	Automatic Detection of Left Ventricular Aneurysms in Echocardiograms	2015	Provide strong evidence that dropout is a useful technique for improving neural networks.	Need to improve the quality of features by reducing co-adaptations.
4	IEEE	Beatriz González, Patricia Melin and Fevrier Valdez Tijuana Institute of Technology Tijuana, Mexico	Interval type-2 fuzzy logic gravitational search algorithm for the optimization of modular neural networks in echocardiogram recognition Beatriz	2016	This system Present Caffe, a fully open source framework that affords clear access to deep architectures.	Current system improved by users in speech recognition, robotics, neuroscience, and astronomy.
5	IEEE	Amir H. Abdi, Student Member, IEEE	Automatic Quality Assessment of Echocardiograms Using Convolutional Neural Networks: Feasibility on the Apical Four-chamber View	2017	This paper explores sequential optimization strategies for hyper-parameter optimization for these two datasets	This research would lead to widespread use of echo at any point-of-care

a statistically significant improvement quality. [7]

Sr. No	Publication	Name	Paper	Year	Objective	Limitation
6	IEEE	Deyu Sun, PhD *Philips Research North America* Cambridge, MA, USA	Extracting Key Findings Compared In an Echocardiogram Report	2018	Improve the accuracy by incorporating more search patterns, especially for detecting the statement of current findings written in free text.	Quality of a historical collection of finalized echocardiographic reports.
7	IEEE	Xin Wang Philips Research North America Cambridge, MA	Representation Learning of Finding Codes in Structured Echocardiogram Reporting	2018	accurately detect comparisons in LV size, RV systolic functions, aortic regurgitation, and aortic stenosis (gradient), with 100% of precision, recall, and F-score.	Testing the proposed algorithm on more clinical sites and evaluating a potential mapping strategy between FCs used in different institutes.

III. CONCLUSIONS AND FUTURE WORK

Propose approach provides framework for automatic quality assessment of echo data using deep neural network model. The goal of proposed technique is to improve echo by reducing observer variability in data

acquisition using a real-time feedback mechanism that helps the operator to read just the probe and acquire an optimal echo. By minimizing operator dependency, this research can lead to widespread use of echo at any point-of-care, hence it would enable early diagnosis and treatment of patients having high-risk, with improved accuracy, , quality assurance, workflow, and throughput.

IV. ACKNOWLEDGEMENT

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Review on Security for Mobile Applications Using Mobile Sensors

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ABSTRACT

In todays growing world of technology more and more mobile applications are getting developed day by day and with the increased growth of application the threats for user's accounts present in the applications being hacked by hackers is also increasing at a great rate. The proposed system focuses on increasing the privacy of mobile application when the user forgets the password by asking security questions based on user's daily activity and even at the time of password generation it provides newly introduced advance feature to set new password. Security questions asked by the system to user are based on the inbuilt mobile sensors which trace the user's location and call logs and deals with many other sensors present in the android mobile devices to authenticate the answers given by the user for the questions asked by system.

Keywords : Mobile Sensors, Android Application, Security Questions, Password Generation

I. INTRODUCTION

Every mobile application which are used to provide access for the user to it's personal details like online banking app, Gmail account, yahoo, msn etc. consist of password for login purpose and this passwords are tricky consisting combination of alphanumeric and special symbols to remember such tricky password is very inconvenient job. If the user forgets the password due to some reason or mistype it then he/she can't access their accounts. To get the access of account user must answer some security questions which along with the answer are recorded at the time of user registration.

After a long time, interval it becomes difficult for the individual to remember answer of questions and at the same time in a world of social media it's very easy for hacker or malicious user to guess the answer. To avoid these problems, we propose a system that can overcome all threats from existing system by using smart phone sensors.

The security questions in the proposed system will be asked to the user by the system itself and those security questions will not be the one which are present in the existing system (e.g., "Who is your favourite movie actor?"). The questions will be based on user activity in short time period which will be generated using mobile sensors and answers to such type of questions need not to be memorized by the user and this questions provides a high-level security to the mobile application and after the user succesfully answer all the security question during the new password generation phase an entirely unique password generation scheme can be applied which will be based upon the location co-ordinates as per the user's dream location.

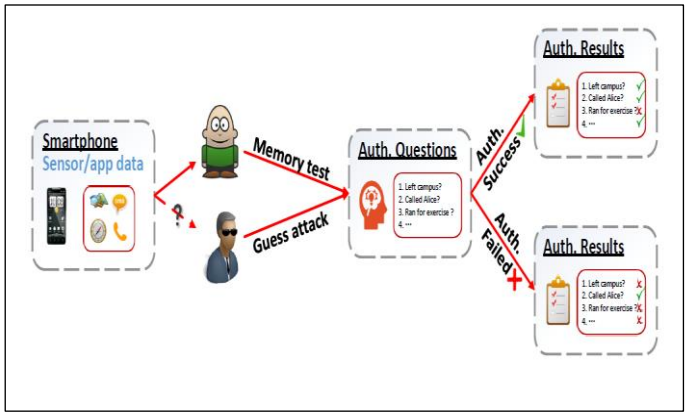

Fig1 : System Architecture of the proposed system

The proposed architecture consists of smartphone which has sensors and the system records the data present in the sensors and ask security questions to the user based upon his/her daily activities. The system authenticates the answer given by the user and if the answers are incorrect it results into authentication failed which will generally happen if any guest user tries to hack the application.

II. RELATED WORK

Peng Zhao, Kaigui Bian, Tong Zhao, Xintong Song, Jung-Min "Jerry" Park, Xiaoming Li, Fan Ye, Wei Yan [1] the related work simply shows the overall idea related to design the security questions likely called as "secret question based authentication system"(Secret-QA) the authors simply designed a prototype on android smartphones and evaluate the security of the secret questions. The secret questions are those based on the smartphone sensors data. Authors evaluated the reliability and security of question mainly of type (multiple choice, yes/no) by involving 88 participants in the survey and found the result that "The Secret-QA is easier to use then the existing system which consist of security questions based on user's long-term data". Basically, this work only consists of analysis how the smartphone sensors will be useful to design the security questions.

M. Oner, J. A. Pulcifer-Stump, P. Seeling, and T. Kaya [2] This paper describes Walk Compass, a system that exploits smartphone sensors to estimate the direction in which a user is walking. This work mainly focus on predicting the falling accidents of the senior citizens though accelerometers and gyroscope can be combined together to detect the fall event but accelerometers are used in different locations and individual find it very difficult and impractical to wear many such sensors on particular location so the author proposed to use mobile smartphone to detect fall event using mobile inbuilt sensors. The initial work is presented on pedometer mobile application component that is used to notify the user's family member about any medical issue through e-mail. The author also developed algorithm which counts the steps and identify type of activity. This work consists of application built with the use of mobile sensors which is like our proposed system which generated security questions using sensors.

R. Reeder and S. Schechter [3] The primary means of authenticating user is password. Though there is always a risk of password getting lost, stolen in technical language to say password being hack, most websites also provide secondary authentication through which user can get the correct password to gain access to account again but if the secondary authentication is user's last resort a false attempt may lead to permanent account loss if secondary authentication mechanism's vulnerability to false attempt is not as strong as that of passwords then such mechanism becomes a weakest link for user friendly environment. The authors highlight results of prior work on secondary authentication mechanisms, emphasizing the larger problem of assembling an arsenal of mechanism that can be customized to fit each user's security and reliability needs.

S. Schechter, A. B. Brush, and S. Egelman [4] Mainly authors performed a case study in this paper by taking four most popular webmail providers- AOL, Google,

Microsoft and Yahoo! into consideration and found that the authentication based on the secret question mainly requires only one question in order to reset an account's password. They perform a user study to measure the reliability and security of the questions by asking some individuals to answer the questions and then asked their acquaintances to guess their answers and found that the acquaintances were able to guess 17% of answers which the participants were unwilling to share and also found that nearly about 20% of participants forgot their answers within six months. And even suggests that according to the survey done in 1996 with the inclusion of participants and their close friends or family members nearly about 33%-39% were able to guess correct answer and 20%-22% participants forgot their answers. Accordingly, the author found that security questions which more likely are said as secret questions don't have any higher level of security.

III. COMPARISON

According to the literature survey the work of mobile sensors and secondary authentication using security questions says that existing system doesn't use any type of mobile sensors for security purpose it only consists of security questions for authentication purpose which consist of answers depend on the long term history and even the hackers can easily guess the answer of such questions using social media or any other techniques and also in the real time user find it very difficult to remember answer of such questions. In our proposed system we are trying to overcome such problem which occurs at the time of authentication. As we are using mobile sensors so user itself find it very safe and easy way to understand the overall mechanism and the proposed system even overcomes the threats or any attack as the questions will the based on the user's daily activity by using the technique of Secret Question based authentication (Secret-QA).

Proposed system also provides a newly introduced feature of password generation by allowing the user to select his/her dream location and with the help of location co-ordinates set the password which is a completely new concept in the field of password generation. So, the comparison between the existing and proposed system clearly defines that we are trying to build such an environment in the field of user's account privacy so that the only person who can smoothly take the advantage of this features will be the user itself without any worry.

IV. CONCLUSION

The proposed system will overcome the drawbacks of the existing system. In this paper we discuss about how the privacy of the mobile application can be taken to the next level by designing the system in such a way that it asks security questions to user by using the mobile sensors present in the smartphones and those questions are system generated and not like the traditional questions present in the existing system. In future proposed system will be very helpful as it may consist the second part after answering the security questions. This project can further extend to set the password based upon the location co-ordinates which will be more efficient for providing security.

V. ACKNOWLEDGEMENT

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Smart Speed Breaker

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ABSTRACT

The purpose of this paper is to build a smart speed breaker which can adapt according to the environment. Which means if there is no requirement of a speed breaker on the road it automatically disappears which in turns make the road flat again. Which will ensure road safety and will not cause any unnecessary harm to the vehicles. The speed breaker only comes over the road when it is absolutely necessary for the smart speed breaker.it does a great job when it comes to slowing down the vehicles without causing them any harm. This project is made keeping in mind the safety of the vehicle and the person sitting in the vehicle. For the purpose of making the smart speed breaker we are using a hemi-cylindrical speed breaker which is capable of going up a d down according to the condition. Once initiated it will come on the road and stay there till the countdown becomes zero. In the embedded system, we can write code to analyze the speed of the coming vehicle if the vehicle's speed is above the threshold limit, the embedded system then sends a warning to slow down via displaying alert in the display board about 100-200 meters from the smart speed breaker. This project mainly focuses on safety on the highways.
Keywords : Speed Breaker, Raspberry Pi, IR Speed Sensor, Passive IR Sensor, IoT.

I. INTRODUCTION

In a rapidly changing world, speed has become a very important aspect of our lives, everyone wants to be fast and want to do thing faster than others.

The two major aspect of speed are, one to be in speed with control and other to be in speed with keeping in mind the safety of the itself.

For safety purpose, to keep the speed of the vehicles in control there is conventional method which is made of concrete and can also be called bumps on the road.

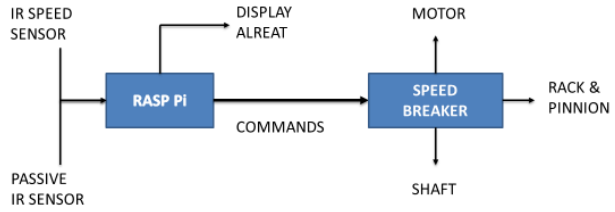
In the case of conventional speed breaker, the speed of the vehicle is not taken into consideration the conventional speed breaker is firm which can even damage a vehicle if the vehicle is at great speed.

We came up with this innovative idea to make a smart speed breaker to keep the safety of the people. This idea can be used in front of organizations, highways, etc. The conventional speed breaker is there hindering the traffic even when there is no need for them. This can be overcome by using the smart speed breaker which flattens when not required.

- This module helps in reducing the chances of preventing accidents.
- At that time, at a certain distance would be a display that tells the driver to slow down for the speed breaker ahead.
- The driver gets the message and slows down, allowing the passerby to pass.
- If the traffic is too high the sensors pick up that and preventing the passerby to pass the road.

With the help of ML, the module is able to monitor the accurate functioning of the system.

BLOCK DIAGRAM OF SMART SPEED BREAKER



II. LITERATURE SURVEY

Automatic speed breaker on Time demand Using Embedded System
Made by Sanchit Vashistha (M. Tech student) and Rekha Agarwal (Asst. Prf., Department of ECE School of Engineering and Technology) [1]
This project focuses on making an automatic speed breaker which is time dependent. Means it is only active relative to time. For example, the speed breaker is active at certain times like at 9:00 am when it is time for the school student to leave.
In the Embedded system clock any time and date can be stored on which the speed breaker is required on the road.

Eco Friendly Power Generation from Speed Breaker
This project was proposed and made by project, amal Abaraham Cibin Geeevarghese Jacob,
Glen martin Thomas, Jobby George, Jose Tom [2]
This project basically focuses on making energy on from the pressure that is applied on the speed breaker created by them.
With the help of the pressure applied on the speed beaker energy is generated to prove electricity to for various uses.

Road power generation by Speed Generation
Created by Ch.Bhanu A.V.Ramana Rao, P.Srinuvas [3]
This project uses mechanical System to convert mechanical energy into electrical energy.
The energy generated is D.C power. The generator is a 12-volt D.C which is enough to light a light bulb.

PAPER NO.	PAPER NAME	AUTHOR	METHOD PROPOSED	LIMITATIONS
1.	**Automatic Speed Breaker on Time Demand Using Embedded Systems.**	Sanchit Vashistha and Rekha Agarwal	It's a very crude model of speed breaker which is heavy on vehicles	Not smart enough
2	**Eco Friendly Power Generation from Speed Breakers.**	Amal Abaraham Cibin Geeevarghese Jacob, Glen martin Thomas , Jobby George , Jose Tom	Uses speed to create energy.	Cannot handle traffiCannot make decisions
3.	**Road Power Generation by Speed Breaker .**	Ch.Bhanu A.V.Ramana Rao, P.Srinuvas	Uses speed breaker to create energy	Cannot make smart decision

III. TAXONOMY CHART

PAPER NO.	PAPER NAME	DISPLAY ALERT	OBJECT DETECTION	HUMAN SAFETY
1.	**Automatic Speed Breaker on Time Demand**	✗	✗	✗

	Using Embedded Systems			
2.	Eco Friendly Power Generation from Speed Breakers	✗	✗	✗
3.	Road Power Generation by Speed Breaker	✗	✗	✗
4.	Proposed project	✓	✓	✓

IV.CONCLUSION

Breaker on using Embedded System tool be seen that can be seen that the idea is very innovative and useful for the requirements of today's fast life. The concept of the mentioned idea is to give the performance to vehicles as well as to make them slow.

This idea to have such a speed breaker in practical life, helps to reduce the speed of vehicles; maintaining the performance as far as possible. So, it becomes a very descriptive research work for the details of the practical one.

This project is made keeping in mind the safety of the people and the vehicle. The real working demo of the research work is very realistic and charming. This can be a very us

V. V.ACKNOWLEDGEMENT

Conclusion to the research work shows that a realistic and practical life research work has been made which can be a milestone in IOT world.

The future scope will be more powerful and smart with the help of such ideas and concepts. The more complicated and more useful speed breaker on time demand can be made in future easily. More will be the useful in respect of the applications, more will be the complications. As the concept is so smart, the complexity can be considered easy in reference of the smartness of the idea.

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[2]. Eco Friendly Power Generation from Speed Breaker This project was proposed and made by project, amal Abaraham Cibin Geeevarghese Jacob, Glen martin Thomas, Jobby George , Jose Tom.

[3]. Road power generation by Speed Generation Created by Ch.Bhanu A.V.Ramana Rao, P.Srinuvas.

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IOT Railway Track Crack Detection Robot Using GSM-GPS

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ABSTRACT

The Indian railway department is the seventh largest railway system in the world. Although work can be done in order to provide a better speed to done to get better accuracy about the location of the place where the fault had occurred. Till date there are cases of rail derailment due to track fracture. The proposed system is a solution to automatically detect a crack in the railway track . Internet of Things is the most usable and its applications are limitless. Internet of Things (IOT) is implemented to give an up to date update on the railway system. In this model ultrasonic sensor is used for surveillance and GPS receiver is used to track the location of the crack. A GSM module is used to send messages to notify the authorities about the crack. A camera is fixed to provide the live video data to analyse the rupture from the base stations.

Keywords : Internet of Things, Surveillance, GPS, GSM

I. INTRODUCTION

The system is a solution to automatically detect a crack in the railway track. Internet of Things is the most usable field and its applications are limitless. Internet of Things (IOT) is implemented to give an up to date update on the railway system. In this model IR sensor is used to detect crack on the railway track ultrasonic is used for to detect distance between to cracks and GPS receiver is used to track the location .A GSM module is used. Railway is one of the most conventional methods of travelling and is the most commonly used means of transport. India has the world's seventh largest railway system. The detection of fractures around 115,000 km of track around the country increases the probability of error. Many derailment cases due to track fracture have been occur even to this date .The previously mentioned misfortunate incidents happened just within the past seven month duration at four different places. The railways extend all around the country and accidents have been recorded since 1890. The rupture may happen due to a crack is detected at an early stage, the derailment and loss of lives can be prevented. The GSM (Global System for Mobile Communications), GPS (Global Positioning System) and microcontroller based broken railway track detection when implemented is an efficient method of a detection on cracks is present in the tracks and thus avoiding derailment of the trains. The implementation of Internet of Things (IoT), which is a fast growing technology in the present times, is used for smart surveillance system. This system is used in-between two stations are detect the cracks presents on the track using ultrasonic sensors which transmit sine waves for an ideal track. If a crack is detected the ultrasonic

sensor will send a signal to the Arduino Uno board which will activate the GPS receiver. The GPS receiver will pin point the exact location which will then be messaged to the authorities. Once the ultrasonic sensor sends a signal to the controller, the controller will initiate the webcam. This smart technology will be a part of the brave new digitalized world which will able to prevent the loss life or property as the above mentioned cases.

II. LITERATURE SURVEY

1)PAPER NAME: Efficient Monitoring System for Railways for Crack Detection
year-IEEE 2018

AUTHOR : Manisha Vohra S.K. Gabhane.
DESCRIPTION: Railways serve people with numerous benefits like helping in reaching places very quickly, providing low priced fare travelling. The railways provide one of the most largely used mode of public transportation. Now days in Indian railways, frequent number of accidents have taken place due to fault like presence of cracks on rail tracks. To overcome this problem we are using IOT based railway track crack detection .

2) PAPER : Design and Implementation of Wireless Security System for Railway Tracks year-2017 IEEE International Conference on Power, Control, Signals and Instrumentation Engineering (ICPCSI-2017)
AUTHOR : Mehaboob.Mujawar , Sangam.Borkar. This paper describes a system, basically an electronic system that can help to detect the exact location of the crack. In India railway transportation occupies a very important role for connecting the entire country via different routes in the hilly regions, deserts, plateaus and all other extreme climatic conditions found all across the country. we are implementing a system that can locate the exact location of the crack on the track which will help to reduce the rail accidents which often leads to heavy loss of life and property.

3)PAPER : Autonomous Railway Crack Detector Robot for Bangladesh: SCANOBOT year-2017 IEEE Region 10 Humanitarian Technology Conference
AUTHOR :Nagib Mahfuz, Omor Ahmed Dhali, Safayet Ahmed, Mehen Nigar In this paper explaination is based on an automatic railway track crack detector system by using robot This robot includes two ultrasonic sensors, GPS, GSM modules, and Arduino Mega based crack detection which is cost effective and to facilitate better safety standards in railways. By using GPS and GSM module an alert SMS consist of the geographic coordinate of that damaged track is sent to the nearby railway authority who can easily take necessary steps to resolve the problem before any major accident occurs.

4)PAPER : A Survey on Crack Detection Technique in Railway Track year- IEEE Conference on Emerging Devices and Smart Systems (ICEDSS 2018) 2-3 March 2018,
Author : Maneesh Kumar M,Muthu S Murali , Saranya M, Arun S, Jayakrishnan R P In this paper explanation is based on an automatic railway track crack detector system by using robot This robot includes two ultrasonic sensors, GPS, GSM modules, and Arduino Mega based crack detection which is cost effective and to facilitate better safety standards in railways. By using GPS and GSM module an alert SMS consist of the geographic coordinate of that damaged track is sent to the nearby railway authority who can easily take necessary steps to resolve the problem before any major accident occurs.

5)NAME: IoT : Automatic Broken Railway Track Detection with Live Video Streaming
year- 2017

AUTHORS: Dr. S. Malathy, Aravindha Kumar, Dharmaraj, Hari Priya & Janani.

The Indian railway is the seventh largest railway system in the world. The proposed system is a solution

to automatically detect a crack in the railway track. The most researched field and its applications are limitless of IOT. Internet of Things (IOT) is implemented to give up to date update on the railway system. In this model IR sensor is used to detect crack on the railway track ultrasonic is used for to detect distance between to cracks and GPS receiver is used to track the location of the crack. A GSM module is used to send messages to notify the authorities about the fracture. Then authorities will take the action on problems in railway track by using our proposed system.

III. EXISTING SYSTEM

Resulted in the formation of cracks in the rails and other similar problems caused by antisocial elements which is the security of operation of rail transport. In the past, this problem has lead to a number of crack resulting in a heavy loss of life and property. Cracks in rails have been identified to be the main, yet there have been no cheap automated solutions available for testing purposes.

IV. PROPOSED SYSTEM

In this system we developed for reduce railway accident and reduce the human power in this system Internet of Things (IoT) is implemented to give an up to date update on the railway system. In this model IR sensor is used to detect crack on the railway track ultrasonic is used to detect distance between cracks and GPS receiver is used to track the location of the crack. A GSM module is used for sending a messages to notify the authorities about the fracture. A camera is fixed to provide the image data to analyze the rupture from base stations

V. ALGORITHM

AES Algorithm Steps:

The encryption process is a set of derived keys. These are applied, along with other operation so on one block of data. The data to be encrypted. This array we call the state array.

You take the following AES steps of encryption for a 128-bit block:

1. Derive set of round keys from the cipher key.
2. Initialize state array with the block data (plaintext).
3. Add initial round key to the starting state array.
4. Perform nine rounds of state manipulation.
5. Perform tenth and final round of state manipulation.
6. Copy final state array out as the encrypted data (cipher text).

The reason have been listed as "nine followed by a final tenth round over" is because the tenth round.

Note: AES is a non cipher that encrypts and decrypts a data block of 128 bits. It use 10, 12, or 16 rounds. The key size has been 128, 192, or 256 bits, depends on the number of rounds.

VI. SYSTEM REQUIREMENT

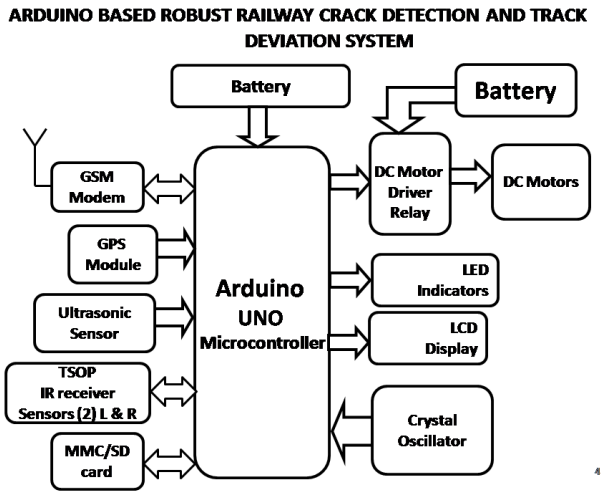
- **Hardware Requirements:**

  1. System Processors: Core2Duo
  2. Speed: 2.4 GHz
  3. Hard Disk :150 GB

- **Software Requirements:**

  1. Operating system :Windows 7 and above.
  2. Coding Language : Java 1.8
  3. Tool Kit : Android 2.3 and above
  4. IDE : Android Studio

VII. BLOCK DEIAGRAM OF SYSTEM



VIII. CONCLUSION AND FUTURE SCOPE

The railway is the most commonly used mode of transportation by the people and for goods. The proposed system is an amalgamation of the conventional method of crack detection and the innovative method of live video streaming and IoT. The entire system is placed on a four wheeler bot which travels along the rails. When compared to existing system which uses IR sensor transmitter and receiver, the proposed system is an innovative technique which lowers the burden of the authorities and increases the accuracy of the crack detection

IX. ACKNOWLEDGEMENT

We want to acknowledge Principal, Head of department and guide of their project for all the support and help rendered. We wish to express our profound thanks to all who helped us directly or indirectly in making this paper. We are thankful to our project guide **Prof. Ashwini. Pandagle** for her valuable guidance. We also wish to thank our **HOD. Prof. Pankaj Agarkar** and Director **Dr. M.Z. Shaikh** for their kind Support.

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A Survey on Non English Based Programming Languages

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ABSTRACT

The main or primary motivation of our project is that there are subjects like Mathematics, Science etc. likewise computing is also concept which can be introduce through native language so our motivation is toward creating a language to introduce children to computing. Once they know to think in these logical modes (enumeration, recursion and procedural) then writing any program is an aggregation of ideas in some order. Marathi keywords and grammar are chosen to make the native Marathi speaker write programs in the Marathi Programming Language which allows easy representation of computer program closer to the Marathi language logical constructs equivalent to the conditional, branch and loop statements in modern English based programming languages.

Keywords: Regional Programming Language, Compiler Design.

I. INTRODUCTION

There are various programming languages present in the market. this are made for various special purposes. but majority of them are English based programming languages. such as keywords present in these languages are English base. very few languages present in the market which are non-English based. means that the keywords used in these languages are non-English keywords . these keywords are taken from their respective regional languages such as Chinese, Hindi, Tamil etc.

The different non-English based programming languages are Hindawi, Ezhil etc. Hindawi programming system is language proposed by Abhishek Chaudhary and Dr, Shweta Chaudhary which is based on Hindi language. Ezhil programming language is proposed by Muthiah Annamalai which is based on Tamil language

The primary motivation behind this is like mathematics is concept and it can be introduced to children in their native language we want to introduce programming as concept to children in their native language . To introduce computing towards children we want to create programming language and this is reason behind our project.

In china Chinese people use their own language for programming they are not using English programming language, so why not us?.

II. LITERATURE SURVEY

In this section we have discussed the literature view of already existing regional programming language.

Muthiah Annamalai [1] proposed a system named as - Ezhil (எழில்): A Tamil Programming Language. In this language they designed a programming language which is like procedure language (e.g. BASIC, LOGO) and dynamic typed

(Declaration free) like Ruby/Python i.e. which can write program on interpreter. Which is important for students to learn by immediate feedback edit-run-edit-run cycle instead of the edit-compile-re-edit-compile-execute cycle. In this they make computing easy and language semantics follow as closely as possible to reasoning in Tamil by allowing only Tamil keywords. They proposed programming language which allows only Tamil keywords by prototyping it in python.

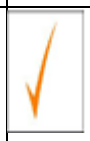
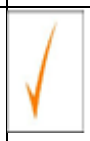
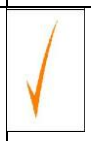
Abhishek Chaudhary, Dr.Shwetha Chaudhary [2] Proposed a programming language named as Hindawi Programming language. This Language is designed which allows the non-English medium literates to learn programming which can be written in their regional languages. This Language is a suite of open source Indic-text programming languages.
It is a complete package to program in Hindi language but this Hindawi System is restricted to only Hindi language.

Mr. Zhongli [3] Proposed Lieutenant- this is a Chinese programming language which is based on python translation language 2.1.3 In this language variables names can be also used in Chinese language and built in data types can be operated in Chinese. Mr. Zhongli has added internal support for Chinese character encoding and now it run smoothly in Chinese systems of the Big Five and GB Code. This language is compatible with python 2.1.3 program. so large number of extension modules can be use directly.

The discussion of above survey is normalized in tabular format as follows.

SRNO.	PAPER NAME	AUTHOR	METHOD PROPOSED	LIMITATIONS
1.	Ezhil (எழில்): A Tamil Programming Language	Muthiah Annamalai	Proposed Programming language which allows only Tamil keywords by prototyping it in python	Limited for Tamil language only.
2.	Hindawi Programming System	Abhishek Chaudhary, Dr. Shweta Chaudhary	A suite of open source Indic-text programming languages	Limited for Hindi language only.
3	Lieutenant	Mr. Zhongli	Chinese programming language based on Python language with support of internal Chinese character encoding	Limited to Chinese language only

III. TXONOMY CHART

	Procedural	Object Oriented (OOP)	Language Restriction	Scope to use external libraries
Ezhil Programming language				
Hindawi programming system				
Lieutenant				

IV. CONCLUSION

Our proposed System is designed to develop programming language which allows to write the programs in Marathi language. And it also have additional functionalities as compared to other existing non-English based programming languages and purposed system justifies the comparison as shown in taxonomy chart above. After surveying and studying some other non-English based programming languages, we can conclude that the purposed system is feasible with respect to all three formats, these are Market Feasibility, Technical Feasibility and Financial Feasibility.

V. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on Efficient and Automated Online Recruitment System. We would like to thank Dr. Sunil Rathod, assistant professor, Department of Computer Engineering, for giving us all the help and support we needed during course of the Paper writing work. We are really grateful to him.

Our special thanks to Dr. M.Z. Shaikh, Principal of DYPSOE (SPPU-PUNE), who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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uraj Berad, Nikhil Kadam, Shubham Naik, Kamlesh Bhagwat, Dr. Sunil Rathod, "A Survey on Non English Based Programming Languages", International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT), ISSN : 2456-3307, Volume 4 Issue 8, pp. 36-39, September-October 2019.
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Digital In-store Merchandising

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ABSTRACT

Lovation Basd Aadvertising is one of the forms of advertising in which a person passing by a store get advertising messages by using his/her location. So for that, one need to turn on the location access permission which lead to privacy issues. One more is Bluetooth Based Advertising in which a person can communicate with the store and get advertisements via Bluetooth again for this, one need to enable the Bluetooth in phone. Digital In-store Merchandising has came with solutions. A person doesn't need to carry any phone or enable Bluetooth in phone. A person will walk into the mall a camera will capture the image and attributes will be collected such as age, gender base on that ads will be predict and display on the screen of that mall.

Keywords : IOT, Image Processing, Merchandising, Mall, Data Set

I. INTRODUCTION

We are developing a system called Digital In-store Merchandising basically it deals with advertising of available products inside a store or mall based on the customer via a display device. There will be a camera at the entrance of the mall or store, camera will capture the customer's image while entering the store or mall, captured customer's image will be then processed by image processing algorithm with the help of Raspberry pi processor. At the end of image processing we will be getting the attributes of customer like gender, age, cloths, objects such as spectacles or cap, each attribute will be unique based on the customer. After this, products which will be best suited for each customer will be predicted and displayed on the display device inside the mall along with customer's image.

In order to process image we are using Deep learning techniques, we are using CNN (Convolutional Neural Networks).

Our main aim is to boost the sales of the mall or shop wherever this system will work.

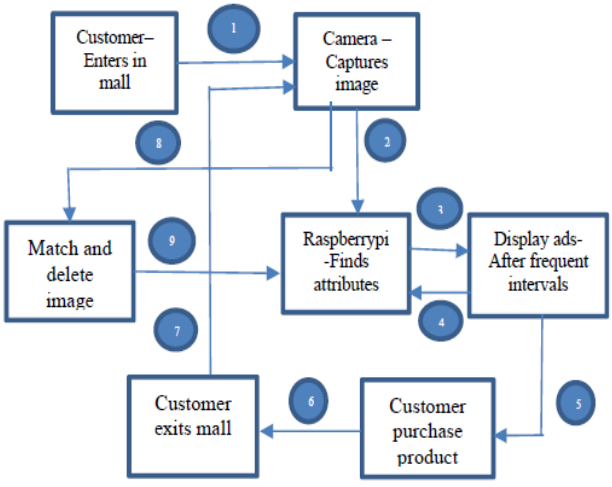

Figure 1:System Architecture

A. CNN(Convolution Neural Network)

Face recognition can be done by using Convolution neural network algorithm[6]. CNN consists of two layers feature extraction layer and feature map layer . In feature extraction layer each neuron is connected to local receptive fields of previous layer and extracts the local feature . After local feature is obtained relationship between them and other features are gathered. CNN needs to be trained prior to the testing, images of each individual with various poses are first given to the model, but it takes huge amount of time for training and once trained the output is accurate.

B. Effect of Recommender Systems on sales

Recommendation of products increase the sales of a store and customer saves time in selecting the products[15]. Recommendation helps the customer to select products that are best suited for him or her by analyzing the present outfit. Customer can find all the products at one place.

II. LITERATURE SURVEY

Here we have discussed the literature review of existing techniques:

Onkar Ghate, Gurunath Chavan, Krutika Dongare and Snehal Mangale [1] proposed A Bluetooth Based Advertisement System for Mall in this system they have created an android app using which customer's mobile phone will be connected to nearest Bluetooth access point and then he/she can browse shops in the mall, search products in the mall and can even get information about offers on various products. In this system customer needs to carry his/her mobile phone to get the facilities.

Christine Bauer and Christine Strauss [2] proposed A Location Based Advertisement System in which consumers can get advertisements on their mobile phones individually (based on their current location) and dynamically (in real-time). Again, in this system customer needs to carry mobile phones to get advertisement. It may privacy issues also.

Keerti. S. Mahajan, S. S. Jamsandekar and Dr. A M. Gurav [3] proposed Machine Learning Approach for Marketing Intelligence: Managerial Application in this paper they have told about growing popularity of social media platforms like:Facebook, Twitter, Whatsapp and Instagram, etc. and they are source of huge dataset, we can use machine learning to process this huge dataset and understand customer's behavior and provide them suitable advertisements. In this system there is need of prior knowledge of the customer to predict advertisement.

T. Thiraviyam [4] proposed Artificial Intelligence Marketing from this paper we can understand that how AI is useful for both customers and marketers. AI system can assist customers 24*7. It can understand customer behavior and can predict advertisements to customers. It can handle several customers requests simultaneously, so that waiting time can be reduced to nil. Similarly, it is useful for marketers as personalized advertisements can be created for the customers to boost up sales. But there are some limitations of this system that is AI is limited only by the availability of data.

Daniel S´aez Trigueros, Li Meng and Margaret Hartnett [5] wrote research paper on Face Recognition: From Traditional to Deep Learning Methods in this paper they have mention that, the main advantage of deep learning methods i. e. they can be trained with very large datasets to learn the best features to represent the data. CNN based face recognition methods trained with these datasets have achieved very high accuracy as they are able to learn features that are robust to the real-world variations present in the face images used during training. A face recognition system finds the position of the faces in an image and (if any) returns the coordinates of a bounding box for each one of them. Convolutional

neural networks (CNNs) are the most common type of deep learning method for face recognition. Collecting large amounts of labeled face images is expensive, and very deep CNN architectures are slow to train and deploy. Generative Adversarial Networks (GANs) are a promising solution to the first issue.

The overall finding of the above discussion is given below as Table-1

SR. NO.	PAPER NAME	AUTHOR	METHOD PROPOSED	LIMITATIONS
1.	BLUETECH:A BLUETOOTH-BASED ADVERTISEMENT SYSTEM FOR MALL	ONKAR GHATE, GURUNATH CHAVAN, KRUTIKA DONGARE, SNEHAL MANGALE	ADVERTISEMENT USING ANDROID APP USING BLUETOOTH CONNECTIVITY	CUSTOMER NEED TO CARRY MOBILE PHONE, SHORT RANGE OF BLUETOOTH
2.	REACHING CONSUMERS INDIVIDUALLY AT THE RIGHT PLACE: A LITERATURE ANALYSIS OF LOCATION-BASED ADVERTISING ON MOBILE DEVICES	CHRISTINE BAUER AND CHRISTINE STRAUSS	ADVERTISEMENT USING MOBILE LOCATION OF CUSTOMER	CUSTOMER NEED TO CARRY MOBILE PHONE, PRIVACY ISSUE
3.	MACHINE LEARNING APPROACH FOR MARKETING INTELLIGENCE: MANAGERIAL APPLICATION	KEERTI. S. MAHAJAN, S. S. JAMSANDEKAR, DR. A M. GURAV	USING MACHINE LEARNING TO ANALYSE CUSTOMER BEHAVIOR AND PREDICT ADVERTISEMENT	SYSTEM SHOULD HAVE SOME PRIOR KNOWLEDGE OF CUSTOMER
4.	ARTIFICIAL INTELLIGENCE MARKETING	T. THIRAVIYAM	USING ARTIFICIAL INTELLIGENCE TO ANALYSE CUSTOMER BEHAVIOR AND PREDICT ADVERTISEMENT	SYSTEM SHOULD HAVE SOME PRIOR KNOWLEDGE OF CUSTOMER
5.	FACE RECOGNI	DANIEL S´AEZ	RECOGNITION OF	COLLECTING

	TION: FROM TRADITIONAL TO DEEP LEARNING METHODS	TRIGUEROS	FACE USING CNN	LARGE AMOUNTS OF LABELED FACE IMAGES IS EXPENSIVE

III. TAXONOMY CHART

	BLUETOOTH CONNECTIVITY	MOBILE LOCATION	MOBILE DATA	NEED PHONE	PRIOR KNOWLEDGE OF CUSTOMER
BLUETOOTH BASED SYSTEM	✓	✗	✗	✓	✗
LOCATION BASED SYSTEM	✗	✓	✓	✓	✗
MACHINE LEARNING APPROACH	✗	✗	✓	✓	✓
ARTIFICIAL INTELLIGENCE APPROACH	✗	✗	✓	✓	✓
DIGITAL IN-STORE MERCHANDISING	✗	✗	✗	✗	✗

IV. CONCLUSION

Based on all the data that have been explained before , we can understand that Digital in-store merchandising is very profitable for the shop owners as well as the customers. As there is no such system developed to recommend person specific advertisement.

V. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on “Digital In-store Merchandising”. We would like to take this opportunity to thank Dr. P. M. Agarkar, Head of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. M. Z. Shaikh, Principal DYPSOE who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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Survey on Automatic Collision Alert System for Vehicle Safety on Road

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ABSTRACT

There are various reasons due to which accident rates are increasing, some of the reasons are the negligence of the driver, fog, smog, smoke, etc. because of which people are losing their life. In this project, we are going to take note of how we can reduce these accidents by other means which will help to detect the problem in the first place.so, in this project we are basically, calculating or measuring the safety distance between the driving car and front object to avoid the collision.

Keywords : Electromechanical, Automated Braking System, Sensors, Notification, Alert.

I. INTRODUCTION

Automated collision alert system works to avoid accidents or damage whenever the sensor detects any obstacle the car automatically adjust accordingly, for instance, it calculates the required speed, proper distance to be maintained between vehicles. So according to the speed of a car, the system will calculate the safety distance. If the obstacle is not in the safety distance then the system will generate alert to apply the brake but in case if the driver doesn't respond then the system will automatically apply the brake.so, in this way it helps to prevent collisions that lead to the safety of vehicles on road.

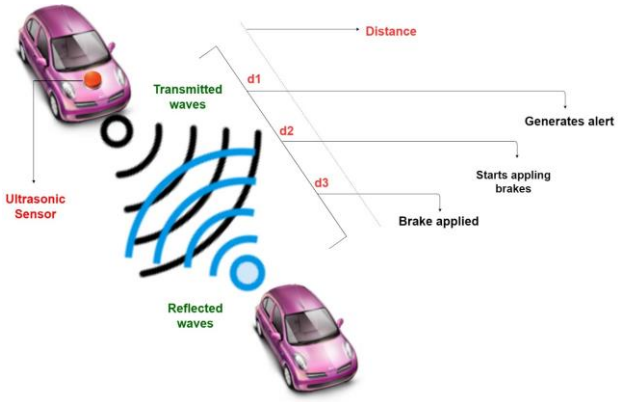

Figure 1 : Collision Detection system with automatic braking example.

II. LITERATURE SURVEY

Here we discussed the literature review of existing techniques:

Sehun Kim, Sunghyun Lee, Inchan Yoon, Mija Yoon and Do-Hyeun Kim[1], they proposed a vehicle warning system that predicts the collision and warns the driver in advance by generating alarms. The system is implemented using sensors and GPS system. The vehicle collision warning system proceeds with

two steps. First step is the AIS which obtains the location data of vehicle. The second step is the collision warning using the vehicle warning algorithm. In this system, suing GPS each vehicle's data is send to AIS and depending upon the vehicle's speed and direction the system generates the waring.

N.Sreeraman, G.Sathyapriya, G.Ganesan, G.Ajithkumar, S.Praveen Kumar [2].They proposed a methodology for automatic control of the braking system to deter any accident. In this technology, they used Arduino, Relays, IR transmitter and IR receiver for the productive function of the braking control system. This complete system can be accommodated on to the dashboard of the vehicle and effectively used for automatic control of the braking system.

Vipul Shinde, Rohan Thorat, Trupti Agarkar [3]. The paper depicts an automatic car system in which the vehicle keep the distance and applies break using fuzzy logic. The one more parameter if the detects object in a certain distance it change its lane and overtakes the object.

A.joseph Godfrey, V.Sankaranarayana [4], They proposed an electric braking system for DC motor-driven electric vehicles based on stopping time and energy regeneration. The system is designed by combining different regenerative methods and plugging.

Bhaskara. P, Eriki Ananada. K, Venkataramana [5], The Arduino board performance is taken out to analyze the distance at which the vehicle comes to a stationary position. The existence of the set up is tested in order to assist the driver during overstress ailments like long drives and long obligation hours.

Anil Kumar Gupta, Gaurav Wable, Tarun Batra [6], they proposed a system for timely detection of other vahicles in the surrounding using GPS based system, which actively and continuously vehicle's location coordinates to the eye in the sky server, which processes the data of the such vehicles and predicts the collision and sends the alert before collision so that the driver can take any action to avoid the accident.

J. V. Sai Ram, K.M.S.V. Manikanta, G. Pavanth, B.Jagadeep, Dr. B. Raghu Kumar, they proposed a system which uses Ultrasonic setup in the front of the vehicle to detect the obstacle. It any obstacle is detected the signal is send to Aurduino Nano from that bases upon distance of object it actuates the buzzer or brakes.

The overall finding of the above discussion is given below as Table-1

Sr. No.	Paper Name	Author	Method Proposed	Limitations
1.	The Vehicle Collision Warning System based on GPS	Sehun kim, Sunghyun Lee, Inchan Yoon, Mija Yoon and Do-Hyeun Kim	GPS to collect vehicle data on AIS and depending upon vehicle's speed ,direction and distance waring is generated.	Collison is detected within 30meters. Automatic braking system is not there.

2.	Performance Study On IR Sensor For Automobile Braking System	N.Sreeraman, G.Sathyapriya, G.Ganesan, G.Ajithkumar, S.Praveen Kumar	The distance of any obstacle, a stationary or a moving vehicle or a road block is sensed by an infrared sensor and it is provided to the microcontroller.	Performance Study On IR Sensor For Automobile Braking System.
3.	Automatic Car Driving System Using Fuzzy Logic	Vipul Shinde, Rohan Thorat, Trupti Agarkar	Using fuzzy logic vehicle is makes their own choice on which certain actions are taken by sensor data also implement two parameters viz., overtaking and automatic braking system.	The system does not have any communication information such as alerts and warnings. Therefore, the system does not have any vehicle communication.
4.	A New Electric Braking System With Energy Regeneration For a BLDC Motor-Driven Electric Vehicle.	A.joseph Godfrey, V.Sankaranarayanan	The crucial parameters scilicet stopping time and energy regeneration are considered to complete this scheme. As an initial phase, their actions are studied using both numerical simulation and experiments.	The consequences of regenerative braking drop with the speed a vehicle is travelling. At low speeds, friction brakes are expected to bring most vehicles to a complete stop. That means there is however energy being lost.
5.	Arduino Based Automated Braking Control System To Enhance The Safety At Low Light And Long Stressed Drive Condition.	Bhaskara. P, Eriki Ananada. K, Venkataramana	Brakes are connected to the wheels of the vehicle. Before applying the brake, speeding up is released to stop the fuel allowance framework in this way motor builds up no more energy to	The setup ceases to function at turns, also if the object is coming in the straight direction but still is out of range then the system will fail.

			run the vehicle, and after that clutch is withdrawn which subordinate the motor from the transmission frame work.	
6.	Collision Detection System for vehicles in Hilly and Dense Fog Affected Area to Generate Collision Alerts.	Anil Kumar Gupta, Garurav Wable, Tarun Batra	The location of the all the vehicles is send to server using GPS, there processing is done, and if any vehicle comes nearer then the safe distance, then alert is generated.	The system is not suitable for poor connectivity area. the processing time is quite high.
7.	Automatic Braking System Using Ultrasonic Sensor.	J. V. Sai Ram, K.M.S.V. Manikanta, G. Pavanth, B.Jagadeep	Ultrasonic Sensor detects the obstacle and sends signal to the Aurduino Nano for processing safe distance and accordingly buzzer and brake id applied.	Aurduino Nano less I/O pins so it can be used for limited number of things.

TAXONOMY CHART

Table 2 : Taxonomy Chart

Factors	Processing on Server	Automatic Brake	Alerts Generation	Feasibility in any weather
The Vehicle Collision Warning System based on GPS				
Performance Study On IR Sensor For Automobile Braking System				

Automatic Car Driving System Using Fuzzy Logic				
A New Electric Braking System With Energy Regeneration For a BLDC Motor-Driven Electric Vehicle.				
Arduino Based Automated Braking Control System To Enhance The Safety At Low Light And Long Stressed Drive Condition.				
Automatic Braking System Using Ultrasonic Sensor.				
Collision Detection System for vehicles in Hilly and Dense Fog Affected Area to Generate Collision Alerts.				

III. CONCLUSION

The following conclusions that can be made on automatic braking system using ultrasonic sensor are:

1. Arduino UNO microcontroller is user friendly and helps learners. Mechanical engineers in providing better coding/ programming for automatic braking.

2. Ultrasonic sensor is inexpensive compared to other sensors and provides better sensing span within 100m.

3.Automatic braking system take decision based on microcontroller inputs and begins the braking automatically and regulate the vehicle in advance to any harmful accidents situations. Thus, implementing this System can reduce the close impact likely

accidents. Also, it can be concluded that the present project work is no more exhaustive as it can be further accomplished by using different range sensors and actuating mechanism. Present paper work becomes a prepared reckoner for engineers in future project growth.

IV.ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on "Survey on Automatic Collision Alert System for Vehicle safety on Road". We would like to take this opportunity to thank Dr. Pankaj Agarkar, Head of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support. We need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. M. Z. Shaikh, Director DYPTC who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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System for Heartbeat and Temperature Monitoring with Location Tracking for Soldiers

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ABSTRACT

In extremely dangerous situations soldiers not only deal with the physical threat, but also stress caused by protracted operations or lack of sleep. So for the security purpose of soldiers, we need a tool which will be used in health monitoring and tracking the location of the soldier. So in this project a tool will be implemented using arduino microcontroller and bio-sensors like heartbeat sensor and temperature sensor for health monitoring purpose . Also to track the location of the soldiers we have to use a GPS system. Additionally a ESP8266 Wi-Fi module will be used to send all the values continuously to the military center for continuous analysis of soldiers.

Keywords : Atmega328 Microcontroller, GPS, LM35 Temperature Sensor, Heartbeat Sensor, Battery.

I. INTRODUCTION

To receive the information from the control station or from the superiority, the soldier must be integrated with advanced voice and data communication devices. The soldier needs wireless network for displaying maps and to communicate with military center or military personnel. Apart from the nation's security, the soldier's security is also important in protecting himself with advanced weapons and it is necessary for the army base station to monitor the health status of the soldier.

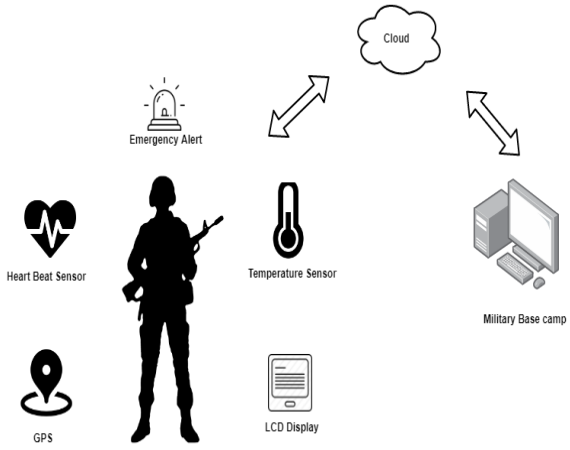

Fig 1. Overall System

II. PROBLEM STATEMENT

Many other jackets existing in the market can provide both cooling and warm service with the jacket. The different climatic conditions such as very cold and very hot temperatures could be dangerous to health. In very cold temperatures, the most serious concern is the risk of hypothermia or dangerous overcooling of the body. Hence,we have proposed a smart army

jacket for the soldiers as soldiers play a very important role to protect our country in extreme conditions.
The smart army jacket could monitor health, internal temperature,track location as well as send emergency notification in the form of short message service for the soldier.

III. LITERATURE SURVEY

Soldier Security and Health Monitoring Thanga Dharsni, Hanifa Zakir, Pradeep Naik, Mallikarjuna, Raghu. 2018, the proposed framework can be mounted on the warrior's body to track their wellbeing status and current area utilizing GPS. Through distributed computing these data will be transmitted to the control room. The proposed framework involves small wearable physiological equipment's, sensors, transmission modules. Consequently, with the utilization of the proposed hardware, it is conceivable to execute a minimal effort component to ensure the important human life on the war zone. GSM is used which is irrelevant and excessive use of sensors[1].

Health Monitoring and Tracking System For Soldiers Using Internet of Things (IoT) Niket Patil 2017, the paper reports an Internet of Thing (IoT) based health monitoring and tracking system for soldiers. The proposed system can be mounted on the soldier's body for tracking their health status and current location using GPS. This information will be transmitted to the control room through IoT. The proposed system comprises of tiny wearable physiological equipment's, sensors, transmission modules Only hardware approach and no use of software systems[2].

Wearable Systems for soldiers Monitoring the Health Condition: Review and Application Petr Volf, Slavka Viteckova, Pavel Smrcka 2017, systems for measuring of medical data for the diagnostics of physical and psychological state have significantly spread. This study, examines the current technologies and usage of the wearable monitoring systems in military. The article can be used as a guide for choosing suitable and affordable systems of quantitative evaluation of physical and psychological conditions of soldiers Wearable system but with higher costs. High end simulation software required[3]. Wireless detection system for Health and military application Yallalinga, Nirmalkumar S. Benni 2017, upon detection of fall/collapse the sensor system transmits the information wirelessly, which will be received by the care-taker's mobile. The sensor is a belt shaped wearable device consisting of accelerometer (tri-axial) and gyroscope. These sensors are used to classify the posture and dynamics of the user. The main aim of the project is to develop efficient algorithms to detect falls and distinguish between falls and non-falls using these sensors.GSM is outdated. Zigbee is used for wireless communication and it has many limitations such as a range and obstacles in the communication channel[4].
Monitoring of Soldier's Health and Transmission of Secret Codes Zeeshan Raza, Kamran Liaquat 2016, in this paper, we are going to design a smart device for soldier using modern technologies and techniques. This device will be carried by a soldier in warfare. The device will be able to sense heartbeat and body temperature of soldier and transmit the reading on base station where the cumulative data will be displayed. For storage of readings a small database is organized. As well as the Solder can send a secret message on the base station. A formula is designed in order to make the reading accurate and precise, which is a correlation of body temperature and heartbeat. Hardware approach, LCD is not necessary to use if we use software interfaces. No cloud processing. Secret codes are already implemented[5]. Heart Rate, Skin Temperature, Skin Humidity and their Relationship to Accumulated Fatigue Decho Surangsrirat, Songphon Dumnin and Support Samphanyuth 2016, the bjective of this study is to monitor the heart rate, skin temperature and skin humidity of the new recruited soldiers during the last week of multiple weeks training period in high temperature where

accumulated fatigue is expected. The measurements are collected during their sleep. In multiple participant, experimental results show an increasing trend of the average resting heart rate. In one participant there is an increasing trend of skin temperature, the data also show consistently high skin humidity for this participant[6].

IV. PROPOSED SYSTEM

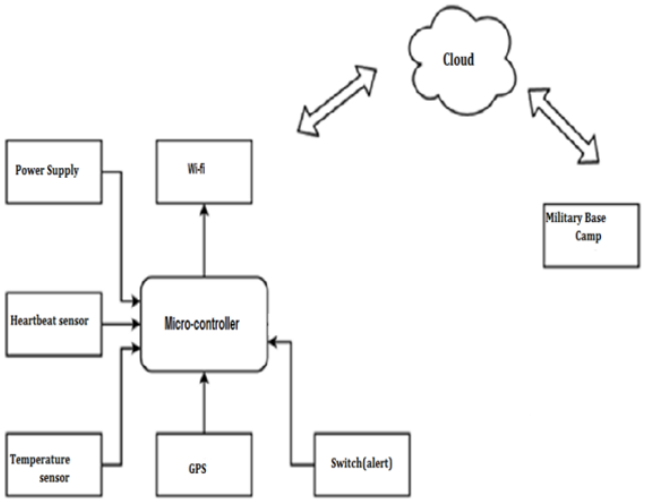

Fig 2. System diagram

We have proposed a smart army jacket as an important resource for the army soldiers as soldiers play a very important role to protect our country in extreme conditions.

The proposed smart army jacket will monitor the heartbeat and internal temperature of the soldier and will also send emergency notification in the form of short message service for safety of the soldier.

We are going to use arduino microcontroller and bio-sensors like heartbeat sensor and temperature sensor. Also we are using GPS system to track the location of the soldier as shown in fig.2.

Hardware Used: Controller, Temperature Sensor, Heartbeat Sensor, GPS, Buzzer.

V. CONCLUSION

The proposed system is an effective security and safety system which will be made by integrating the advancements in wireless and embedded technology. It could help in a secret mission. This system can be used in critical conditions. Provides safety and security for soldiers: GPS tracks position of a soldier anywhere on the globe and health monitoring system monitors soldier's vital health parameters which provide security and safety for soldiers.

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Dumnin and Support Samphanyuth 2016 10.1109/BIOSMART.2019.8734230(Bio Smart)

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Study of Sentiment Analysis on Reviews

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ABSTRACT

Sentiment analysis and opinion mining is the area of study that analyses people's opinions, sentiments, attitudes, and emotions from written language. Sentiment analysis systems are being applied in almost every business and social domain which helps them to analyse customer satisfaction of their product because opinions are central to almost all human activities and are key influences of our behaviours. The suggested framework for Movie Review consists mainly of data collection and pre-processing, and measurement of customer satisfaction. In Data collection and pre-processing stage, text mining is utilized to compile customer-review-based dictionaries of attributes and sentiment words. Then, using sentiment analysis, sentiment scores for attributes are calculated for each Movie Review. An empirical case study will be conducted on customer reviews on movies. We believe that the our proposed customer review based approach not only saves time and effort in measuring customer satisfaction, but it also captures the real voices of customers.

Keywords : Customer Satisfaction, NLP, HSWN, Customer Review, Sentiment Analysis, ML.

I. INTRODUCTION

Sentiment analysis is computational study of people's opinions, sentiments, emotions, and attitudes.

Sentiment Analysis finds orientation of a person opinion or feelings over an entity. It is a task under natural language processing. It deals with analysing personal emotions, feelings, attitude and opinion of a speaker or a writer over an object. The primary target of sentimental analysis is to find the sentiments expressed by person over an information or object.

Hindi is the 4th highest speaking language in the world. The web compared to previous years is currently enriched with non-English languages too. There exist very small no of systems which calculate sentiment associated with Hindi text as Sentiment Analysis is highly difficult for Hindi language due different complexity associated with Hindi text. Well annotated standard linguistic data are still not available for Hindi language. Hindi language lacks availability of efficient resources like parser and tagger which are essential for extracting sentiment. HindiSentiWordNet (HSWN) like well know English SentiWordNet is available but consists of limited numbers of adjectives and adverbs, which still needs to improvement to achieve higher accuracy.

There are many situations where same words may be used in multiple contexts. Context dependent word mapping is still a difficult task, error prone and it

requires manual efforts to find accurate polarity of word.

A framework for performing sentiment analysis on Reviews of Hindi and English language is presented in this paper. Section 2 shows related work done in this field. In section 3 shows our proposed system and section 4 gives the conclusion about the work.

II. LITERATURE SURVEY

In this section we will see the relevant past literature of research work done in the field of sentiment analysis for Hindi language.

Opinion Mining System is proposed by authors named as "Hindi Sentiment Orientation System" which is based on Hindi language. Unsupervised approach which based on using dictionary is used to determine the polarity of reviews written by users in Hindi language. Many challenges like negation associated in text which reverse the sentiment are also handled. The accuracy of system is evaluated by using 50 sentences of movie reviews and their result showed the accuracy of 65% in finding sentiment associated with text.

This fascinating problem is increasingly important in businesses and society. Sentiment analysis is a kind of Natural Language Processing (NLP) for tracing the mood of the public about a particular product or topic. The application which considers every individual as a separate class and predict the next work on the basis of previous content available is known as language modelling.

For classification applied in machine learning mainly two steps are followed. Utilising the training data set for learning the model is the first step. In the second step the trained model is applied to the test data set.
From paper[11] presented „Pulse" a prototype system for mining topics and sentiment orientation from free text customer feedback. Blogs, newsgroups, feedback email from customers, and web sites that collect product reviews these all are source of free text customer feedback. The proposed system is designed to handle the free form information of the customer feedbacks as the sources of information are less structured than traditional surveys. A machine learned sentiment classifiers and clustering technique were used in the proposed method. Sentiment and topic detections are not performed at the document level it is done at sentence level. The data set used for the survey contained almost 900,000 sentences in total. Sentiment analysis was performed using 3000 randomly selected sentences from data set. Each sentence is classified as positive, negative and others,where other category contained both positive and negative sentiment and sentences with no complex sentiments. Training of the sentiment classifier was done using 2500 sentences and the remaining 500 sentences were reserved for test set. Results reflect the efficiency of the proposed system.
Miniqing Hu et al., [12] performed mining and summarization process to all the customer reviews of a product. The proposed process was carried out in three steps: 1. The features of product commented by the customer in the review are mined. Natural language processing(NLP) and Data mining techniques are used for mining. 2. The opinions in the review are identified and the opinions are classified as +ve or -ve. Set of adjectives words are identified and semantic orientation of the opinion words is determined. SentiWordNet can be used to identify the semantic orientation and the opinion orientation of each sentence. 3. Summarize the results. The objective of the study is to perform summary of a large number of customer reviews of a product sold online.

Qui et al., [13] analyzed the problems related to opinion mining such as opinion lexicon expansion and opinion target extraction. Opinion targets are entities and there attributes on which opinions have been expressed. The list of opinion words such as good, bad, lovely, poor used to indicate positive, negative sentiments is Opinion lexicon. The link between the opinion words and targets Syntactic relations are

identified using dependency parser which is based on bootstrapping. The process uses supervised methods, opinion word seeds are used in the initial opinion lexicon. Bootstrapping process is started using the initial opinion lexicon. Double propagation method is used as information are propagated back and forth between opinion words and target.

Lie Zhang et al., [14] identified domain dependent opinion words. Noun,noun phrases that indicate the product feature which implies opinions are found using a feature based opinion mining model. Two steps are used for identifing the noun product feature which means the positive or negative opinion. In the Candidate identification step sentiment context of each noun feature is determined. And also a list of candidate features with positive opinions and list of candidate features with negative opinions is produced. In pruning step noun product feature is directly modified into positive and negative opinion words. Opinion lexicon complied by Ding et al. It was used to identify the opinion polarity on each product feature in a sentence. For a sentence s which contains a product feature f, opinion words in the sentence are first identified by matching with the words in the opinion lexicon. An orientation score for f is computed and the orientation of the positive word is assigned the score of +1, and a negative word is assigned the score of -1. On summing up of all the scores, if the final score is positive(+ve), then the opinion on the feature in s is positive(+ve). If the score is negative(-ve), then the opinion on the feature in s is negative(-ve).

Xiaowen Ding et al., [15] proposed a holistic lexicon-based approach which uses external indications and linguistic conventions of natural language expressions to determine the semantic orientations of opinions. Opinion words which are context dependent are easily handled which is an advantage. The algorithm used linguistic patterns to deal with special words, phrases. Based on this technique researchers built a system called Opinion Observer. Experiments using product review dataset was highly effective. Multiple conflicting opinion words in sentence were also dealt with efficiently.

Table 1

Sr. No.	Paper Name	Method Proposed	Limitations
1.	Sentiment analysis of mobile network [6]	Supervised learning, naïve Bayes, bag of words	Execution time is more
2.	Sentiment Analysis for twitter data [2]	Lexicon approach	Less accuracy
3.	Sentiment analysis experiment [3]	Natural language processing	Large data set not accepted.
4.	Sentiment analysis for movie review [10]	OPEN NLP library	No hindi reviews are considered
5.	Pulse: Mining Customer Opinions from Free Text Natural Language Processing [11]	Component based mining	Limited to certain products only
6.	Mining and Summarizing Customer Reviews [12]	NLP and search methodology	Based on only English reviews

III.CONCLUSION

Based on above study and survey on sentiment analysis about different languages and using different

methodologies we proposed a system in which the system allows finding sentiment associated with review where overall polarity of the review is classified as positive, negative or neutral using HindiSentiWordNet and RNN. It also includes Hindi reviews.

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Survey on Fingerprint Based Security System for Vehicle

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ABSTRACT

Nowadays rate of vehicle theft is very advanced all through world and the situations are even worse in developing countries. Therefore, protection of the vehicles with an intelligent, reliable, effective and economical system is very important. The existing technologies for vehicle security have number of limitations including high false tracking rate, easy deactivation and high cost. In this research, an finger print vehicle security system has been designed and implemented using sensor-network system which employ Global Positioning System(GPS) and Global system for mobile Communication to set the alarm in danger. This cutting edge technology is capable to protect, monitor and set alarm within the less time.

Keywords : Micro-controller Unit (MCU); Global System for Mobile (GSM); Global Positioning System (GPS).

I. INTRODUCTION

Automated person identification or recognition has become popular in recent years because of its application like protected access to computer systems, buildings, cellular phones and in terms of security like video surveillance. Person identification techniques are divided into knowledge based, token based and biometric based. A knowledge based approach relies on something that an individual knows to make a personal identification like password.Token – based approaches are based characteristics of an individual for identification and it cannot be stolen or lost.

Fingerprint based determination is one of the most crucial biometric technologies which have drawn an encompassing amount of attention lately. Fingerprints are believed to be unique across individuals. Fingerprint bio-metrics provides robust, reliable.

identification. There are two varieties of fingerprint systems: verification and identification. Fingerprint verification is the process of acceptance and rejectance of the authorized person using his/her fingerprint. Fingerprint identification, on the other hand, is the process of deciding which registers one's fingerprint.

Fingerprint biometrics is one of the efficient, secured, cost effective, ease to use technologies for user authentication. Because of the intellectual property protection and commercial profits, it can also be used in the field of automobiles for providing security and theft protection of the vehicles.

II. Related Work

The modern developments in biometrics recognition system tracks to the improvement in reliability and accuracy of the system. Fingerprint Recognition (FR) for vehicle security system are summarized in below section.

Some systems utilities Auto cop mechanism which is a video surveillance solution that can be fitted into the vehicle. The camera will endlessly monitor the actions within the system. The main drawback of this system is that, the camera will not detect accurately when

there are changes in the lighting conditions in and approximately the system.

Other systems include in-vehicle anti-theft component that will not enable the functions of something an individual have like passport, driving license, ID card, credit card or keys. But these approaches have lot of demerits like: tokens may be stolen, lost, elapsed or mislaid. But the biometric systems use physiological or behavioral e appliances if it find itself is illegally moved to another car. The destructive aspect of this system is that it requires a secure processor and smart card chips to store in the Group Identification Number . The advanced system uses the Global Positioning System (GPS) to track position of the targeted vehicle and its current location. GPS uses global navigation satellite system. The location information provided by GPS system cannot provide location if view of the sky is severely limited. It is also influenced by other factors like rainfall, fog and snowfall.

Radio frequency Identification (RFID) is utilized in Intelligent Computerized anti-theft system [ICAT]. RFID cards are used to provide guaranteed access. The restriction here is that RFID cards without keys can be easily stolen.

III. Methodology

Since, other biometrics has their own virtue, the fingerprint recognition technique is unique and it provides higher security and accuracy.

a. The fingerprint of an individual is acquired by a fingerprint scanner to produce a digital representation.
b. Pre-processing, is the process in which the input of fingerprint is enhanced and adapted to simplify the task of feature extraction.
c. Feature extraction, in which the fingerprint is further processed to generate discriminatory properties called feature vectors.
d. Fingerprint matching, in which feature vector of the input fingerprint is compared with one or more templates. The database stores the templates.

The fingerprint coordinating techniques are minutiae based matching and pattern matching. Pattern matching compares two images for checking similarity. The minutiae matching relies on minutiae points i.e. location and direction of each point.

Algorithm of Fingerprint based Vehicle security system :

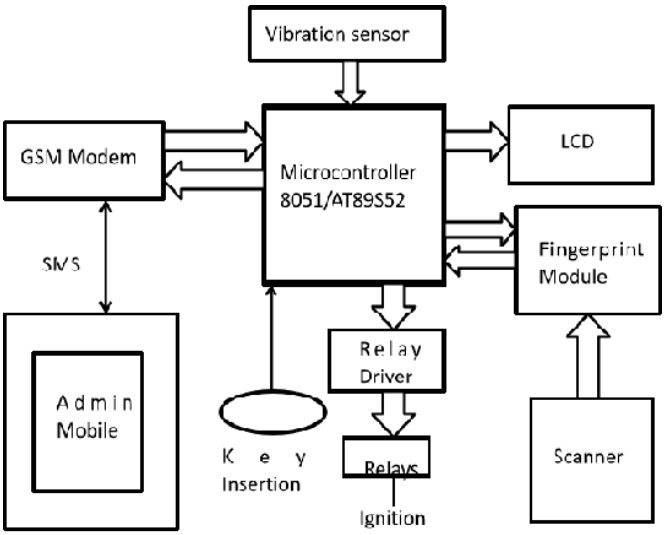

Fig.1 System architecture diagram

1. Start
2. Place a finger and press enter button (top button) to start the system.
3. If finger already stored in the scanner module, start the system.
4. If not,(apply fingerprint max 3 times) message sent to owner and buzzer activate.
5. Stop.

IV. LITERATURE SURVEY

Kiruthiga Narayanasamy (2015) worked on this paper to protect the vehicle from being accessed by any unauthorized access, using fast, easy-to-use, clear, reliable and economical fingerprint recognition technique. Using Global System for Mobile (GSM) communication technology this vehicle security system intimates the status of the vehicle to the authoritative person (owner). If the person is registered, vehicle access is allowed. Else SMS will be sent to the owner. By using GPS technology, vehicle it

can be identified very easily. Thus, the system gives security at both levels[1].

Albert Joe Francis (2011) worked on anti theft control system for automobiles that tries to prevent all the possible thefts of a vehicle. This system makes use of an integrated chip that has an proximity sensor, which senses the key during insertion and send away a text message to the owner's mobile that the car is being accessed. This is followed by the system present in the car asking the user to enter a unique password or pin. The password consists of some characters and car key number. If the user fails to enter the correct password in three attempts, a text message is received by the owner with the vehicle number and the location which is being tracked using a GPS.[2]

Vivek Kumar Sehgal (2012) worked on proposed topic related to GSM techniques and a better decision making process which is built to make our vehicle more secure. It is a unique wireless home/car security device that gives instant alerts on your mobile phones the moment a security breach is detected. It is designed such a way that it alert's you wirelessly through a call stealer alarm system wiretap an intrusion. proposed an 8 bit integrated controller inter model.[3]

V. RESULTS AND DISCUSSION

Their are mainly security two modes in security system execution: first, if the system is active and an unauthorized person seek to turn on the vehicle, then alert message will be sent to the registered user in system and the buzzer will initiate and in the second mode, authorized person will be given access.

The main component of this system is microcontroller. It is responsible for monitoring and generating the inputs and outputs respectively. The output of the system will be shown on the LCD .

VI. CONCLUSION

Security is fundamental criteria in all kind of applications. This project is intented at improving the level of security for vehicles. As the fingerprint is a auspicious biometric pattern for identifying a person in terms of both security and ease of use. This is a specific method of conniving and assembling a low-cost, packed in theft control system for an automobile which is highly reliable. The work exhibits the initial phase of an embedded car that will be visible in near future. Customized vehicles will not only provide a more interesting drive but also safer one.

TAXONOMY CHART

	BLUETOOTH CONNECTIVITY	MOBILE LOCATION	MOBILE DATA	NEED PHONE	AUTHORISED USER
ONLINE TRACKING USING GPS	✗	✓	✓	✓	✓
GSM TECHNOLGY	✗	✗	✗	✓	✓
FINGERPRINT ACCESS	✗	✗	✗	✗	✓

VII. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on "Fingerprint Based Security System For Vehicle". We would like to take this opportunity to thank Prof. Chaitanya Bhosale, Professor of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. P M Agarkar, Head of the Department and Dr. M.Z. Shaikh, Principal DYPSOE who motivated us and created a healthy environment for us to learn in the best possible way. We also thank

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Real Time Employee Tracker

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ABSTRACT

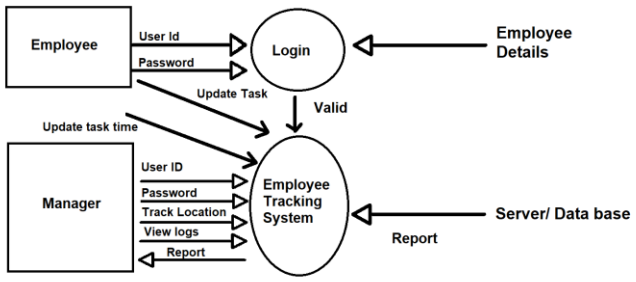
In the growing world, the demand for marketing is increasing. Due to this, the marketing employees have to commute from place to place to finish their day's work. At the end of the day, there is no track regarding the work that they have done throughout the day. In order to overcome this problem, our application provides a boon to the companies, so that they can track their employees throughout the day to increase efficiency. Using our smart Android application, the companies can track their users' or employees' check-in/check-out activities based on their current location throughout the day. This application will majorly focus on live tracking using GPS. This application will also facilitate for offline situations such as network failure. The employee meetings can be scheduled based on real-time depending on the position as well as work load. This way the organizations can make sure that their employees finish the given work ok and track them throughout the day.

Keywords : Android Application, Marketing Employees, Track Of Work, Online Tracking, Offline Tracking, Check-In, Check-Out, Web Cache.

I. INTRODUCTION

Our android application will majorly focus on live tracking using GPS. The employees will be tracked by the organization/company throughout the day using their GPS. At the end of the day, all the details about where the employee has been or the places that he visited will be updated in the database. It will also facilitate for offline situations such as network failure. Sometimes, there might be network failure or the employee himself might turn off the GPS for a reason. At times like these, offline tracking will be done. All the data from the time the GPS is turned off till the time it is turned back on, will be stored in the web cache. Then, when the network is turned on, the data from the web cache will be updated in the database. Also, the web cache cannot be cleared/emptied hence preventing the employee to make changes to their location. The employee meetings can be scheduled based on real-time depending on the position as well as work load. The position of the employee and the workload will be considered for assigning new meetings to the employee in real time. This way the organizations can make sure that their employees finish the given work on time and track them throughout the day.

II. SYSTEM ARCHITECTURE



III. OBJECTIVES

Know where the employee exactly is. The exact location of the employee will be known at all times to the organization. Keep a track of work done. There will be proper records of the work done by the employee. Make sure the work timings of the employee are not being used for personal work. Because of live tracking, the organization will be able to make sure that the employee is not doing any oftheir personal work during work hours. Suggest shortest path to the destination. While travelling, the shortest path will be suggested to the employee inroder to save time. Assign next task to an employee, based on nearest location. Based on the nearest location of the next task and the work load of the employee, the tasks will be assigned to the employees in real time.

IV. LITERATURE SURVEY

Here we have discussed the literature review of existing techniques:

Sonal et al (2016), worked on Employee Tracking and Monitoring System.They used android to implement it. In their study the presented various security profile on the same mobile phone. They used dynamic database which retrieves data or information from a centralized database. They provided separate module to employee when he enters company premises. Through mobile phones all information about the employee phone like their SMS history, Incoming calls, Outgoing calls, Employee Locations, Data usage, Web browser history, and Unauthorized Call History details are tracked. [1]

Priti et al (2015), worked on monitoring employees cell phones using android application.To run the application their system uses android application. The mobile device with the employee and the manager should be in an android phone. Because they are going to send SMS via phone only.

Some alerts are stored in the database, for convenience. This makes it easy [2]

Nirmal, et al, (2016), worked on Employee Surveillance System Using Android Smart Phone. Their system uses Employee monitoring and GPS location Tracking System using Android phone. All the activities of the Employee will be tracked using this system. All the activities of an employee on his/her smartphone and computer, like data usage, all incoming and outgoing calls, web browsing and secured document modification and illegal transfer of company's informative details like blueprints, stocks, projects etc. will be considered. They plan on tracking the employees global geographic position using GPS. Therefore the employees will be strictly monitored during the job hours.[3]

The overall finding of the above discussion is given below as Table-1

SR. NO.	PAPER NAME	AUTHOR	OBJECTIVES	LIMITATIONS
1.	"An Android based employee trackin	Etuk Enefiok A. and Onwuachu Uzoch	This application makes good use of the recent mobile development technologies and thereby	Firebase data base is full[roof data base but after a

	g system ”	ukwu C.	increases the overall performance of the employees, also has a substantial business value because it reduces hardware and maintenance cost and increases customer's satisfaction.	limit it is highly expensive
2.	“Employee Surveillance System Using Android Smart Phone ”	M.D. Nirmal , Rohit Koul, Halne Atul, Gagare Tejaswita and Kharde Mayura	This application enables the managers to update the overall performance of the employees in their respective areas. This monitoring system is a revolutionary mobile application which uses Android OS for monitoring time attendance	SQL is limited version of data base in which non uniform data is not suitable. Eg Images
3.	AN OPTIMAL SOLUTION TO TRACK AN EMPLOYEE USING INTREGRATED MODULE	R. Kanmani, Kalicharan , Karthik P , Balasathish , Sandra Cris Mervin	Today there is no special device to track the employee's location and send the location to the cloud safely through IOT.	Cloud technology is not that great to meet up the needs with . GPS features were lagging.

V. TAXONOMY CHART

	BLUETOOTH CONNECTIVITY	MOBILE LOCATION	MOBILE DATA	NEED PHONE	PRIOR KNOWLEDGE OF EMPLOYEE
ONLINE TRACKING USING GPS	✗	✓	✓	✓	✓
OFFLINE TRACKING USING WEB	✗	✗	✗	✓	✓

CACHE					
CHECK-IN/ CHECK-OUT	✗	✓	✓	✓	✓
SUGGEST SHORTEST PATH	✗	✓	✓	✓	✓

VI. CONCLUSION

In order to overcome the problem of not having a track regarding the work that the sales employees have done throughout the day our application will provide a boon to the company so that they can track the employees throughout the day to increase efficiency.

VII. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on “Real time employee tracker”. We would like to take this opportunity to thank Prof. Chaitanya Bhosale, Professor of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. P M Agarkar, Head of the Department and Dr. M.Z. Shaikh, Principal DYPSOE who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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A Survey on Detection of Organic Chemicals in Soil

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ABSTRACT

Nowadays crops yield are not nutritious and lacks vitamins. This degrades the quality of the crops. Because of the organic fertilizers used by the farmer, the soil is contaminated with the organic chemicals contained in the soil. But the soil that has been used till now might be contaminated by the organic fertilizers used. Even if a farmer decides to go for complete organic farming, the soil already contains chemicals which will be absorbed by the fruits, vegetables tested for organic contamination and they might show positive results even after using complete organic farming techniques. The farmer won't know how much the soil is been contaminated until now. So, to detect the level of organic contamination in the soil and the components of the soil we are doing a research project in which we will be trying to detect the organic constituents in the soil and with proportion and measures to overcome the contamination fully remove the organic contaminations. This system would be the first of a kind since no system like this has been developed or manufactured till now. The project would be more benefited the farmers who want to move towards fully organic farming and increased the quality of vegetables, fruits, grains, etc.

Keywords : Agriculture, Farmers, Near-Infrared Spectroscopy, FTIR Fourier Transform Infrared, Chemometrics Tool.

I. INTRODUCTION

Agriculture is essential for humans. Agriculture is the backbone of all the developing countries. Farming on the same piece of land for a long time degrades the number of nutrients in the soil, forcing the farmer to use various methods to give the soil back the nutrients or induce nutrients by means of fertilizers. The fertilizers are of two types namely Chemical fertilizers and Organic fertilizers. Chemical fertilizers have been banned by governments, which may cause serious harm to the soil making it barren. Chemical fertilizers are been taken care of. So, we need to focus on the organic fertilizers which are used in farming for the better yield of crops from the soil.

Organic fertilizers are usually made from plants and animal waste, for example, manure or compost. This manure or compost can be highly processed products. They are mainly sold as a "soil conditioner" rather than fertilizers since the nutrient's ratio is difficult to guarantee. The organic fertilizers can be processed in the factory.

Fertilizers supposed to be Organic can be made using some additives and chemicals. The extensive use of these fertilizers may lead to the imbalance of organic and inorganic nutrients in soil. So, to overcome are proposing a system that will provide a piece of detailed

information about the soil content like the organic chemicals present.

II. LITERATURE REVIEW

Marianah Masrie*, Mohamad Syamim Aizuddin Rosman[1], An optical transducer is developed to measure and to detect the presence of Nitrogen(N), Phosphorus(P) and Potassium(K) of soil. Such transducer is needed to decide how much extra contents of these nutrients are to be added to the soil to increase soil fertility. This can improve the quality of soil and reduces the undesired use of fertilizers to be added to the soil. The N, P, and K value of the sample are determined by absorption light of each nutrient. The optical transducer is implemented as a detection sensor which consists of three LEDs as light source and a photodiode as a light detector. The wavelength of LEDs is chosen to fit the absorption band of each nutrient. The nutrient absorbs the light from LED and the photodiode convert the remaining light that is reflected by reflector to current. The system utilizes an Arduino microcontroller for data acquisition therefore the output from the transducer is converted into a digital display reading. Testing on various samples of soils, showed that the optical transducer can evaluate the amounts of NPK soil content as High, Medium and Low.

J. Jayaprahas, S. Sivachandran, K. Navin, K. Balakrishnan[2] in their paper Real-Time Embedded Based Soil Analyzer(RTEBSA) the measure of the pH value of soil and electrical conductivity (EC). Here the pH value of the soil is used to identify the solution or mixture acidity or basicity. The RTEBSA is a valuable tool developed to determine the inputs required for better production. Soil tests at the best level will ensure a better application of sufficient fertilizers to meet the need of the crop while taking advantage of the nutrients already present in the soil. It also allows us to determine line requirements and diagnose the problem areas. Samples are tested as the results are only as good as the samples you take testing is also requirement for the farms that have to maintain a nutrition management plan.

The tests are performed for the plants in three categories: Major nutrients- Nitrogen(N), Phosphorous(P) and Potassium(K) Secondary nutrients: Iron(Fe), Manganese(Mn), Copper(Cu), Zinc(Zn), Boron(B). Most commonly measured soil properties of the soil. It is also one informative and useful soil fertility aspect. A) Soil pH and Nutrient Availability: The implication of the pH and nutrient uptake efficiency and crop response is determined to function of soil pH. Liming is said to improve soil pH and hence increase availability of nutrients and use efficiency. B) pH Value: The acidity or basicity in the pH of the soil is defined negative logarithm ions(H+ or, more precisely, H3O+aq) from a solution. From the range 0 to 14, 7 is neutral, below 7 is acidic and above 7 is basic. C) Electrical Conductivity(EC): To check the health of the soil a very quick, simple and inexpensive method that farmers use. The EC level of the soil water is a good indication of the nutrients available for the crops to absorb.

Serpil Savci[3] Chemical Fertilizers Consumer society, in order to meet the growing need for food, agricultural land per unit area required to achieve maximum efficiency and highest quality product. It is known that the nutrition of the plant is one of the most important factors to control agricultural productivity and quality. Rates of nutrients in the soil affect the quality of yield. In the longterm agricultural land, the soil will be very poor in nutrients, as a result, inefficient. Hence the producer use fertilizers an pesticides to increase the fertility. Fertilization among these activities remains a priority at all times. Therefore according to recent studies excessive use of fertilizers is needed for lands in public environmental has reported adverse effects. Immoderate fertilization, but there were soil salinity, heavy metal accumulation, water eutrophication and accumulation of nitrate, to consider in terms of air pollution in the air of gases with nitrogen and sulfur,

giving and can give problems such as the greenhouse effect.

The overall finding of the above discussion is given below as Table Below

Sr. No.	Paper Name	Author	Method Proposed	Limitations
1	Detection of Nitrogen, Phosphorus, and Potassium (NPK) nutrients of soil using Optical Transducer(2017)	Marianah Masrie*, Mohamad Syamim Aizuddin Rosman, Rosidah Sam and Zuriati Janin	Integrated optical transducer with microcontroller . Arduino microcontroller as an alternative method of determination of the deficiency N, P or K in the soil is successfully developed and tested.	The method detects Inorganic nutrients in the soil, and limited to only NPK
2	Real-Time Embedded Based Soil Analyzer (2014)	J. Jayaprahas, S. Sivachandran, K. Navin, K. Balakrishnan	A soil analyzer using pH Value and Electrical Conductivity	The method detects major nutrients like NPK and minor like Fe, Mn, Cu, using pH value where human intelligence is required and detects limited number of Chemicals.
3	An Agricultural Pollutant: Chemical Fertilizer(2012)	Serpil Savci	NA	NA

III. Taxonomy Chart:

Technique	Detection of Nitrogen, Phosphorus, and Potassium (NPK) nutrients of soil using Optical Transducer(2017)	*Real-Time Embedded Based Soil Analyzer (2014)*
Detection of Organic Chemicals	✗	✗
Detection of Inorganic Chemicals	✓	✗
Less Resources	✓	✓
Portable	✓	✗

IV. CONCLUSION

From the above research papers we can conclude from the study of research papers, that different methods of soil analysis are effectively used in various nutrients detection process. The various methods like electrochemical sensors, pH measures, optical transducers are to detect the Inorganic chemicals and materials from the soil, thus detecting the deficiency of these material from the soil and setting the threshold values for nutrients.

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A Survey on Smart Blind Stick for Obstacle Detection

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ABSTRACT

The main drawback with blind individuals is to travel a way to their destination where they require to travel. Such individuals would like help from others with sensible sight. As represented by World Health Organization, 10 percent of the visually impaired don't have any practical sight in the least to assist them move around while seeking no help. This study proposes a new technique for designing a smart stick to help visually impaired people that will provide them obstacle free navigation. The proposed system intended to provide low cost and efficient navigation aid for the blind. It gives a sense of artificial vision by providing information about the environmental scenario of objects around them. The main concern is to help visually challenged people to navigate with ease using advance technology. Physical movement could be a challenge for visually impaired persons, because it can become tricky to distinguish where he/she is, and how to get, where he wants to go, from one place to another. In this technology-controlled world, where people strive to live independently, this project proposes an ultrasonic stick for blind people to help them gain personal independence. This paper also surveys different systems proposed by different authors which include different sensors. Each systems has its own cons and pros which make them different from each other and our proposed systems include the most efficient and effective algorithms which make it very helpful for the visually impaired people.

Keywords : Technology Controlled World, Obstacle Detection, Visually Impaired People, Concrete Wall, Human Body, Cardboard Box, Plastic

I. INTRODUCTION

Visually impaired people finds it difficult to recognize the smallest detail without healthy eyes. Survey by World Health Organization carried out in 2011 estimates that in the world, about 70 million people is visually impaired and, about 7 million people fully blind and about 63 million people with low vision. The problem with blind people is to navigate their way to wherever they want to go. People need assistance from others. As visually impaired have no functional eyesight at all to help them move around without assistance and safely. This study proposes a technique for designing a smart stick to help visually impaired people that will provide them navigation. The conventional navigation aids for persons with visual impairments are the walking cane and dogs which are characterized by many imperfections.

Shortcomings of these include: training phase, range of motion, and very insignificant information communicated been communicated. Our approach modified this cane with some electronics components and sensors, the electronic aiding devices are designed to solve such issues. The ultrasonic sensors, humdity sensor, buzzer, and vibration motor are used to record information about the presence of obstacles and water on the road. Therefore whenever there is an obstacle in its range it will alert the user by sensors. Humidity sensor is used to detect water in path of the user. Blind guidance systems use ultrasound because of its environmental noise. With modern technology both in hardware and software it has become easier to provide intelligent navigation system to the visually impaired. Much research effort have been focused on design of Electronic Travel Aids to aid successful and free navigation of the blind. Also, high-end technological solutions have been introduced recently to help blind person navigate on their own. Another reason why ultrasonic is prevalent is that the technology is cheap. Moreover, ultrasound emitters and detectors are portable components that can be carried out without the need for complex circuit.

Whenever user wants to locate it, such a person will press a button on remote control and buzzer will ring, then the person can get the idea of where the stick is placed. Vision is most important part of human physiology as information human being gets from the environment is via sight. The 2011 statistics by the World Health Organization (WHO) estimates that there are 70 million people in the world living with visual impairment, 7 million of which are blind and 63 million with low vision. The conventional aids for persons are characterized with many limitations. Some inventions require separate power supply. These bulky designs will definitely make the user to be exhausted. The objective of research: is to style a technology for visually impaired folks that observe obstacles and different routes for blind; to alarm the user through vibration to see the obstacles; and to help the user finding his stick when he cannot remember where is was kept. Several attempts have been made to design obstacle avoidance devices for the blind using components with limited number of applications. This section will discuss some of these attempts and their shortcomings. In the system, ultrasonic sensor, water sensor, Buzzer, vibrator and battery were used.

II. OBJECTIVE

The main objective is to assist visually impaired folks to navigate with ease with help of advance technology. In this technology controlled world, we are trying to help the blind people match up the pace with the normal people and do not feel left back, this project proposes associate in detecting and alarming stick for blind folks to assist them gain personal independence. Since this is economical and not bulky, one can make use of it easily.

III. LITERATURE SURVEY

The authors Ashraf Anwar and Sultan Aljahdali [12] in their paper used ultrasonic sensors and IR sensors for detecting the obstacle coming in the path of the blind person, also they have used heat and moisture sensor for giving more details to the person with the stick about the road or path. For alarming the blind person they are using different buzzers and sensors that will tell the person that something is there in front of him/her. The only disadvantage of this system is that GPS is not included in this system.

In the paper named 'Implementation and Design of Smart Blind Stick for Obstacle Detection and Navigation System' whose authors are K.S.Manikanta, T. S. S. Phani , A. Pravin [13] used GPS/GPRS in their model which helped the visually impaired person to navigate on the roads without the help of others. As moisture sensor is not included in the model so it cannot detect water present in the path of the person using that stick.

Vipul V. Nahar, Jaya L. Nikam, Poonam K. Deore [14] in their paper used moisture sensor but excluded the GPS/GPRS module which will not help the blind person to navigate on the street but it fully help in all other conditions which include detection of obstacle, water detection etc. The disadvantage of this system is that it will not be able to work in monsoon season as the moisture sensor will continuously keep beeping or vibrating which will irritate the person using it.

This paper depicts the system which include all the sensors which are not included in the previous papers including the GPS/GPRS, which can locate the geolocation of the person using it and can inform the well wishers of the blind person when in emergency. The authors of this paper are John Victor, Mayank Gupta, Manikandan [15].

The model introduced by R.Dhanuja, F. Farhana, and G.Savitha [16] is the most advanced system of blind stick till date. It includes LCD display, voice playback module and voltage regulator. The LCD display helps the peron in the real world help the blind person in emergency situation such as battery drain out, some physical fault in the stick etc. The voice playback module helps the person to navigate and tell the direction by the earpiece in the blind person ears. This is surely the best advancement for the blind stick system. Voltage regulator comes in action when voltage overflow is there in the stick and prevents any damage to the stick. The disadvantage of this stick is that the location of the blind person with the stick cannot be detected as this system is not using GPS/GPRS sensors.

Thinking out of the box, authors Manoj Kumar, Shekhar Singh, Mukesh Kumar [17] thought about the irritation caused by the vibration and buzzers installed in the blind stick. So they introduced motors which will redirect the direction of the blind stick when any obstacle comes in front of it. It is very innovative but when comes to the feasibility of the blind stick on all terrains it is not a success as motors cannot be used on every surface.

IV. PROPOSED WORK

The proposed system provide efficient navigation and low cost aid for the blind which gives a sense of artificial vision by providing them information about the environmental scenario of objects around them. Performance of prototype developed was evaluated with four obstacle scenario which are: Concrete wall, Human body, Cardboard box, and Plastic. The solution is moderate budget navigational aid for visually impaired. The cost effectiveness of the proposed solution leads to compromises in performance.

The device will be capable of detecting obstacles and moisture, by using ultrasonic sensors, arduino Uno, moisture sensors and other devices that employ audio commands to alert the user of what is on the path of movement can construct better devices. A vibrator may also be added for further ease of use and convenience. One of the downside of their planned technique is that capability of the stick is restricted as a visually impaired person will only be allowed to travel four locations with the stick. Also, the navigation system will need to convey information other than that needed for guidance, and it is not feasible to provide guidance information at high intermittencies. Improvements that will improved the proposed system: Increasing the range of the ultrasonic sensor and implementing a technology for determining the speed of approaching obstacles.

V. V. BLOCK DIAGRAM

The microcontroller then processes this knowledge and calculates if the obstacle is within the range. If the obstacle isn't in the range then the circuit will do nothing. If the obstacle is within the range of the microcontroller then it sends a symbol to sound a

buzzer. It also detects and sounds a different buzzer if it detects water within that range and alerts the blind.

Following **fig:1** is the block diagram of our proposed model depicting the input and output of the system. The input will be consisting of the sensors we are including in the model and output is the senses that can be felt by the blind person which are in the form of vibration or buzzer depending on the type of obstacle coming in front of the blind person that can be of any solid material or can be water.

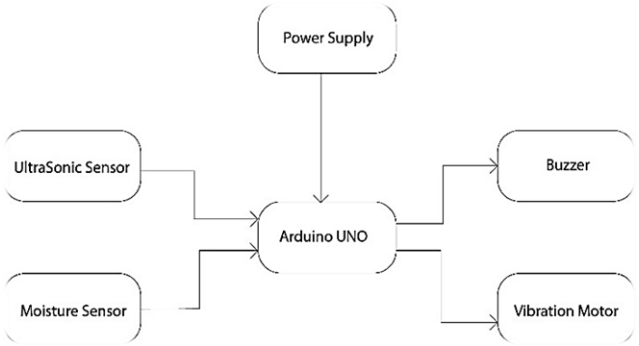

Fig-1: Block Diagram of the Proposed Model

The image shown in **fig-2** demonstrate the working of one of the sensors included in the blind stick i.e ultrasonic sensors. Ultrasonic sensors sends waves and if any obstacle comes infront of the waves the wave return back to the device and then the calculation is done and the sounds are produced accordingly to alarm the blind person.

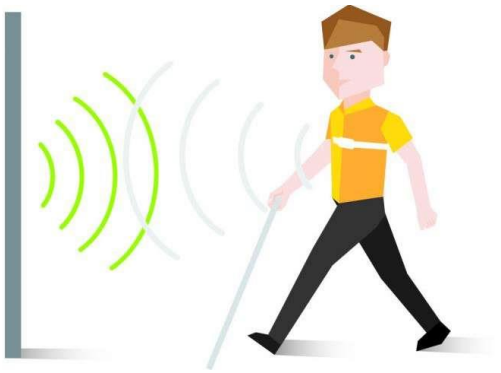

Fig-2 : Ultrasonic Sensor Working

VI. COMPARATIVE ANALYSIS OF THE SYSTEMS

S.NO.	**Paper Name/Author/ Year**	**Functionality**	**Advantages**	**Disadvantages**
1	A Smart Stick for Assisting Blind People /Ashraf Anwar, Sultan Aljahdali/2017	Arduino Uno , Ultrasonic Sensors, Heat Sensors, IR Sensors, Buzzer & Vibrator , Moisture Sensor	Able to navigate in any condition without help of others.	GPS is not involved (which is in future scope to be added), So that current position can be added.
2	Implementation and Design of Smart Blind Stick for Obstacle Detection and Navigation System /K.S. Manikanta, T.S.S. Phani, A. Pravin/2018	Ultrasonic sensor, microcontroller, Buzzer, GPS/GPRS	As they are using GPRS, they can locate or can give any information about any route.We can locate the stick itself by GPS.	As we are not adding moisture sensor, we cannot detect water in our path.
3	Smart Blind Walking Stick/Vipul V Nahar, Jaya L, Poonam K deore/2016	Ultrasonic sensor, microcontroller, Buzzer, Moisture sensor	As we are adding moisture sensor to the blind stick, stick will detect moisture in atmosphere.	We cannot use moisture in blind stick in monsoon and also we are not using GPS.

4	Smart Stick for Blind People /John Victor, Mayank Gupta, Manikandan/2017	Arduino uno, location tracking (GPS & GSM module), Ultrasonic & Vibration Motor	Helps in detecting obstacle using Ultrasonic and also help to find the geolocation with the help of GPS and GSM.	Will not be able to find potholes in poth and also not able to find water ahead.
5	SMART BLIND STICK USING ARDUINO /R.Dhanuja, F. Farhana, G.Savitha/2018	Arduino uno, ultrasonic sensor, IR sensor, voice module playback, LCD display, voltage regulator.	When accidently voltage increases the voltage regulator will come in action and LCD display and voice playback module seeks great help.	Cannot find the position of the individual and even the blind stick.
6	Ultrasonic Based Smart Blind Stick For Visually Impaired Persons /Manoj Kumar, Shekhar Singh, Mukesh Kumar/2017	Buzzer, ultrasonic sensor with motors, microcontroller and alarm	Continuous buzzer will not be there hence the irritation will be less.	Motors may not be helpful in all surfaces.

VII. CONCLUSION

The aim of this model is to style and implement a smart walking stick for the blind which will be absolutely achieved. It is expected to come up with good results in detecting the obstacles on the path of the user to a certain range. This system will be effective and affordable as well. Though the system will be hard-wired with sensors and other components, but it will be light in weight. Further aspects of this project will be improved with wireless property between the system parts, thus, increasing the range of the ultrasonic sensor and implementing a technology for determining the speed of approaching obstacles. In the future, necessary modifications will be added to enhance the performance of the system. These include: A global positioning method to find the position of the user using the GPS, and GSM modules to communicate the location to a relative or care giver. It ought to conjointly accommodate with variable grips for versatile handling.

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A Survey : Analysis and Estimation of Share Market Scenario

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ABSTRACT

Share market is a public market for the transaction of business share. It is an organized set-up with a monitoring body and the members who trade in shares are registered with the share market and regulatory body Security Exchange of Board India. Since share market data are highly time-variant and are normally in a nonlinear pattern, analyzing the future price of a share is highly challenging. Analysis provides sophisticated information regarding the current status of the share price movement. Thus this can be developed in decision making for customers in finalizing whether to buy or sell the particular shares of a given share. Many investigators have been carried out for analyzing share market price using various data mining techniques. This work aims at using of Artificial Neural Network techniques to predict the share price of companies listed under index of National Share Exchange (NSE). The past data of the selected share will be used for building and training the models. The results from the model will be used for comparison with the real data to determine the accuracy of the model.

Keywords : Share Market, Analysis, Machine Learning, Supervised Learning Algorithm, Linear Regression, Data Analysis.

I. INTRODUCTION

Analysis of Share market returns is an important issue and very complex in financial institutions. The analysis of share prices has always been a challenging task. It has been observed that the share prices of any company do not necessarily only depend on the financial status of the company but also depends on socio economic situation of the country various technical, fundamental, and statistical indicators have been proposed and used with varying results. However, no one technique or combination of techniques has been successful enough. With the development of neural networks, researchers and investors are hoping that the market confidentialities can be unraveled. A share market is a public market for the trading of company share and results at an agreed price; these are securities listed on a share exchange as well as those only traded privately. It is an organized set-up with a regulatory body and the members who trade in shares are registered with the share market and regulatory body SEBI(Share Exchange Board India.

The share market is also called the secondary market as it involves trading between two investors. Share market gets investors together to buy and sell their shares. Shares that are in demand will increase their price, whereas as shares that are being heavily sold will decrease their price. Companies that are acceptable to be traded in this market place are called “listed companies”. Investors in share market want to maximize their returns by buying or selling their investments at a suitable time. Since share market data are highly time-variant and are normally in a

nonlinear pattern, analyzing the future price of a share is highly challenging. A lot of studies were performed for the analysis of share index values as well as the daily direction of change in the index. There are so many models to predict a price of a share market. To invest money in the share market we need to have an idea whether the prices of shares are going to increase or decrease on the next couple of days. Several computing techniques need to be joint in order to predict the nature of the share market. As the time elapsed, traditional capital market theory has been changed and various methods of commercial analysis have been improved.

II. RELATED WORK

The paper [1] in this paper we investigate to predict the share prices using auto regressive model. The auto regression model is used because of its simplicity and wide acceptability. We have also conducted a study on the effectiveness of auto regressive model. The Moore and Penrose technique is used to estimate the coefficients of the regression equation. We have also studied accuracy of the analysis by comparing the predicted values with the actual values over a period of time.

Advantage: Uses auto regressive model to predict the future price of a share.
Disadvantage: Analyzing the future price of a share is highly challenging.

The main [2] purpose In this paper, by applying linear regression for analyzing behavior of Share &Price 500 index, we prove that our proposed method has a similar and good performance in comparison to real volumes and the shareholders can invest confidentially based on our share pricing movements.
Advantage: Similar and good performance in comparison to real volumes.
Disadvantage: System work only on two variables.

The paper [3] in this paper we applied well known efficient multiple regression approach to predict the share market price from share market data based on three variables. In future the results of multiple regression approach could be improved using more number of variables.
Advantage: This approach to predict the share market price from share market data based on three variables.
Disadvantage: Future share price analysis is highly challenging.

In this [4] paper, we are using four types of deep learning architectures i.e Multilayer Perceptron (MLP), Recurrent Neural Networks (RNN), Long Short-Term Memory (LSTM) and Convolutional Neural Network (CNN) for analyzing the share price of a company based on the historical prices available. Here we are using day-wise closing price of two different share markets, National Share Exchange (NSE) of India and New York Share Exchange (NYSE). The network was trained with the share price of a single company from NSE and predicted for five different companies from both NSE and NYSE.
Advantage: If few more variables are considered as predictors the results will be even more accurate.
Disadvantage: There is increase the load on data mining at server side.

In this paper [5] we are going to present comparison of machine learning aided algorithms to evaluate the share prices in the future to analyze market behavior. Our method is able to correctly analyze supervised algorithms and compare which algorithm performs the best to predict the future share market prices in the market.
Advantage: The use of an ordinal data type for analysis based on ranking system provides a different dimension for analyzing outcomes. Pretty Flexible and easy to train.
Disadvantage: In these paper major disadvantages is data security. Require more no. of tress to predict accurately that makes model slow.

III. EXISTING SYSTEM

In modern commercial market, the most essential problem is to find essential approach to outline and visualizing the analysis in share-markets to be made by individuals in order to attain extreme income by investments. The share market is a transformative, non-straight dynamical and complex system. Share price analysis has always attracted people interested in investing in share market and share exchanges because of the direct financial benefits. It is also an important topic of research in finance. Analysis of share market returns is a very complex issue depends on so many factors such company financial status and national policy etc. These day's share prices are affected due to many reasons like company related newscast, party-political, social economic conditions and natural disasters. The share exchange is a virtual market where buyers and sellers trade in prevailing securities. It is a market hosted by an institute or any such government body where shares, shares, debentures, bonds, futures, options, etc. are traded. A share exchange is a meeting place for buyers and sellers.

IV. SYSTEM OVERVIEW

In this paper our target is supervised Machine learning regression algorithms were used to decide the share market analysis that can predict the share market data. Support Vector Machine algorithm which gives the less accuracy. The proposed algorithm (Linear Regression Algorithm) uses less number of features, while still being able to data.

Fig. 1 shows the proposed system architecture of analysis of share market and estimation scenario. The input data of share is uses for trained dataset with some features. The training dataset contains data preprocessing which includes two steps: Classification, regression and Machine learning technique.

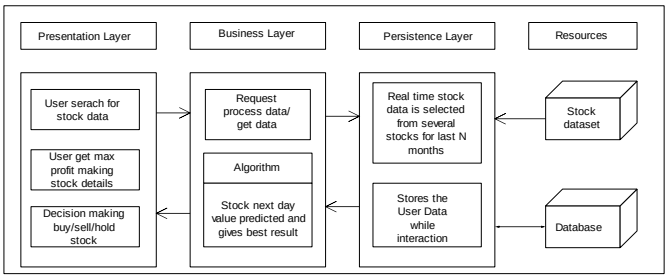

Fig. 1. Proposed System Architecture

Technical architecture is concerned about how large software applications can be or should be organized for better performance and ease of development. The commonly used option is a 3 or n tier architecture which is shown in above fig.1

Presentation Tier (or Client-tier)

It implements the GUI of an application. It is responsible for the presentation of data, receiving user events and controlling the user interface. Most ecommerce applications are web-based. The programming languages used are the combination of HTML, CSS and JavaScript. JSP or ASP is used for dynamic content.

- Decision to Customers/Users System gives decision in the following form

a) Sale- Our system recommends customer to sale a share according to that customer will make the profit
b) Buy- Our system recommends customer to buy a share so in a way that customer will make the profit

c) Hold- Our system recommends customer to hold a share so in way that customer avoid his/her loss

Application Tier

This layer implements the applications' business logic. It is usually powered by a Java Application Server (Web Logic or Web Sphere). There're several sub-layers within the application layer. Analysis Data:

- System performs analysis on share data using 4 algorithms:

a) Moving average algorithm
b) Forecasting algorithm
c) Neural nephron algorithm
d) Regression algorithm.

After applying above 4 algorithms find the most efficient algorithm for calculating predicted value and making decision we called it as filtered algorithm.

- Analysis using Filtered Algorithm:

Once get the filtered algorithm we find the predicted value and decision using this algorithm. Take last month of data analyze it using filtered algorithm according to that put the result to users.

Data Tier

This is the layer that manages the persistence of application information. It is usually powered by a relational database server (Oracle or MySQL).

- Fetch Share Data:

In This System Share portfolio data will fetch from using Yahoo API and perform the analysis on the share exchange data (opening price, closing price, high, low) for the analysis of next day decision.

V. CONCLUSION

Share exchange analysis help the organization and also the stake holder to keep track of the trend of the market. It also helps to decide whether to sell, buy or withheld the share so as to maximize the profit. In this paper, I have made a comparative study of various techniques that are used to predict the share market giving a brief description of each.

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Study of WCNN:NIR-VIS Face Recognition

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ABSTRACT

In this survey paper we have been studying the WCNN Near infrared-visible (NIR-VIS) heterogeneous face recognition (HFR) refers to the process of matching NIR to VIS face images. The current heterogeneous methods try to extend VIS face recognition methods to the NIR spectrum by synthesizing VIS images from NIR images. It refers to matching a sample face image to a gallery of face images taken from alternate imaging modality. The major challenge of heterogeneous face recognition found in the great discrepancies between different image modalities. This survey paper having high resolution for heterogeneous face synthesis as complementary combination of two or more components. The painting component synthesizes and in paints VIS image textures from NIR image textures. The correction component maps any pose in NIR images to a frontal pose in VIS images, resulting in paired NIR and VIS textures. A warping procedure is developed to integrate the two components into an end-to-end deep network. A discriminator and wavelet based discriminator are being designed to supervise intra-class variance and visual quality respectively.

Keywords : Heterogeneous Face Recognition, Deep Neural Networks, VIS-NIR Face Matching, Feature Representation.

I. INTRODUCTION

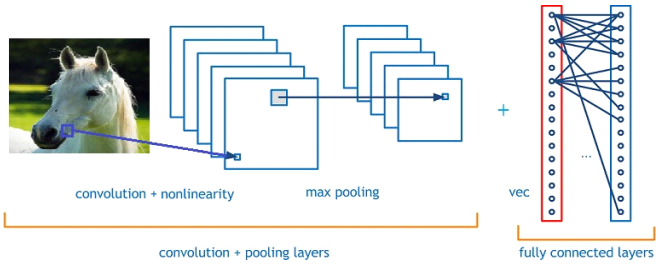
Face images can be captured by different acquisition systems like visible light cameras capture visible light (VIS) images while near infrared (NIR) images are captured by infrared imaging devices. The images can be captured at daytime or nighttime so illumination conditions also differ. Such types of images are known as heterogeneous images and heterogeneous face matching refers to matching face images across different modality. The heterogeneous (NIR-VIS) face images. In many face matching system, one of the difficult task is to match the heterogeneous face images. Many applications such as E passport, video surveillance, and photo based identification requires heterogeneous face matching because, in these applications probe face images and gallery face images are of different modalities such as NIR (Near Infrared), VIS (Visible Light), Matching faces across different sensing modalities raises the problem of heterogeneous face recognition (HFR) or cross-modality face recognition. By remarkable difference in sensing processes, heterogeneous images of the same subject have a large appearance variation, which has distinguished HFR from regular visual (VIS) face recognition.

In this paper, the two aforementioned problems are solved by a novel Wasserstein CNN (WCNN)

architecture [1]. The WCNN employs a single network structure to map both NIR and VIS images to a compact Euclidean feature space such that the NIR and VIS images in the embedding space directly correspond to the face similarity. The WCNN[1] is composed of three key components in an end-to-end fashion. First of all, inspired by the observations and results indicating that the facial appearance is composed of identity information and variation information (e.g. lightings, poses, and expressions). We are trying to study and divide the high level layer of the WCNN into two orthogonal subspaces that contain modality-invariant identity information and modality-variant spectrum information.

II. METHODOLOGY

CNNs is a Neural Networks that have proven very effective in areas such as image recognition and classification. CNNs are a type of feed-forward neural networks made up of many layers. CNNs consist of filters or kernels or neurons that have learnable weights or parameters and biases. Each and every filter takes some inputs, performs convolution and optionally follow it with a non-linearity . A CNN architecture can be seen as shown in Fig.1. The structure of CNN contains Convolutional, pooling, Rectified Linear Unit (ReLU), and Fully Connected layers.



Convolutional Layer: Convolutional layer performs the core building block of a Convolutional Network that does most of the computational heavy lifting. The primary purpose of Convolution layer is to extract features from the input data which is an image. Convolution preserves the spatial relationship between pixels by learning image features using small squares of input image. The input image is convoluted by employing a set of learnable neurons. This produces a feature map or activation map in the output image and after that the feature maps are fed as input data to the next convolutional layer.

Pooling Layer: Pooling layer reduces the dimensionality of each activation map but continues to have the most important information. The input images are divided into a set of non-overlapping rectangles. Each region is down-sampled by a non-linear operation such as average or maximum. This layer achieves better generalization, faster convergence, robust to translation and distortion and is usually placed between convolutional layers.

ReLU Layer: Basically ReLU is a non-linear operation and includes units employing the rectifier. It's an element wise operation that means it is applied per pixel and reconstitutes all negative values in the feature map by zero. In order to understand how the ReLU operates, we assume that there is a neuron input given as x and from that the rectifier is defined as f(x)= max (0, x) in the literature for neural networks.

Fully Connected Layer: Fully Connected Layer (FCL) term refers to that every filter in the previous layer is connected to every filter in the next layer. The output from the convolutional, pooling, and ReLU layers are embodiments of high-level features of the input image. The goal of employing the FCL is to employ these features for classifying the input image into various classes based on the training dataset.

III. RELATED WORK

We are studying high level features of Deep Convolutional Neural Networks trained on visual spectra images are potentially domain independent and can be used to encode faces sensed in different image domains. A general framework for WCNN[1] Heterogeneous Face Recognition is proposed by adapting Deep Convolutional Neural Networks low

level features in, so called, "Domain Specific Units". This following adaptation using Domain Specific Units allow the learning of shallow feature detectors specific for each new image domain. Later on, it handles its transformation to a generic face space shared between all image domains. Heterogeneous Face Recognition (HFR) consists in matching faces from different image modalities.

IV. EXSTING SYSTEM

We are studying investigated facial recognition algorithms to identify faces by extracting landmarks or features from an image. WCNN[1] algorithm may analyze the relative position, size, and/or shape of the eyes, nose, cheekbones and jaw. Those features are further used to search for other images with matching features.So this algorithms normalize a dataset of face images and then compress the face data, only saving the data in the image that is useful for face detection. A image is examined then compared with the face data. Previously successful systems are based on matching techniques applied to a set of salient facial features, providing a sort of compressed face representation. Hidden Markov model is a statistical model in which the system being modeled is assumed to be a Markov process with unobserved state. So as HMM can be considered as the simplest dynamic Bayesian network.

DISADVANTAGES:

- There are many extracted features leading to the variability of images of a single face that add to the complexity of the recognition problem if they cannot be avoided by careful design of the capture situation.
- A facial biometric security system can drastically improve your security because every individual who enters your premises will be accounted for. Any trespassers will be quickly captured by the recognition system and you would be alerted promptly.

V. SYSTEM OVERVIEW

In this paper we have studied how Machine Learning Convolutional Neural Network algorithm were used to decide matching face recognition is to identify through input NIR and VIS imaging that identifying real or fake image with the help of convolutional neural network algorithm. We systemically evaluate the proposed WCNN[1] approach against traditional methods and deep learning methods on three recently published NIR-VIS face databases: the CASIA NIR-VIS 2.0 database, the Oulu-CASIA NIRVIS database and the BUAA-VIS NIR database.

Fig. 1 shows the proposed system architecture Wasserstein distance is used to measure the difference between NIR and VIS distributions in the modality invariant subspace (spanned by matrix W).

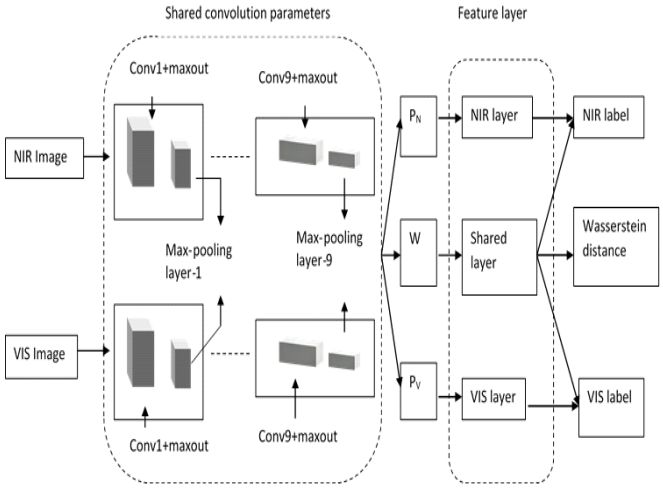


Fig. 1. Proposed System Architecture

VI. LITERATURE SURVEY

SR.NO	Paper name/author/yr	Functionality	Advantages	Disadvanta-ges
1	Wasserstein CNN: Learning Invariant Features for NIR-VIS	Wasserstein CNN approach that uses only one network to project both NIR and VIS	The gap between the sensing	Limited availability of training samples

	Face Recognition, Ran He , Xiang Wu , Zhenan Sun , Tieniu Tan	images to a compact euclidean space. The WCNN naturally combines subspace learning and invariant feature extraction	patterns of the vis and nir modalities. Over-fitting on small-scale training sets.	of cross modality face image pairs.
2	Heterogeneous Face Recognition Using Domain Specific Units, Tiago de Freitas Pereira, Andre Anjos, and Sebastien Marcel	high level features of Deep Convolution Neural Networks trained on visual spectra images are potentially domain independent and can be used to encode faces sensed in different image domains. A general framework for Heterogeneous Face Recognition is proposed by adapting Deep Convolutional	It handles its transformation to a generic face space shared between all image domains.	will focus on the analysis on what such feature detectors are learning for each image domain.
3	Learning a High Fidelity Pose Invariant Model for High-resolution Face Formalization, Jie Cao, Yibo Hu, Hongwen Zhang, Ran He, Zhenan Sun	Face formalization refers to predicting the frontal view image from a given profile. It is an effective preprocessing method for pose-invariant face recognition. Formalized profile faces can be directly used by general face recognition methods without retraining the recognition models.	The prerequisite of warping is decomposed into dense correspondence field estimation and facial texture map recovering,	The prerequisite of warping is decomposed into dense correspondence field estimation and facial texture map recovering,
4	Cross-spectral Face Completion for NIR-VIS Heterogeneous Face Recognition , Ran He, Jie Cao, Lingxiao Song, Zhenan Sun, Tieniu Tan	Wasserstein convolutional neural network (WCNN) approach for learning invariant features between near-infrared (NIR) and visual (VIS) face images (i.e., NIR-VIS face recognition.	To avoid the over-fitting problem on small-scale heterogeneous face data, a correlation prior is introduced on the fully-connected WCNN layers to reduce the size of the parameter space.	Future work is whether this IDR framework can be useful for other heterogeneous or cross-modal problems, e.g., cross-sensor iris recognition and face recognition

VII. ADVANTAGES

- Because of weaker scattering and absorption, NIR light can penetrate deeper into. In excitation light in the visible (VIS) region cannot reach the imaging target in tissues in the conventional VIS-VIS imaging.
- The main advantage of Convolutional Neural Network compared to its predecessors is that it automatically detects the important features without any human supervision.
- The large-scale VIS dataset is helpful for VIS face recognition; it has limited benefits for HFR if only a small-scale NIR dataset is available.
- The accuracy requirement of face-based biometric recognition, by taking advantages of the recent NIR face technology while allowing the use of existing VIS face photos as gallery templates.

VIII. CONCLUSION

Hence, we have studied how WCNN NIR-VIS FACE RECOGNITION across-spectral joint dictionary learning technique to reconstruct images between the NIR and VIS domain. The WCNN naturally combines subspace learning and invariant feature extraction into a CNN, and divides the high-level layer of the CNN into two orthogonal subspaces that contain modality-invariant identity information and modality-variant light spectrum information. The Wasserstein distance is used to measure the difference between heterogeneous feature distributions, and it is effective at reducing the sensing gap.

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IoT Based Women Safety Device Using Android

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ABSTRACT

In today's world it is not safe to travel alone, specially for women. Since many unexpected, and shameful incidents are happening around the world. Problems can occur from anywhere and anytime, as women are also growing equally like men so for that purpose they have to travel alone at night especially in public transport. for that reason we need to solve this problem of women. They also shouldn't feel any fear regarding their safety. This paper represents IoT based device along with android application which will serve the purpose to rescue the women from crisis situation. As we all know that nowadays every individual carry their own smartphones and wearables. The uses of android along with smart wearables is increasing rapidly so it is better to have such system which will provide a safe environment for women in crisis situation.

Keywords : SMS, IoT, Android, Bluetooth, Arduino, GPS

I. INTRODUCTION

A. Domain: IoT

The Internet of Things also known as IoT is system of interrelated computing devices, mechanical and digital machines, objects, people that are provided with unique identifiers and the ability to transfer data over a network without requiring any interaction between human/machine and machine/human. This definition of the IoT has evolved due to the convergence of multiple technologies, real-time analytics, machine learning, sensors and embedded systems. Traditional areas of embedded systems, wireless sensor networks, control systems, automation and others all contribute to enabling the IoT. In the consumer market, this technology is most similar with products pertaining to the concept of the "smart home", covering devices and appliances i.e., lighting fixtures, home security system and camera, and other home appliances like washing machine that support one or more common ecosystems, and can be controlled by the devices connected with IoT ecosystem, such as smartphones and smart speakers.

B. PROBLEM STATEMENT

IoT based women safety device using Android

This paper is focusing on building an effective, fast and reliant system to make the women to feel safe and empowered.

Our platform will act as a 24*7 active help and companion for women so that they don't feel alone in any crisis situation.

It will unite as well as enables the citizens of our nation and the police to work towards a common problem. This tool will act as eyes and ears for the civilians and police and help them in diminish crimes against women.

This device has been designed in a manner that it deals with the various situations a woman can be stuck in like when she is alone or when she is in a public place or when she is in a public transport etc…

II. RELATED WORK

1. **Ms. Deepali M. Bhavale, Ms. Priyanka S. Bhavale, Ms. Tejal Sasane, Mr. Atul S. Bhavale,"IoT based unified approach for women and children security using wireless and GPS", IJARCET, Volume 5, Issue 8, Aug 2016.**

This research paper proposed a system which can be useful for women for security purpose it consist of wearable device with emergency button to access the device immediately and proceed with its further functions. This system can make better use of Arduino based on Linux Board. The system has been developed on web based data driven application that provides use full information. This saves the time and victim get help without loss of time. So when victim presses button system get activated to collect the information and send to the registered mobile number. This paper represent the system for women security in this paper a wireless method which will alert and communicate with the secure medium when the sensor kit button is pressed will collect the information of the user. This information will be send to the registered phone number.

2. **Tuman Poddar, Ritesh C, Nagraja Bharat, "Using Wearable Technology To Answer Women's Safety", IJSTM, Volume 4, Issue no.5, May 2015.**

This research paper proposed a system of accessaries incorporating computer and advanced electronic technologies. It includes devices with sensors and sync with mobile device for personal safety. This research proposes a system where these aspects of technology to build a unified system. The module setup use Zigbee and GSM for wireless communication and GPS for location tracking. The experiment of this research and its result can be viewed as an opening into a wider and vivid class of possible solution for women safety. This model with GPS UBLOX NEO-6, Arduino, Microcontroller acts as a prototype. In this model Zigbee is used which is short ranged i.e. 10-100 meters. Both GSM module and GPS module consumes a lot of power which drains the battery quickly since the application is built on the project with algorithms which consumes large share of power that makes portability of this device a problem.

3. **Dr. P. Eswaran, Dr. N. Manoharan, "Women Security Solution Using: IoT", IJPAM, Volume 119, No. 10, 2018.**

Current Scenario from shows that women are facing Lot of troubles and they are not secure in untimed situation since women are working equal to men in every sector like police, Army, Business, etc. When they are leaving alone they may face problems like robbery, rape, murder and harassment.

This research proposed a low cost model which is useful for women. By using this system on right time we can save women by problems they are facing while being alone or apart from their family members.This type of idea is first of its kind and plays a crucial role towards ensuring women's safety in the fastest way possible. They are using a microcontroller device MCU using IoT that communicates with smartphone And Sensors like GPS and GSM are used to identify the location. They are using Ubidots platform for development of android application.

4. **Mr. Vaibhav A. Alone, Asst. Prof. Ashish Manusmare, Asst. Prof. Trupti Bhoskar, "A Study Based on Women Security System", IJSETR, Volume 6, Issue 8, Aug 2017.**

This research proposed an alternative method for women security concerns. Here the system is designed

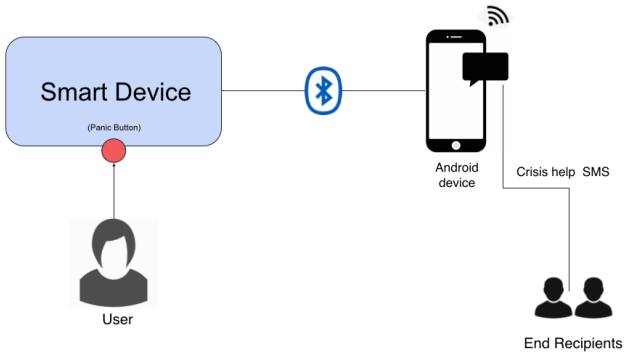

Fig 1: A general system architecture

around Arduino Microcontroller that uses GPS and GSM for better security. In this research an intelligent and advanced women safety is proposed. The paper shows that the system ensures complete women safety during public transport and this system gives self defense to women.It is designed around microcontroller ATMEGA328P and button is pressed manually to indicate any mishappening. As soon as mishappening is detected by the device the same is indicated to controller. Upon receiving the signal the controller gets in action and prepare a message containing location of victim and is transmitted to the relatives. This model is mounted on a single chipset so the device have to work with limited processing power which can overload the system and sometimes lowers the efficiency of the device. Due to this device may have heating problem.

III. PROPOSED ARCHITECTURE

The proposed system is going to work in the following way when caught in the crisis situation women with the wearable device and smartphone connected with each other with bluetooth simply have to press the panic button placed on the device which then activate the device for the further functioning. On pressing the panic button digital signals will get generated with the help of control unit and get converted into analog signals with the help of Arduino mounted on the device. These analog signals then transmitted to the smartphone via Bluetooth.

After receiving the signals sent by the device, application installed in the smartphone is programmed for further processing. In which it includes database connection, real time GPS coordinates fetching and preparing SoS SMS etc… Android application on receiving signal simply prepare the massage with predefined templates including real time GPS coordinates and send it to the emergency contacts saved in the database. Functioning of android application is flexible as message templates and contact list can be updated anytime according to the user needs.

In short the model works as follow, the Smart phone is connected to Smart Device through Bluetooth Low Energy (BLE). Smart Device communicates with the Smartphone via a specially designed API unit collects data from human being using switch. Control Unit collects information from smart device unit. GSM Module will then send the location coordinates and help messages from control unit to the base station from which the messages are forwarded to the relatives if the incident occurs.

IV. PROPOSED SYSTEM

This proposed system is the device which is an integration of multiple hardware devices. This device is continuously connected and communicates with Smartphone via Bluetooth that has GPS and GSM module. Application on Smartphone is programmed and loaded with set of actions to perform afterwards. Signals generated by Smart device transmitted to the application on Smartphone. Application with access to GPS, Bluetooth and Messaging Services preprogrammed to send help request messages and precise location coordinates to relatives and people in

emergency contacts saved in database which can be edited by user using android application according to their needs.

In this device, We're using Arduino chip to accept input and process output because of its numerous advantages like

1)It is cheap.

2)It comes with an open supply hardware feature that permits users to develop their own kit.

3)The software of the Arduino is well-suited with all kinds of in platforms like Windows, Android etc. 4) Ability to process digital signals into analogue ones.

We're using Bluetooth as connectivity medium because of its efficiency, reliability, and cross platform support. We're building this system for Android platform because it's vast majority of users.

V. SYSTEM REQUIREMENT

A) Hardware:

- Smart Phone (With GSM and GPS support)
- Ram: minimum 1GB
- Arduino Nano v3
- Bluetooth 5.0
- Panic Button

B) Software:

- Android Studio
- Global Positioning System(GPS)
- GSM 300
- Android Application acting as an interface between Smartphone and Device.

VI. EXPECTED RESULT

This system is expected to behave in following way: After pressing emergency panic button, immediately signals will be generated. these signals are transferred to android device via Bluetooth.

On receiving signals by the android application, SoS SMS will be prepared with real time location coordinates and send to emergency contacts which are already defined or stored in the database.

VII. CONCLUSION

This research paper is focusing on the minimizing the problems women are facing. This system will help conquering the same problem. There are many alternatives research has been done to tackle same problem but proposed system is more efficient and convenient to use as device is easily accessible and its coordination with android platform makes it even sophisticated.

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A Survey on MARK8 Drone Delivery System for Medicine Delivery

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ABSTRACT

Drones are pilotless aircrafts that were initially used exclusively by the military but are now also used for various scientific purposes, public safety, and in commercial industries. Ordinary drone applications in medicine include the assessments for delivering aid packages, medicines, vaccines, blood and other medical supplies to remote areas with the help of security by using QR Code ; providing safe transport of disease test samples and test kits in areas with high contagion; and potential for providing rapid access to automated external defibrillators for patients in cardiac arrest. Aerial drones of today can be remotely controlled and launched in air using various methods depending on their type.. The rapid delivery of vaccines, medications and supplies right to the source could quash outbreaks of life-threatening communicable diseases.. Drones help provide emergency healthcare to patients from a distance or while mobile In the future, small indoor drones could deliver medicine to the bedside of a patient from the medical, thus eliminating some human steps. Pharmacists can work more efficiently as supplies can be call to the bedside instead of the time- consuming task of gathering necessary items. and our proposed systems include the most efficient and effective algorithms which make it very helpful for delivery medicines for people via drone.

General Terms : Algorithm, disaster recovery, programming, web application

Keywords : Arduino uno, GPS, ultrasonic sensors, GSM module, Python, Video streaming, barcode scanner.

I. INTRODUCTION

Drone use for commercial purposes has gotten much press of late due to different commercial announcing it to use drones to deliver to customers. This is a new idea between life and death. They can transport with many intended and unintended sequences. The future use of drones in medical purpose also is very thought provoking. Well for starters, drones already have been trailed to deliver food aid and medical supplies to areas hit by disaster, such as Haiti, by a start up called Maternity. The rapid delivery of vaccines, medicine, blood and supplies right to the source of life-threatening communicable diseases. Technology, portable shelter comprise the vast list of could be delivered in areas where critical situation. Providing communities with emergency health care is no easy task for communication. Medical professionals from emergency responders and third world workers to time-stressed staffers in hospitals/medical shops face a host of challenges everyday—challenges unmanned aircraft systems, or UAS, can help overcome. Drones make it possible to deliver medicines in emergency situation and people can take care of themselves and other medical supplies to rural areas. Our drone have the ability to reach victims who require immediate

medical attention within minutes, which in some cases could mean the difference medicine within hospital walls and medicines between hospital buildings, as well as give elderly patients tools to support them as they age in place. UAS offer a variety of exciting possibilities to the health care industry, possibilities that help save money as well as lives. Drones are going to decrease the effects on human beings that provide care and decrease the cost of working people. Being able to cross long distances at faster speeds to deliver medicines products is huge benefit. Transporting medicines products between medical shops and home, for example, involves vehicles on the ground that are prone to accidents and delays. Drones can help decrease those incidents. This is why drone helps to transport medicines quickly and improve medical outcomes. This section will discuss some of these attempts and their shortcomings. In the system, Motors, GSM Module, Bluetooth, Arduino UNO, Flight Control, ultrasonic sensor, and battery were used.

II. OBJECTIVE

The main objective is to deliver medicines in emergency situation with help of advance technology. In this technology controlled world, we are trying to help the people getting medicines quickly , this project proposes associate in delivering medicines with the help of QR code.

III. LITERATRE SURVEY

Mrs Wasim Fatima. S, "Unmanned Aerial Vehicles for space exploration", [10 October 2017]

This research paper was proposed for a system which provides the study of space is not only carried out by astronomers with telescopes but also the space exploration of space is conducted both by unmanned drones and human spaceflight. This paper content deals with the role of unmanned aerial vehicles on earth and the future directions for the use of UAVs in space for exploration and observation purpose..

Miroslav Kratky and Jan Farlik, "Countering UAVs – the Mover of Research in Military Technology", [September 2018]

This research paper was proposed for a system of the risk of misuse of UAVs by criminals, guerrillas or terrorists has compelled authorities, scientists and defence industry to face this threat. Organisations have launched crucial infrastructure defence programs to cope with UAV threat. To solve this problem, it is necessary to develop disciplines improving the air space surveillance and UAVs elimination techniques. The substantial aspects of the UAVs detection and elimination were analysed, being supported by a number of conferences, workshops and journals articles. The contribution of the study in the Counter–UAV area consists particularly in generalisation and evaluation of the main technical issues. The aim of this paper is to emphasise the importance of developing new scientific fields for countering UAVs, and hence it is directed firstly on the scientific audience.

S. G. S. Fernando, "CarryMe: Drone Delivery System for Flooded Area", [December 2017]

In this article, "CarryMe" is the drone delivery system which can be used to provide better disaster recovery by resolving these issues. Collision avoidance algorithm, obstacle detection algorithm, video streaming and autopilot are the main functionalities of this implemented system. A flooded area can be identified using a map through the web application of CarryMe and the drone controlling interface which user- friendly and it can serve several people using several drones at the same time.

Guang Yang and Xingqin Lin, "A Telecom Perspective on the Internet of Drones:From LTE-Advanced to 5G".

In this article, they elaborate how the drone ecosystem can benefit from mobile technologies, summarize key capabilities required by drone applications, and

analyse the service requirements on mobile networks. It present field trial results collected in LTE-Advanced networks to gain insights into the capabilities of the current 4G+ networks for connected drones and share our vision on how 5G networks can further support diversified drone applications.

Lawrence G. Muchemi, "An Autonomous Unmanned Aerial Security Surveillance System to Enhance Security in Remote Territories", [December 2017]

In this article, With the use of Unmanned Automated Aerial surveillance vehicles, we can be able to curb the criminals by surveying the security prone territories where it is not safe for a human to go and report in advance. The implication of the study is that it will provide a basis for further development, automation and adoption of UAV in aerial security surveillance and reporting to authorities the information that will be used to raise alarms and enhance security.

Michael K. McCall, "Small Drones for Community-Based Forest Monitoring: An Assessment of Their Feasibility and Potential in Tropical Areas,[24 June 2014]

In this paper they assess: (1) the feasibility of using small, low-cost drones (i.e., remotely piloted aerial vehicles) in CBFM programs; (2) their potential advantages and disadvantages for communities, partner organizations and forest data end-users; and (3) to what extent their utilization, coupled with ground surveys and local ecological knowledge, would improve tropical forest monitoring. Use of small drones can help tropical communities to better manage and conserve their forests whilst benefiting partner organizations, governments and forest data end-users, particularly those engaged in forestry, biodiversity conservation and climate change mitigation projects such as REDD+.

Burchan Aydin and Emre Selvi, "Use of Fire-Extinguishing Balls for a Conceptual System of Drone-Assisted Wildfire Fighting ,[12 February 2019]

This paper examines the potential use of fire extinguishing balls as part of a proposed system, where drone and remote-sensing technologies are utilized cooperatively as a supplement to traditional fire fighting methods. The proposed system consists of (1) scouting unmanned aircraft system (UAS) to detect spot fires and monitor the risk of wildfire approaching a building, fence, and/or fire fighting crew via remote sensing, (2) communication UAS to establish and extend the communication channel between scouting UAS and fire-fighting UAS, and (3) a fire-fighting UAS autonomously traveling to the waypoints to drop fire extinguishing balls (environmental friendly,
heat activated suppressants). This concept is under development through a trans disciplinary multi-institutional project.

IV. PROBLEM STATEMENT

The process of seeking medical attention in remote regions of India should be improved to increase healthcare accessibility. The healthcare system should aim to provide the best and fastest possible medical attention to all people throughout the country while optimizing for cost and time efficiency. However, India's current healthcare system is inefficient and lacks the accessibility of medical services in various regions of the country. By being inefficient, outdated and slow to provide services, the current healthcare system causes distress and un favourable scenarios in remote communities where people are in need of immediate medical attention.

V. PROPOSED SYSTEM

In previous system we are using different drones for different purposed like delivering food in flooded area, delivering medicines in military area. But in this system our drones could deliver medications and supplies to patients being cared for in the home instead of a hospital-based setting. The future will see more outpatient care and even home-based care that used to

be delivered in the hospital. For many emergency situations, smart drone may make it easier and safer to provide this home-based care. When a provider rounds on a home patient, medicines can be drawn and immediately sent by drone to the hospitals to be tested. Emergency treatments like medicines, blood, antibiotics and treatments ordered by the provider may be delivered to the home by drone. This technology may allow more people in nursing homes to receive care at home for a longer period of time, which would increase the independence of the growing boomer population as they age. A drone could deliver a meal to someone who cannot prepare his or her own meals. In this system we are using security with QR code. Unauthorized person cannot access the drone delivering box.

VI. SYSTEM REQUIREMENT

Requirement gathering & analysis

The requirement gathering was done using primary data and secondary data. As primary data interviews were conducted with the Medical emergency medicine delivery Centre. The results of interviews were, current methods like online delivery medicine, walk in and others methods are not possible to reach every area because some areas are inaccessible due to the severe damage is done by the traffic and other issues. Therefore proper method like drone which is very small compared to other delivery methods is the most suitable way to deliver goods in order to rescue humans life was the final conclusion of the interviews. As the secondary data project team went through several research papers. In this, research team researched for existing similar systems and analysed their functionalities, to better understand the methodologies used. Information regarding Obstacle detection, collision avoidance and autopilot techniques of the drone were analysed using existing research as well.

A. Hardware Requirement:

- Arduino UNO
- Propellers
- Brushless Rotor Motors
- Drone Arms
- Gsm module
- Bluetooth
- Power supply
- Sensors .
- Flight controls.

B. Software Requirement:

- Arduino UNO IDE
- Python IDE
- AWS Cloud IOT interface
- Android or IOS Application to connect with the cloud.

UAV software Requirements

VII. SYSTEM ARCHITECTURE

Figure 1 is illustrated the Architecture diagram. It is explained about working of drone. First, customer will placed order from supplier. After order placed supplier will package the order with QR code Encoder for security purpose. No other unauthorized people can access to package or drone. The drone will find smallest route with the help of GSM Module. The transport will find proper destination with the help of map, after arriving the destination the security module will ask for QR Code(Decode).

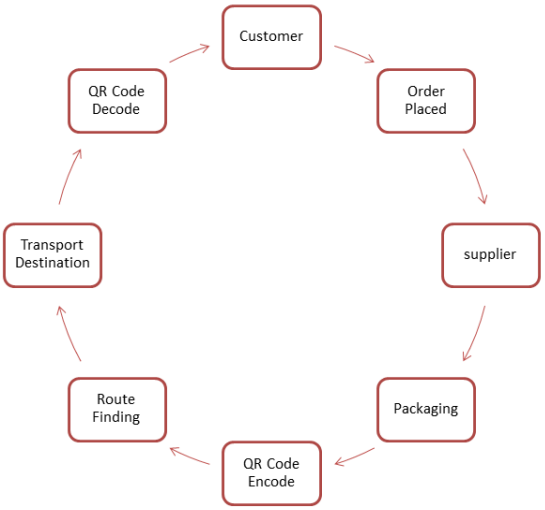
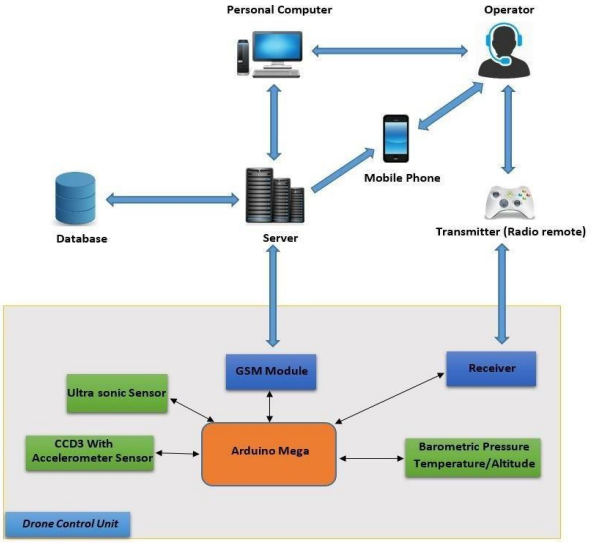


Figure 2 is illustrated the Architecture diagram. It is explained about main relationships between the user and other system components. Operator can access to the web application through the web browser which is at the personal computer. This web application is hosted in separate server. Location details provided to the web application reach the drone control unit through the server. Details related to different drones like videos, good delivery details are gone to the database through the server and whenever operator request these details those are travelled from database to server and finally server to web application which is at the personal computer. Now every detail can be viewed by the user. Like this each and every component is worked together to deliver fully functional system.



a) Obstacle detection and collision avoidance

Onboard sensing and onboard processing power are the factors of limiting the autonomy of the obstacle detection. Hardware setup and processing pipeline is allowed to fully autonomous medicine delivering drone to detect obstacles in almost all directions .3D laser scanner which is capable of providing an omnidirectional view with the spars measurements at a lower frame rate. To overcome this issue, a pair of stereo cameras have connects that is capable of providing additional sparse measurements at high frame rate. To detect the obstacles which have difficulties with detecting and the small in sizes such as tree branches or cables at high frame rates as well as transparent obstacles ultrasonic sensors are used by them. The cost of this product is very high payload system allows various devices to be attached to the drone. The smoke composition of a fire can be communicated using a gas measurement device. It is a greater chance for medicals aware about the situation. Using obstacle detection and collision avoidance technology drone enter the danger zone to consume and thermal image camera can assist in searches for missing persons who are lay down in forests, fields and etc. Obstacle detection and collision avoidance technology becomes an emergency tool for better Transportation during organ delivery and medicine delivery too. As well as a small flying machine can help humans in their daily work. In the object avoidance module, ultrasonic sensors are used to increase detection resolution and sensor data reliability.

b) Video streaming

MARK 8 is able to doing a better video streaming by using this system."Public Spaces Mobile Video Chat" provides a parallel experience using the technology of video streaming. Video streaming, being the best in

navigation creates a very intimate experience with the remote partner. But this can lead to distractions from the real world. For this Probe technology, Video Streaming is used along with the "Shared Geocaching". Issues were raised around privacy, safety, navigation and micro‟ shared experiences.

Drone autopilot system

As an answer to the traditional time consuming and expensive drone delivery system, viable drone based autonomous delivery system was designed and implemented. Full autonomous carry and delivery static route navigation, and single touch point interaction was the main requirement of this system. Autopilot drone Electro-optical identification technology is advanced enough that acts the role of the main control unit in order to control the autopilot system.NAZA-M light flight control system with the GPS module was used to build the overall system. In order to take clear aerial photos 5- M pixel camera was used and the images which were taken from the camera processed with the NDVI technique which is capable of providing the details on the photosynthesis status of rice leaves. This system can be used to evaluate the stress of the plant and the health. Stability and flight time are the issues related to the system which was introduced by them .

c) Arduino technology related to drone

Drone is formally known as Unmanned Arial vehicle . Essentially drone is an aircraft without a human pilot onboard a flying robot. Today most drone systems use Arduino technology because it is easy to use. The most popular and common Arduino board is Arduino Uno. It is a microcontroller board based on the Atmega328. It has 14 input/output pins, 6 analog inputs, 16MHz ceramic resonator, USB connection, power jack and a reset button. It is needs connected to the computer with USB cable or powers it with AC-to-DC adapter to get started. The power source is selected automatically.

VIII. CONCLUSION

The aim of this model is to style and implement the applications of UAVs were reviewed presenting IoT sensors that are essential for the related scenarios and use cases. Considering the drones as IoT devices and the support from emerging technologies such as GSM Module, we analysed the hardware requirements for the corresponding applications and overview solutions for fleet management over aerial networking. The issues related to privacy and security were presented, focusing on users' and drones' privacy. Finally, we proposed a framework that supports and enables these technologies on UAVs, providing advanced security and privacy by incorporating novel vision-based solutions for scene analysis. According to the proposed framework, a hybrid centralized–distributed framework controls UAV flights, handling operations like the registration, identification, ranking, and management of moving objects. As future work, we plan to evaluate the proposed framework, both within laboratory settings and in real-world scenarios, in order to adjust it for context-specific application domains.

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Skin Disease Detection Using Machine Learning

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ABSTRACT

A skin disease is a particular kind of illness caused by bacteria or an infection. These diseases have various unwanted effects on the skin and keep on increasing over time. It becomes important to recognize these diseases at their initial stage to control it from spreading. These diseases are recognize by using many technologies such as image processing, data mining, artificial neural network (ANN) etc. Now a days ,in area of research related to skin disease detection image processing has played a major role and widely used Techniques like segmentation filtering, image pre-processing, feature extraction and edge detection etc. are part of image processing and are used to recognize the part affected by disease. In this project the database is created on the basis of various images which defines particular skin disease. Data can be stored locally or on cloud. Data will be processed by using A.I. libraries; the methods of regression are used to avoid data storage problems such as big data etc. on the basis of given labeled data the software will train, after providing testing data machine will detect diseases.

Keywords- Machine Learning, Color Detection, Pixel Detection, Image Conversion ,Data Comparison, Database Management

I. INTRODUCTION

As we know that one of the most important organ of human body is skin. But sometimes this organ get affected by some reactions, fungal infection, food poisoning, genetic problems, lac of water and mineral level in body, etc. To avoid this problem we always try to care more about skin but sometimes our skin get affected and then problems get started then we will go to the Doctor they try to cure this problem If it get cure then we can say that the treatment for this problem was right. But sometimes the problems related to skin not get cure because of wrong treatment but why it happens?

The reasons are may be as follows- the disease may not get properly detected or the proper medicine was not provided to the patient So we can avoid the first problem of not getting properly detected by using the term called as Machine Learning. Machine Learning will help us to avoid lots of problem in our day to day life and also in medical problems too.

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II. LITERATURE SURVEY

1."Online Children Skin Diseases Diagnosis System"[MAY 2015] Rule based and forward chaining inference engine methods are used to implement this model which is used to identify the skin disease. By using this system, user is allowed to identify children skin diseases via online and provide useful medical suggestions or advice timely. In this system, it consists of diagnosis module, login module, info module, report module and management module. There are two main modules called diagnosis and management module. In the diagnose module questions are asked to the user and on the basis of answers given by the user, Children's symptoms and condition are identified. This system may be an alternative for parents to identify skin diseases of children, in response to the questions about the symptoms and the condition children's skin.

2."An automated system for recognizing disease conditions of human skin" [2016]

In this model, the condition of the skin disease is identified by evaluating skin disease images by using grey normalized symmetrical simultaneous occurrence stencils (GLCM) method. The proposed system is used in an efficient and economical for the automatic recognition of skin diseases. This system is useful for the skin to reduce the error with medical diagnosis. Another is the first test for patients in rural areas, where the good doctors are missing. The system works with relational databases to the storage of implying the need for textual skin images. This system can also work for same type of images directly over feature vectors.

3."Mobile-based Medical Assistance for Diagnosing Different Types of Skin Diseases Using Case-based Reasoning with Image Processing "[2018]

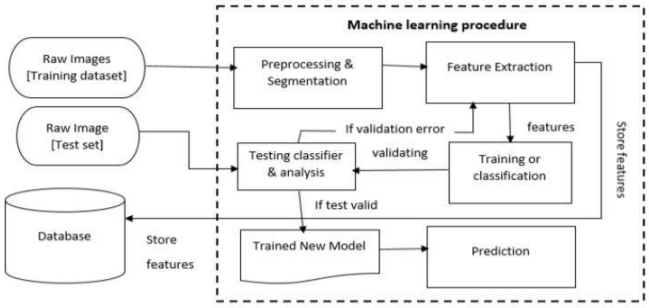
In artificial intelligence (AI), medical field is a recent area for research purpose. This paper implements a mobile based medical assistance which is used for diagnosing skin diseases by the use of CBR and image processing. This model was developed to help users to pre-examine their skin situation whether they have a disease or not. Also to increase the awareness of skin diseases on what it may do to our bodies which will lead to death or infecting other people and have a cure before it gets worse. The proposed system is successfully implemented to detect 6 different skin diseases with an accuracy of 90%. The scale of symptoms, which is used for testing, is 15%, for validation it is 10% and for testing it is 75%. This supervised system identify diseases at the rate of 90% where the unsupervised system detect diseases at the rate of 80%.The detection rate of the sample disease with the other related disease is as follows: Eczema – 88%; Psoriasis – 61%; Acne – 75%; Skin Cancer – 51%; Scabies – 43%; and SeborrheaDermatitis – 34%.

III. PROBLEM STATEMENT

To design a system which can help in skin disease detection in early stages of occurrence. This paper states that using artificial intelligence technology skin disease detection can be done with more accuracy and with loss cost.

Maximum accuracy is obtain by using machine learning technology. Cost reduction and easy processing helps in identification of skin disease at early stages and harmful effects are avoided.

IV. EXISTING SYSTEM ARCHITECTURE



V. EXISTING SYSTEM

In this system, we are considering a train of images that will be obtained from the user and preprocessing and segmentation will be performed on each image. Then feature extraction is done on each image to extract features that can be used to create classification model. With this classification model, system finally can predict the disease for a new image of a skin disease which will be obtained by the user through Android application. And based on this predicted disease, system will ask question from the user and based on answer, system will decide disease type. Finally, our system suggests medical treatment or the advice based on predicted skin disease result. In this system, we are taking into consideration three diseases viz. Eczema, Fungal infection, Urticaria. shows system architecture, which shows the principal processes of the proposed system. In this section, we discuss the proposed methodologies in detail pre-processing is an essential step of detection in order to remove noise such as hair clothing and other artifacts and enhance the quality of original image. The main purpose of this step is to improve the quality of skin image by removing unrelated and surplus parts in the back ground of image for further processing.

VI. SYSTEM REQUIREMENT

Software requirement.

- Python 3.7.
- Jupiter.

Hardware requirement

- Camera.
- RAM more than 4 GB.
- 32/64 bit system.
- Memory more than 512 GB.

VII. RESEARCH METHODOLOGY

To complete the training and testing phase of the algorithm we need to follow some methodology as follows :-

1. Population and Sample:

To train the algorithm we need lots of Image data. That number may be goes in thousands. The all data should be labeled data.

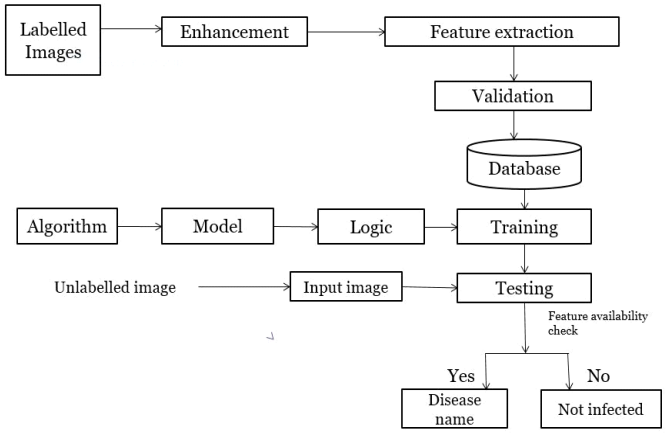
As shown in image.

Fig 1: WHITE SPOT ON SKIN

2. Data and Sources of Data

The required data can be generated by the help of doctors (skin specialist) by getting the images of affected skin of patient. That data will be the labeled data which will provide to the algorithm for training .

VIII. PROPOSED SYSTEM ARCHITECTURE



IX. EXPECTED RESULTS

After performing both the phases of training and testing we can get the result as Disease name.

X. TAXONOMY TABLE

	Disease Detection	Time Efficient	Cost effective	Training capability	Redundancy handling capability	Regression testing	Low error rate
OI children disease detection	✓	✗	✗	✗	✗	✗	✗
Automated sys for disease detection condition of human skin	✓	✗	✗	✗	✗	✗	✗
Mobile based disease detection	✓	✓	✓	✗	✗	✗	✓
Proposed sys	✓	✓	✓	✓	✓	✓	✓

XI. CONCLUSION

The proposed system detects the skin disease by using machine learning technologies and maximum accuracy is obtained.

XII.ACKNOWLEDMENT

We want to acknowledgement Principal. Head of department and guide of our project for all the support and help rendered. We wish to express our profound thanks to all who helped us directly or indirectly in making this paper. We are thankful to our project guide Prof.Chaitanya Bhosale for her valuable guidance. We also wish to thank our HOD. Prof. Pankaj Agarker and Director Dr.M.Z.Shaikh for their kind support.

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A Survey on Smart Goggle for Blind People

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ABSTRACT

Now a days technology is growing up rapidly. We can make use of technology in our day to day life. If we use technology for blind people then they can perform their day to day activities with ease. We are preparing smart goggle which will improve the life of visually impaired people by helping them in moving from one position to another. We are using two technologies namely IOT and Machine Learning .We are making IOT device which has headphones. It will detect which object is present in front of blind person and the distance of that object from person. It will not only give information about object present in front of him/her but also it will detect the object present at depth like stairs and pot holes. It will calibrate height of person and depth of the obstacle present below the feet. This information will be collected and passed via headphones. We are using sensor, which will be placed on the Arduino UNO and NANO which has all application of machine learning over it. Machine Learning for processing the overall data and information about the obstacle present.

Keywords: Arduino Board, Ultrasonic Sensor, Gy-521 MPU-6050, Pit, Machine Learning.

I. INTRODUCTION

Physically impaired people are those people who are not able to identify the obstacle present in their way. They may be totally blind or partially blind. As they cannot see the obstacle, communication and day to day activities are highly affected. They cannot perform the work easily, so we are preparing a device that will help them to detect obstacle for proper movement.

According to 2011 survey, there are 285 million blind people all over the world out of which 39 million people are completely blind and 246 million are partially blind. The necessity of eye donation is 40000 but the availability is only 8000. So there is big difference in need and availability. In order to overcome this problem, there is need to develop a modern technology like IOT and Machine Learning to improve the life of blind person by detecting obstacle presenting in the way. The project aim at implementing technologies like IOT and Machine Learning in preparing smart goggles. These goggles consists of sensors which detect the obstacles in direction like right, left, front, upward and downward (senses the pit) on the road. These goggles not only find the obstacles but also give the distance of that obstacle from person. The information about obstacles is provided to blind person as output in the form of voice through headphones. Thus, main objective is to prepare a goggle with low price, reduced size, reliable and it will improve the quality of life of visually impaired people.

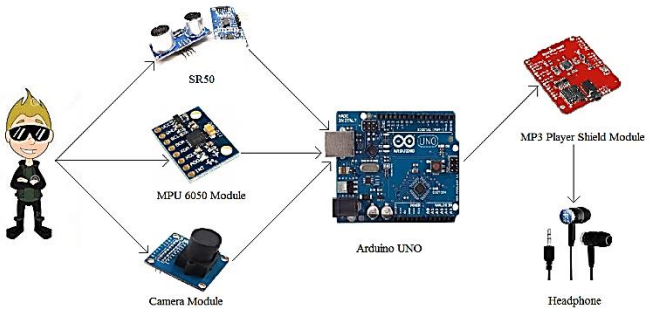

Fig 1 : Structure of Smart Goggle

II. LITERATURE SURVEY

Kote Shubham (2017) [2] have designed a smart glass whose objective is to give users the confidence to move around in unfamiliar environment. This system detects obstacle using Android App. The advantage about this system is it provides high detection rate on selected surrounding. The disadvantage about this system is, it is not having powerful camera to captured images. For using this system the basic knowledge about Android application is must, so use of this device has some limitations. This system could be advanced with GPS System and powerful camera.

Mohamedarif Regade (2019) [1] proposed the system that makes the effective product by using latest technology like supersonic waves, GSM, GPS which will help user to walk straight on corridor in an internal atmosphere. Visually impaired person can make use of this stick for making himself comfortable with surrounding. But disadvantage about the stick is it may not properly work in slippery floor and fireplace. It is not handy in nature. This system could be enhanced by using programmable wheels which will steer the stick off from the obstacle.

R Mohanapriya (2016) [5] worked on development of a glass which involves technique like image acquisition, feature extraction, feature matching, pattern recognition and template matching. It will result in detecting moving vehicle on the road and traffic signal and informing user through audio commands. The advantage about this system is, it is capable of detecting vehicles on the road in order to make person aware about the vehicles on the road in the traffic area. The disadvantage of this system is that is not having any module for depth detection, so the depth will not be calculated properly. In future, we can add GPS module to detect the place.

Jingiang Bai (2015) [6] has developed a glass to overcome the travelling difficulty for visually impaired people. They use depth sensor and ultrasonic sensor for detecting obstacles. The advantage about this system is it will help them to move safely and efficiently in complicated indoor environment. Sensor used in this device are simple and with low cost. They have used depth camera for calculating depth. But the disadvantage is depth will not be calculated properly if the image captured is not clear.

Ankita Bhuniya (2017) [3] developed a system which can detect obstacles in five direction (front, right, left, back , below). The advantage about this system is having multilingual audio feedback system which uses 10 language based audio feedback system so that it can be comfortably used by people all over the globe. The disadvantage about this system is it will be not be useful for deaf person.

Esra Ali Hassan el At (2017) [4] developed a glass for visually impaired people using low cost bard raspberry pi 2 and camera. The advantage about this system is it is chip as compared to other device. These glasses are designed for recognition of text. It is especially designed for the enhancing the reading capability of a blind person. The disadvantage- it is not able to find the distance of obstacle from a person. However if we add different modules to the system then more features can be added to it.

III. CONCLUSION

This paper presents a survey on device for visually impaired people, which will enhance their life by helping them for movement in surrounding. We have made survey about different devices which are used for physically impaired people. Many devices are available which will improve the life of blind person. This paper contains survey about different devices like smart glasses, smart assistances system, smart stick which will provide functionalities like obstacle detection, image capturing, depth measurement, vehicle detection, multilingual audio feedback system, text recognition etc. We are studying all the features of available devices to produce a device which will provide multiple functionalities at same place.

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Survey on Movable Road Divider for Organized Vehicular Traffic Control with Monitoring Over Internet of Things (IOT)

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ABSTRACT

Our intention is to formulate a mechanism of automated avenue divider that could shift lanes, so that we can have quantity of lanes within the direction of the frenzy. The cumulative impact of the time and fuel that can be saved with the aid of including even one more lane to the course of the frenzy can be tremendous. With the smarter planet application proposed underneath, we will additionally eliminate the dependency on manual intervention and guide visitor's coordination in order that we can have a smarter visitors everywhere in the city. An automated road divider can offer a solution to the above mentioned problem efficaciously. Right here Low, Medium and high density of site visitor's price will be published on IOT server as a graph. Also right here we are detecting ambulance. If ambulance detects ship facts wirelessly via RF. that time best one sign goes inexperienced.

Keywords : Internet of Things, smarter visitors, Arduino Uno microcontroller

I. INTRODUCTION

A consistent boom in metro-metropolis populace, the wide variety of automobiles and automobiles will increase unexpectedly and metro visitors is growing crowded which results in the traffic jam hassle. This proposed gadget will have effective role to avoid the site visitor's jam.

A: under regular conditions, visitors indicators manipulate particularly has defects:

Whilst the site visitor's lane waits until the inexperienced light, time placing is sort of same and fixed. A-avenue changed into always crowded with automobiles and move-beforehand time is brief. So, motors can't skip thru in the time allowed. However sub lane has few automobiles and move-in advance time is noticeably lengthy.

Emergency motors aren't taken into consideration. (as an instance, fire engines and ambulances have priority over other visitors. The two lanes must both wait them to pass via.) because the site visitors mild manage gadget is loss of emergency measures, the crossroads usually meets a visitors jam and results in needless financial losses.

B: Heavy visitors Jams

With increasing variety of cars on street, heavy traffic congestion has extensively expanded in

important towns. This occurred normally at the principle junctions generally inside the morning, before workplace hour and inside the evening, after office hours. The principle effect of this matter is multiplied time wasting of the human beings on the street. The answer for this problem is by way of developing the program which specific setting delays for one-of-a-kind junctions. The put off for junctions which have high quantity of traffic have to be putting longer than the postpone for the junction that has low of visitors. This operation is calling regular Mode.

II. OBJECTIVE

- Resolve the traffic congestion problem
- Pave the way to emergency vehicle
- Locate the signal violators

III. III. LITERATURE SURVEY

Here we discussed the literature review of existing techniques:

Hemlata Dalmia, Kareddy Damini, Aravind Goud Nakka [1] Implementation of Movable Road Divider using Internet of Things (IOT) The purpose of using road divider is to separating the two ways of traffic i.e. ongoing and incoming vehicles in the traffic. With growing population, the vehicles used per family increases, but there is limitation in resources and leads to more number of cars on roads. In that case static road divider fixes the number of road lines on either side of road. This invites the better usage of available resources. In most of the cities, there are areas like industrial and shopping places where traffic flows only in one direction both in morning as well as in evening. In the peak hours, most of the time one road side is unutilized. It causes time loss of public and traffic jams.

B Durga Sri1, K Nirosha1, Sheik Gouse1 [2], Design and Implementation of Smart Movable Road Divider using IOT Road Divider is generically used for dividing the Road for ongoing and incoming traffic. This helps keeping the flow of traffic. Generally, there is equal number of lanes for both ongoing and incoming traffic. For example, in any city, there is industrial area or shopping area where the traffic generally flows in one direction in the morning or evening. The other side of Road divider is mostly either empty or under- utilized. This is true for peak morning and evening hours. This result in loss of time for the car owners, traffic jams as well as underutilization of available resources.

Andreas Geiger and Martin Lauer [3], A Generative Model for 3D Urban Scene Understanding from Movable Platforms 3D scene understanding is key for the success of applications such as autonomous driving and robot navigation. However, existing approaches produce a mild level of understanding, e.g., segmentation, object detection, or are not accurate enough for these applications, e.g., 3D pop-ups. In this paper we propose a principled generative model of 3D urban scenes that takes into account dependencies between static and dynamic features. We derive a reversible jump MCMC scheme that is able to infer the geometric (e.g., street orientation) and topological (e.g., number of intersecting streets) properties of the scene layout, as well as the semantic activities occurring in the scene, e.g., traffic situations at an intersection.

Advait Kawle, Dhruv Shah, Kavin Doshi, Manish Bakhtiani, Yash Gajja, Pratibha Singh, [4] Movable Traffic Divider: A Congestion Release Strategy
In recent years, with an ever increasing rate of development in metro cities around the world, there has been proportional increase in numbers of automobiles on the roads. Although the number of vehicles using the roads has increased, the static road infrastructure is almost the same and is unable to cope with changes like congestion, unpredictable travel-time delays and road-accidents that are taking a serious shape. Traffic congestion has been one of the

major concerns faced by the metropolitan cities today in spite of measures being taken to mitigate and reduce it. It has emerged as one of the main challenge for developers in urban areas for planning of sustainable cities.

Mohammad Shahab Uddin, Ayon Kumar Das, Md. Abu Taleb [5] Real-time Area Based Traffic Density Estimation by Image Processing for Traffic Signal Control System: Bangladesh Perspective.

Traffic congestion is a daily occurrence in most urban areas of Bangladesh now a day. In the last 10 years the scenario has worsen due to rapid increase of vehicles and insufficient roads to accommodate them. This paper describes a method of real time area based traffic density estimation using image processing for intelligent traffic control system. Area occupied by the edges of vehicles will be considered to estimate vehicles density. Calculating the areas of different live roads, the system will automatically estimate the traffic density of each road which will help to determine the duration of each traffic light. An intelligent traffic signal control system with the proposed traffic density estimation technique will be far better than the conventional timer based system of Bangladesh.

R. Bhargavi Devi, D. Kavya Reddy, Density Based Traffic Signal System Using Arduino Uno [6]

Present era controlling traffic became very arduous because of increase in the automobiles such as cars, bikes, etc. Due to this, there is a longer time delays in the signalling systems. In order to overcome this problem, we have designed the density based traffic signal with a delay of 1000ms to control the traffic based on density at the crossings or four-side lane or roads system using Arduino Uno ATMega 328P.

Mario Collotta, Giovanni Pau, Gianfranco Scatà, and Tiziana Campisi [7] A Dynamic Traffic Light Management System Based On Wireless Sensor Networks For The Reduction Of The Red-Light Running Phenomenon.

The real-time knowledge of information concerning traffic light junctions represents a valid solution to congestion problems with the main aim to reduce, as much as possible, accidents. The Red Light Running (RLR) is a behavioural phenomenon that occurs when the driver must to choose to cross (or not) the road when the traffic light changes from green to yellow. Most of the time the drivers cross even during transitions from yellow to red and, as a consequence, the possibility of accidents increases. This often occurs because the drivers wait too much in the traffic light queue as a consequence of the fact that the traffic light is not well balanced. In this paper we propose a technique that, based on information gathered through a wireless sensor network, dynamically processes green times in a traffic light of an isolated intersection. The main aim is to optimise the waiting time in the queue and, as a consequence, reduce the RLR phenomenon occurrence.

The overall finding of the above discussion is given below as Table-2

IV. COMPARATIVE ANALYSIS OF THE SYSTEMS

Sr. No.	Author and Paper Title	Publication Details	Work Carried Out So Far	Draw Backs
1	T Naga Raju K RajSekhar Smart Traffic Light Control System for Emergency and Detection of Stolen Vehicles "	International Journal of Advanced Research in Science, Engineering and Technology Vol. 1, Issue 5 , December 2014	RFID concept is used to make green for the Ambulances lane and thus providing a stoppage free way for the Ambulance	SMS can be used to make the alert on mobile.
2	Sabhijiit Singh Sandhu Naman Jain Aditya Gaurav "Agent Based Intelligent Traffic Management System for Smart Cities"	International Journal of Smart Home Vol. 9, No. 12, (2015)	This technique only requires the use of just one physical component (a camera) and everything else is software based, thereby saving setup cost as well as time otherwise spent in installation.	Image processing technology is used here which can give the misleading results if the road scanned is having garbage.
3	Oladipo Onaolapo Francisca "Design and Simulation of Intelligent Traffic Control System"	IIJAET International Journal of Advances in Engineering and Technilogy, November 2015	Designed system for Intelligent traffic control based upon the the number of vehicles at the traffic signal Feature use: SSADM and Fuzzy logic control system	Overhead of Complex technology. System designed only for specific traffic signal patterns such as crossroads "+".

V. PROPOSED SYSTEM

Traditional road dividers have a fixed position and are highly inefficient during peak hours. This leads to chaos and confusion among the commuters which leads to delay in travelling time. Often during peak hours the traffic in one direction is way more than that coming from the opposite direction, while the number of lanes available to both sides remains the same. A solution to this problem is to make the road divider movable. To do this, earlier zipper machines [5] were used, which transfer the movable barrier from one lane to the adjacent one. But this prototype mechanism is automatic.

Our Proposed system will move the road divider using DC motor. The dividers will be analogous to the dividers used with zipper machines but instead of these dividers being moved by the machine we will use an embedded system which will control the moment of the dividers. The dividers will shift according to the signals sent to the embedded system by the system administrator. This will be done by using a IOT module, a database will be configured and

when updated and the data is sent to the embedded system will change the state of the divider. Along with a database, the cloud will also contain a log which will contain the history of states of the barrier system over time. This cloud can be accessed through any portal that supports cloud computing i.e. any web based platform or application. A User Interface will contain a login form which will authenticate the administrator and grant access to the database that will contain information related to the system.

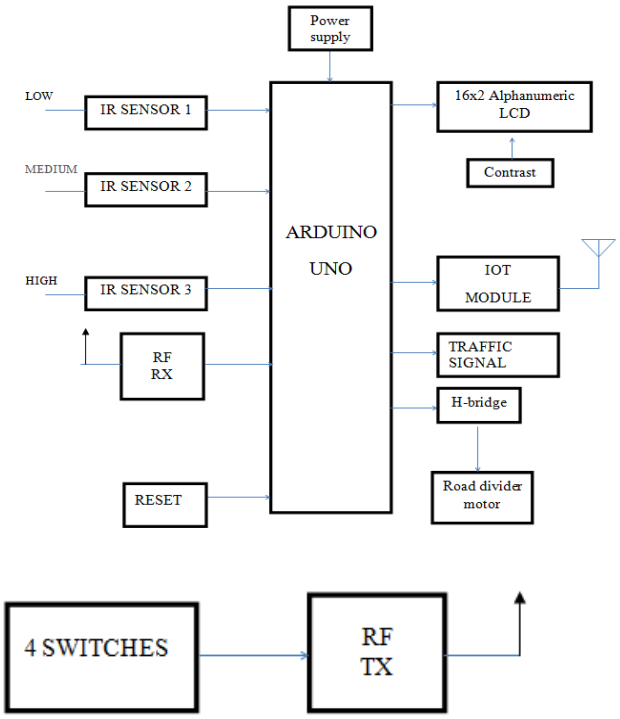

Fig 1. Block Diagram

VI. CONCLUSION

We examine the in this challenge we added sensor based totally technology for visitors control. We finish that it provides effective answer to improve existing device with the new smart site visitors light controller. The technique of vehicle detection and counting from a IR sensor has been carried out the use of ARDUINO improvement board and Arduino Uno microcontroller. similarly change within the algorithm can improve the device accuracy. Proposed machine can have wider destiny scope. That consumer can get site visitors facts on pc or laptop.

VII. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on "Survey on Movable Road Divider for Organized Vehicular Traffic Control with Monitoring over Internet of Things (IOT)". We would like to take this opportunity to thank Prof. Pankaj Agarkar, Head of Computer Engineering Department, Dr. M. Z. Shaikh, Principal DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. E B Khedkar, Director DYPTC who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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Survey on Fingerprint Based Driving License

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ABSTRACT

At present era in our country there are so many people who are not having their original driving license with them. Some of the people are maintaining fake license, due to this the ratio of accidents increasing day to day. The proposed approach of data mining can be helpful for getting the original documents online basis based on fingerprint. In order to avoid this kind of problems the project is proposed to provide driving license verification system using fingerprint reader. finger prints of the user will be taken and their respective details like license identification number, photo, adhaar card number are maintain along with the driving license database. The officers want to check the driving license of vehicles; the verification system is used to authentication liability of the vehicle user license.

Keywords : Fingerprint, Biomatric Authentication, License, Safe Driving.

I. INTRODUCTION

The fingerprint based driving license techniques that can provide the important functions required by advanced intelligent Car Security, to avoid vehicle theft and protect the usage of unauthenticated users. Secured and safety environment system for automobile users and also key points for the investigators can easily find out the hijackers image. We can predict the theft by using this system in our day to day life. This will help to reduce the complexity and improve security. The details of the persons are collected and are stored in IOT. The fingerprint sensor is used to detect the finger print of a particular person. When a person keeps his/her finger on the finger print sensor, it will automatically detect the details of the person including license and also its expiry date. So it will surely reduce the discomfort of a person carrying license and other details along with them. By this concept the police involving in corruption can also be identified. Suppose if a Person forgets to bring his/her license or insurance or their documents got expired, then the person will receive the fine amount they have to pay in the form of message. If a centralized organization is made for collecting the fine amount, then the person must pay the fine amount at that organization and not to the traffic police. The main objective of the project is to prevent non-license citizens from driving and causing accidents, a new system is proposed. An important and very reliable human identification method is finger print identification. Finger print identification is one of the most popular and reliable personal biometric identification methods. In this project we have developed the citizen's account attached with the their license for payment of penalty charges of traffic rule breaking as well as the citizens are able to check their account details or penalty details with the help of user id and password provided by the RTO. Whenever citizen break rules, the applicable charges of rule will be sent on citizens registered mobile number using SMS. OTP will be sent to citizen to

confirm further payment process. The information about citizen is stored online on server and citizen can have access to their account on the website of RTO. Citizen will get message on registered mobile number about insufficient balance on their account.

II. RELATED WORK

Literatur Review:

We have gone through these following papers.

1. In this paper fingerprint authorization based license checking system for auto-mobile made by ``Ajay Shankar patil, sayli adesh patil, "(international journal on recent and innovation trends in computing and communication April 2016)
2. In this paper presents the designing of finger print identification in cars to avoid car theft using GSM and FPGA. made by "M.Vijay Kumar, S.Ranjith Kumar" (Fingerprint Based Licensing System for Driving" International Journal of Advanced Research in Computer and Communication Engineering Vol. 3, Issue 9, September 2014)
3. In this paper one of the most important tasks considering an automatic fingerprint recognition system is the ridges biometric pattern extraction from the captured image of the fingerprint. Made by " Mubin Shaikh, Azhar_Hakim"(Biometric_E-licence International Research Journal of Engineering and Technology (IRJET) Volume: 05 Issue: 01 Jan-2018)
4. In this paper The Bio-metric technology is an ultimate security method due to their uniqueness.Made by "G Santhosha, B Santosh Kumar" (SECURE DRIVING SYSTEM BASEDON_FINGERPRINT DETECTION)

III. RESULTS AND DISCUSSION

In important human identification method is fingerprint identification. No Two person can have same arrangement of ridge patterns and patterns of any individual remains unchanged throughout his life Whenever the officers want to check the driving license of vehicle users, the verification system is used to authenticate liability of the vehicle user license and Vehicle documents also at the time of vehicle registration the aadhar card and photo id need to be carry out that means our Biometrics its be connected to vehicle registration. It's easy to gathers to validate the Vehicle document also. Existing RTO offices didn't have systematic driving license verification system so this proposed system helps to gather original documents also. During The Enrolment Phase, The Fingerprint Sensor Scans The User's Fingerprint And Converts It Into A Digital Image Or Template.

IV. CONCLUSION

The designed for driving license verification purpose based fingerprint authentication. This system can be utilized for multiple applications during driving license verification, fake licenses detection, reducing the accidents and crime rate, maintain the database of employees working at offices, multiplexes, etc

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Smart and Integrated Crop Disease Identification System

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ABSTRACT

Farming is the main occupation of large Indian people. To main objective of the farmer is to increase the productivity of the farm. The environmental factors or product resource, such as temperature, humidity, water supply, labor and electrical costs are important. However, above all, crop disease is the grave factor and causes some amount of reduction of the productivity in case of its exposure. Thus, the disease of the crop is much more important factor affecting the productivity of the crops. Therefore, the farmer focuses on the cause of the disease in the crops during its growth, but it is not easy to identify the disease on the spot. Until now, they just relied on the opinion of the experts or their own experiences when the disease is suspicious. However, it triggers a decrease in productivity as no taking correct action and time. In this paper, to find solution of this problem we provide the mechanism, which analyses the images of the crop and checking the condition of soil simultaneously checking the condition of humidity and temperature. Integrating the output of this three unit according to that predict the disease. Whenever disease is identified inform to farmer then farmer take the appropriate action against the disease and overcome the losses.

Keywords : Crop Disease, Identification System, , Camera Module, Soil Sensor, Humidity and Temperature Sensor

I. INTRODUCTION

A. Domain: IOT

The Internet of Things is a system of connect to one another computing devices, mechanical and digital machine, objective, people that are provided with unique Identifiers and the ability to transfer data overall a network without requiring human to human or human to computer interact with each others. The definition of IOT as developed due to convergence of multiple technologies, real time analytics, machine learning sensor, and embedded systems. Traditional fields of embedded systems, wireless sensor network, control systems, automation and others all contribute to enabling the Internet of Things. In consumer market, IOT technology is most similar with products pertaining to the concept of “Smart Home”, covering devices (Such as lighting fixtures, home security systems and cameras, and other home appliances) that support one or more common echo systems and can be controlled via devices associated with that ecosystem, such as smart phones and smart speakers.

II. LITERATURE SURVEY

1. Mrs Jagdish Kashinath Kamble, "Plant Disease detector", [Feb 8-9-2018]

This research paper was proposed for a system which provides fast, efficient, cost effective solution to farmer for detecting plant diseases. Automatic and fast detection of plant disease was main motivation behind this system. Plant disease detected through image processing technique, mobile application is developed for user interface therefore it is easy to use and inexpensive.

2. Hyeon Park, Eun Jeesook, se-Han Kim "Crop Disease Diagnosing Using Image Based Deep Learning Mechanism" [2018]

This research paper was proposed for a system which classifies the healthy and disease crop, it captures the image of fruits, leave or stem and send it to analyze engine, and analysis is done by using CNN (Conventional Neural Network), it analyze the image and classify crops according to condition and analyzed result is send to farmer who requires the decision. And diagnosis of the diseases is done with data set images using deep learning. It performs the accuracy for classification, therefore it increases the productivity.

3. Leninisha Shanmugam, Agasta Adline, Aishwarya N, Krithika G. "Disease Detection In crop using remote sensing image" [2017]

This research paper is proposed for diseases detection using remote sensing image. This system is used when the area of agriculture is high and regular attention is not possible, the purpose of this system is to find and fix the diseases before the disease grows from the bottom to the upper layer. This system is done with two phase.

1st It extracts threshold value of image, and then identifies diseases using canny edge detection algorithm and histogram analysis.

4. Er.Rupinder Kaur, Raghu Garg, Dr.Himanshu Aggrwal. "Big Data Analytics Framework to Identify Crop Disease and Recommendation a Solution" [2015]

This research paper is proposing a system which analyze the image of crop and find diseases according to symptoms and takes appropriate action against diseases, it is all done with the help of big data that is huge amount of data, to accomplish this object hadoop and hive tools has been used. The data is collected, cleansed and normalized. It finds the disease name based on symptoms and finds solution from historical data.

III. PROBLEM STATEMENT

Crop diseases hamper the growth of crop to overcome the crop diseases, using this system find the solution for Crop diseases. This paper focuses on identifying diseases of crop as early as possible, fast, ease and overcome the loss and improve the productivity of farmer. This system has been design in manner that it predict the diseases considering the all parts of agriculture.

IV. PROPOSED ARCHITECTURE

Primary motive of identifying crop disease and find out solution for disease. To find out whether the crop is diseased or not or healthy. We are going to developed crop disease identification. predict the diseases by integrating the result of following three component:

1. Image preprocessing- In this we will capture the image by using REESJ2 math works. For this, different preprocessing used.

- Image Clipping- Cropping the crop image to get interested region.
- Image Smoothing- It is done by smoothing filter.
- Image enhancement- Used for increasing the contrast.

2. Soil condition- In this we will check the condition of soil using the OLtus sensor.
3. Humidity and temperature condition-In this we will check the humidity and temperature condition using DHT-11 sensor.

Integrating three output of this three unit and checking previous data stored in cloud according to that predict disease.

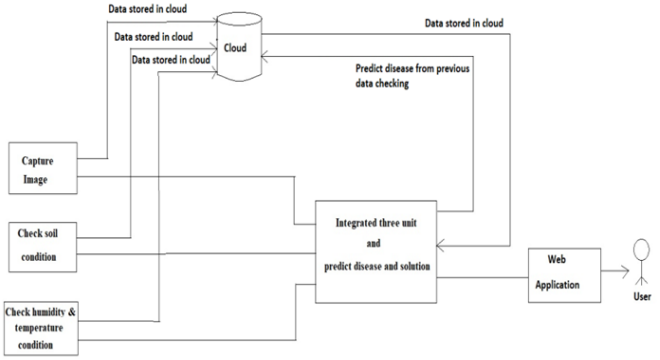

Fig.1 Architecture of proposed system

V. PROPOSED SYSTEM

In previous system we are using different devices to check temperature, soil moisture, etc. But in this system we are using soil sensor, temperature and humidity sensor and Image processing in one single unit, so there is no need to use different devices. Soil sensor will sense the moisture level in soil, Humidity and Temperature sensor will sense the humidity and atmospheric temperature respectively and image of crop. Collectively input will be taken from sensor and output will be displayed on web application. Output will be generated by comparing it with previously available data.

In this system we are using Arduino board for mounting the different sensors on it. The result from different sensors will be combined by the Arduino board and compare it with previously available data to generate desired output, and send output to user interface through web application.

VI. SYSTEM REQUIREMENTS

A. Hardware Requirement

- Arduino UNO
- Arduino MKR GSM14000
- SORACOM Air global IOT sim
- MKR Shield
- DHT-11 Temperature and Humidity Module
- UV light module
- Soil sensor
- Camera module
- GSM module
- Arduino MKR 1000 WIFI
- Log-scale Analog Light sensor(Ga1a12s202)
- Relay module
- Resistors/pushbuttons

B. Software Requirement

- Azure cloud IOT interface
- Machine learning datasets and Triplet program for identifying objects
- Android application to connect with cloud
- Scikit Learn
- Tensrflow

VII. EXPECTED RESULT

Previously, different devices were used to detect diseases. These devices includes image sensor, soil sensor, temperature and humidity sensor. The following diagram shows the working of different devices used for disease prediction.

Fig.2 Image Processing

Fig.3 Soil Sensor

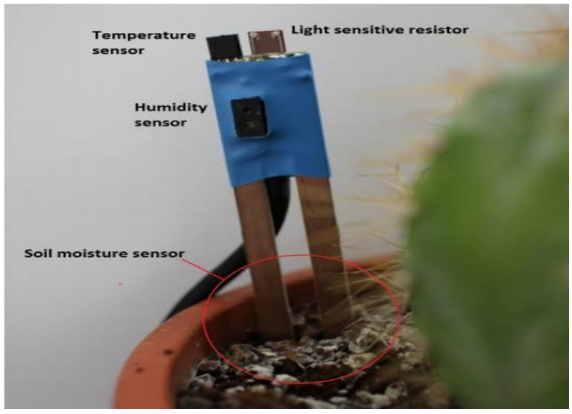

Fig.4 Temperature and Humidity Sensor

Fig. 2 shows the image processing.
Fig. 3 shows the soil sensing.
Fig. 4 shows the temperature and humidity sensing.

There is no single device to detect disease by considering all the agricultural factor, therefore we are preparing device which has all the features which are needed for disease prediction.

VIII. CONCLUSION

Detecting the diseases is main purpose of this system. There is main characteristics of disease detection are help to farmers with speed and accuracy using Internet Of Things (IOT). Thus we will prepare a device which can detect diseases by combining output from soil sensor, Temperature sensor and comparing it with previously available data.

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Government Fund Distribution and Tracking System

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ABSTRACT

A blockchain, originally block chain, is a growing list of records, called blocks, that are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data. By design, a blockchain is resistant to modification of the data. In this we propose a system to track funds allocated to the government as they travel through the government process at each stage. This system uses block-chain technology to maintain the transparency & security at every stage as the funds move ahead. This system allows o maintain the crystal-clear record with all users who are connected in the chain to transaction the data on a need to know basis. The system makes use of encryption to secure transactional data using hash values to maintain a block of transactions in a chain manner which is maintained & verified by every node involved to verify the transaction and save the data in a transparent form within the government. The system allows for a full proof, secure & authentic fund allocation & fund tracking system help to form an incorruptible government procedure.

Keywords : Blockchain, Security, Transparency, Encryption, Government Funds, Cryptography.

I. INTRODUCTION

Blockchain is touted for its potential to improve the trust and transparency of data- based transactions between individuals and organizations. The technology offers promise when strategically applied in the right contexts. But what are the conditions under which blockchain makes sense and how might the technology be useful when applied in government? Traditionally, organizations operating their own, individual IT systems seeking to collaborate must reckon with challenges including reconciliation of information, identifying a single source of truth, and facilitating accountability. Blockchain technology addresses these challenges by providing a technical foundation that supports the execution of shared business processes in a way that no single entity controls the entire system. Government has an inherent need to build, sustain, and protect public trust in information and systems. In some situations, blockchain may help enhance this trust. Traditional relational database management solutions (e.g. Oracle and SQL), deployed globally across millions of applications, have one major operational constraint – the management of data is performed by a few entities who must be trusted. Distributed Ledger Technologies (DLT, commonly referred to as blockchain), an alternative architectural approach to managing data, and removes the need for a trusted authority to store and share a perpetually growing set of data. A

foundational characteristic of a blockchain is trust. Blockchain have digital signatures and use keys to authorize and check transactions and positively identify the initiator. Once recorded to the chain, a blockchain record cannot be deleted or manipulated. New blocks may only be appended to the chain, ensuring data integrity and creating a verifiable audit trail where the shared ledger provides visibility to all participants, simultaneously. Additionally, data elements can be individually permissioned, so participants see only appropriate transactions. Applications managed by a single entity would typically not benefit from using blockchain technology.

As the name connotes, blockchain is a chain of blocks. Each block represents a record or set of data, that is linked to others with cryptography. Each block contains some accessible information to provide public knowledge about the action, time, or some other feature of the record, creating a public transcript of how the information develops, known as a "ledger." As transactions enter a blockchain system, a consensus model is employed to determine which next set of valid transactions, or block, should be appended to the ledger. Because consensus is established over a distributed network for nodes, there is no central authority that governs the validation and inclusion of new transaction data. As most blockchain software is open source, the rules that adjudicate the blocks and included transaction data are available for review. For public blockchain systems, the data itself is available for direct observation by anyone who cares to access it. This makes open blockchain datasets perceived of as more reliable to a greater number of users.

II. Motivation

Usually when a project is allocated funds, there is no knowledge as to how these funds are being used and a large part of itis never showing records due to corruption. To solve this problem, a system has been proposed using Blockchain to provide the transparency.

- A major hurdle that the top government faces is the low-level corruption that is sometimes impossible to track which deprives the state progress.
- Blockchain technology is an upcoming technology and said to be one of the most promising technologies which would revolutionize the world.

III. Related Work

Literature survey is the most important step in any kind of research. Before start developing, we need to study the previous papers of our domain which we are working and on the basis of study we can predict or generate the drawback and start working with the reference of previous papers.

In this section, we briefly review the related work on Government Fund Tracking System using Block-chain Technology.

In this paper, the author proposes an innovative blockchain-based IIoT architecture to help build a more secure and reliable IIoT system. By analyzing the short-comings of the existing IIoT architecture and the advantages of the Block-chain technology. We decompose and reorganize the original IIoT architecture to form a new, multi-center, partially decentralized architecture. Thus, the proposed architecture represents a significant improvement of the original architecture, which provides a new direction for the IIoT development.[1]

This paper provides, through its methodology, a detailed analysis of the block-chain fit in the supply chain industry. It defines the specific elements of block-chain that affect supply chain such as scalability,

performance, consensus mechanism, privacy considerations, location proof & cost.[2]

Data mining framework for prevention & detection of financial statement fraud in this study. These informative variables are being use for implementing association rule mining for prevention & three predictive mining techniques namely K-means, Multi-Level Feed Forward Network, Genetic programming for detection of financial fraud. This research is able to prevent fraudulent financial reporting & identify it if management of the organization is capable of perpetrating financial statement fraud despite the presence of anti-fraud environment. [3]

Data mining framework for avoidance & revealing of financial statement fraud in this study. The framework used in this research follow the conventional flow of data mining. These useful variables are being used for implementing association rule mining for prevention and three predictive mining techniques namely K-means, Multi-Level Feed Forward Network, Genetic programming for detection of financial fraud.[4]

In this paper, the author proposes a block-chain enable well-organized data collection and secure sharing scheme combining Ethereum block-chain and deep reinforcement-learning (DRL) to create a reliable and safe environment. In this scheme, DRL is used to attain the highest amount of collected data, &the block-chain technology is used to guarantee safety & reliability of data sharing.[5]

Blockchain is characterized by its decentralized nature, integrity of the data stored in the chain and its openness. Due to these characteristics, another place where Blockchain can be used is to release government funds for a project. Usually when a project is allocated funds, there is no knowledge as to how these funds are being used and a large part of it is never shown in records due to corruption. To solve this problem, a system has been proposed using Blockchain to provide the transparency.[6]

In this paper, an universal adaptive fuzzy control scheme via output tracking error feedback has been proposed for practical output tracking of a class of uncertain nonlinear systems with unmeasurable states and completely unknown dynamics including parametric and/or structural uncertainties and external disturbances. The proposed scheme provides a powerful tool for target tracking of unmanned vehicles, missiles, mobile robots, etc., whenever only tracking error (discrepancy) can be available. [7]

This paper describes a method for combining user knowledge with automatically generated rules. The performance did in some cases provide better results but overall the improvement was not significant, this may be because of the strategies that were tested. Another observation that is made from these results is that although there was some variation in the performance with respect to returns, the risk-adjusted performance was much more stable.[8]

In this paper, we propose a product traceability system based on blockchain technology, in which all product transferring histories are perpetually recorded in a distributed ledger by using smart contracts and a chain is formed that can trace back to the source of the products. Our system has obvious decentralized characteristics, which significantly reduces the possibility of privately tampering with data within enterprises. our system is characterized by data accessibility, tamper proofing, and resistance to man-in-the-middle attacks. [9]

This paper proposed a new information sharing scheme based on blockchain technology. Users can manage their data and understand the data being collected about them and how to use it without trusting any third party. However, the scheme did not

take into account the possibility of the enterprise itself tampering with data.[10]

IV. Problem Statement

Governments need to cater to a huge number of responsibilities of a state. The working of state governments involves huge number of transactions towards various operations that need to be carried out throughout the state. This includes new projects, repair and maintenance works, awarding contracts, paying of government employees, farmer schemes and so on. A major obstacle that the top government face is the low-level corruption that is sometimes not possible to track which deprives the state progress. Tracking it is a very complicated task due to the current system.

V. Proposed Method

The proposed system is used to track the funds allocated to the state government as they travel through the government process at every stage. We here make use of block-chain technology to secure the transactions at each stage while maintaining transparency in every transaction sealing every transaction with proofs as the funds move ahead. This allows maintaining crystal clear record with on-demand right to transactional data on a need to know basis. The system makes use of encryption to secure transactional data by means of hashes to maintain a block of transactions in a chain manner which is maintained and verified by every node involved to authenticate the transaction & save the data in a transparent form within the government. The system allows for a full proof, secure & authentic fund allocation and fund tracking system to help form an incorruptible government process.

In this we are using 2 modules i.e. User and Admin. **Module 1** - Government: - Government will give the fund which is requested by the user. **Module 2** – Authority: - This will authorize or verify the user that it is a valid user as well as valid request or not. **Module 3** - User (Customer): - User will request for the fund according to their needs.

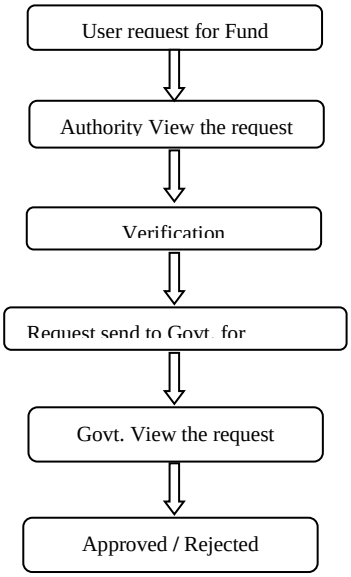

Fig.1 Flow diagram

Architecture

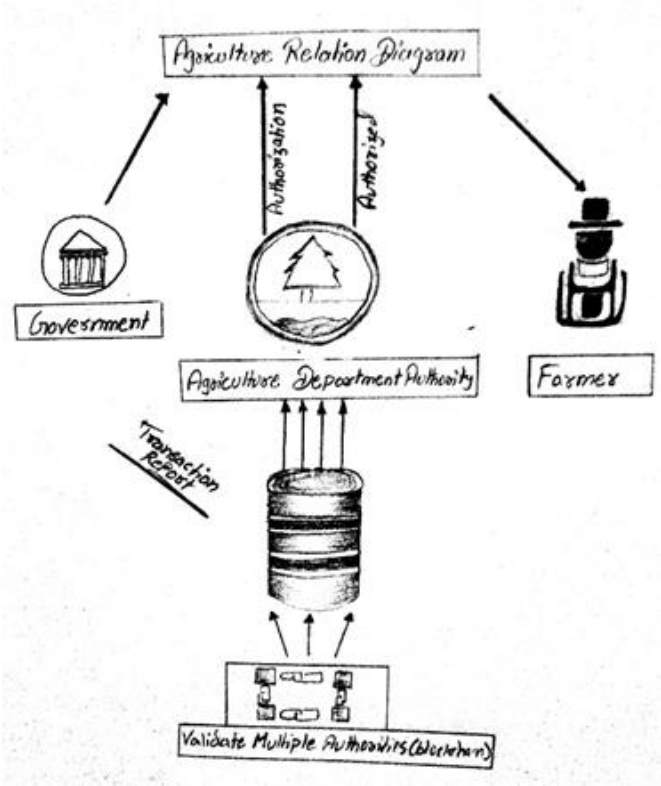

Fig 2. System Architecture

VI. Conclusion

In this paper, we considered about the blockchain applications, we even have to consider the access and privacy challenges though. Even then, with further enhancements, this blockchain model can provide a transparency in all the government transactions. There will be no discrepancies of any kind. Because of the decentralized ledger all the transactions can be verified and cannot be altered. The money that is released can be tracked, anyone and everyone can find out how the money is being used. Such a blockchain will surely reduce the ongoing corruption It will create a huge impact on the economic development of a country.

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Enhanced Secure Data Sharing Over Cloud Using ABE Algorithm

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ABSTRACT

Cloud Computing provides a convenient way of sharing of data, which brings various benefits for both the society and individuals. Security is becoming a wide necessity in day-to-day life. Data security is the most obliged security of all. The data in our system is opened to high potential risks. Due to many security reasons we adopt diverse methods. Now everyone is being dependent on the cloud platform for security and storage but even it is vulnerable to various threats. The data inside cloud is not well-secured as it can be accessed by anyone who would have our credentials. But there exists a resistance for users to directly outsource the shared data to the cloud server as the data often contains valuable information. So we propose an Enhanced Security to the data using encryption- The ciphertext-policy (CP) attribute-based encryption (ABE) (CP-ABE) and Byte Rotation Algorithm emerging as a promising technology for allowing users to conveniently access data in cloud computing, giving security to outsourced information, while thinking that client is not stressed while transferring their classified information. Moreover, the privacy of users are protected in this scheme. The security and performance analysis shows the scheme is secure, efficient and privacy-preserving.

Keywords: Cloud computing, CP, ABE, Encryption, Decryption, Privacy preserving.

I. INTRODUCTION

Cloud computing has introduced the new method for computing and related problems like data privacy, data security in cloud. It offers development environment, allocation and reallocation of assets when needed, storage and interacting facility. The cloud computing is composed of shared computing resources and services that deliver the resources through which users can access the structures, hardware, applications, and services on request which are independent of locations. It contents the on-demand requests of the user. It simplifies the sharable resources "as-a-service" ideal. For the association, the cloud offers data access to move their data totally. Here comes the assistance of the Cloud Computing i.e. It condenses the total of hardware that could have been used at user completion. As there is no essential for the collection of data at user's end because it is already at some other situation. So as an alternative of buying the complete infrastructure required to run the processes and save bulk of data which you are just renting the assets according to your requirements.

CLOUD computing is rapidly emerging technology and on-demand storage and computing services for customers

Security Issues Within The Cloud:

Organizations which are having low budget can now utilize high computing and storage services without

investing in the infrastructure and maintenance. However, the loss of control over data and computation raises many security concerns for organizations, the wide adaptability of the public cloud. The loss of control over data and the storage platform also motivates cloud customers to maintain and have control over data (individual data and the data shared among a group of users through the public cloud) Moreover, the privacy and confidentiality of the data is also recommended to be cared for by the customers. The confidentiality management by a customer ensures that the cloud does not have any information about the customer data. The data encryption is done before storing to the cloud. The access control, key management, encryption, and decryption processes are handled by the customers to ensure data security. However, when the data is shared among a group, the cryptography services need to be flexible enough to handle different users, exercise the access control, and manage the keys in an effective manner to safeguard data confidentiality. A separate key for every user is a cumbersome solution.The changes in the data require the decryption of all of the copies of the users and encryption again with the modified contents. The existing and legitimate group members might show illegitimate behaviour to manipulate the data. The data can be decrypted, modified, and re-encrypted by a malicious insider within a group. Consequently, a legitimate user in the group may have the access to certain unauthorized files within the group. On the other hand, it is necessary for a user to possess a key to conduct various operations on the data. The possession of the key also implicitly proves the legitimacy of a user to operate on the data. Nevertheless, simultaneously dealing with both the issues related to the key is an important issue that needs to be addressed effectively.

II. Related Work

Literature Review

These are various surveys which we are studied

A. Lightweight Secure Data Sharing Scheme for Mobile Cloud Computing

A lightweight information sharing plot (LDSS) for portable distributed computing. It receives CP-ABE, an entrance control innovation utilized as a part of typical cloud condition, be that as it may, changes the structure of access control tree to make it reasonable for versatile cloud situations. LDSS moves a vast segment of the computational serious access control tree change in CP-ABE from cell phones to outer intermediary servers. Moreover, to lessen the client renouncement cost, it acquaints property depiction ends with execute apathetic disavowal, which is a prickly issue in pro-gram-based CP-ABE frameworks. The trial comes about demonstrate that LDSS can successfully lessen the overhead on the cell phone side when clients are sharing information in portable cloud situations.

B. Low Latency for File Encryption and Decryption Using BRA Algorithm in Network Security.

Data security is significant deterrent in various zones like military, bank application, educational organization. Document is forward starting with one area then onto the next area in the organize. Numerous programmers are unlawfully get to the data. To give answer for this issue many creators has presented diverse calculations and strategies. The distinctive calculations like DES, triple DES and AES accomplish greater security however it sets aside more opportunity for encryption and decoding records. This algorithm gives greater security and takes littlest measure of time for record encryption and decoding. This encryption can apply on various sorts of records like content, picture, sound, video records. In the Byte Rotation Encryption Algorithm include two procedures. One is irregular key era procedure is utilized. What's more, second is parallel encryption and decoding is process utilizing multithreading procedure.

C. Analysis of multi-threading time metric on single and multi-core CPUs with Matrix multiplication.

With the landing of multi-centre CPUs, to accelerate execution of frame-works utilizing parallelism is prompting new approaches. Prior techniques to actualize parallelism in applications were constrained to either utilization of excess equipment assets or direction level parallelism (ILP). This requested the need of part the undertaking or process into little sections that can keep running in parallel in the errand's unique circumstance, and strings have been presented. It is normal that the quantity of centres per processor would duplicate with increment in silicon do- main on chip. Keeping in mind the end goal to achieve most extreme centre usage of equipment, programming needs to nourish. Multi-threading is prevalent approach to enhance application execution speeds through parallelism. As each string has its possess autonomous asset for assignment execution, various procedures can be executed parallel by expanding number of strings. Parallelism is the running of strings in the meantime on centres of a similar CPU. Multi-threading is famous approach to enhance application execution speeds through parallelism. As each string has its claim free asset for assignment execution, various procedures can be executed parallel by expanding number of strings. Parallelism is the running of strings in the meantime on centres of a similar CPU.

Algorithms Used:

1. Attribute Based Encryption Algorithm:

Step 1: Start

Step 2: Generating the symmetric key for the register users.

Step 3: A set of user attributes is supplied to the input of the private key generation, and the output of the algorithm turns user's private key.

Step 4: The input is fed to the encryption function which it is necessary to encrypt, a set of attributes, decryption of data will be done by owner, and randomly selected number, and the output will be obtained encrypted data.

Step 5: A set of user attributes AU and the encrypted data are supplied to the input of the decryption function, and the output will be obtained decrypted message.

Step 6: Safe data retrieval.

Step 7: End

2. Byte Rotation Algorithm:

Step 1: Start

Step 2: The Data is partitioned into fixed length of blocks. These blocks are represented by matrix Mp.

Step 3: The numerical values is assigned to the data in sequence.

Step 4: The value of Key matrix is randomly selected from the given range.

Step 5: Calculate the Transpose matrix of data block matrix Mp which is denoted by Mt.

Step 6: Calculate the encrypted key matrix Kc .

Step 7: Add both matrix Mt and Kc. The resultant matrix is denoted by Cpk.

Step 8: Rotate the first 3 row horizontally of Cpk matrix. The resultant matrix will be matrix Chr.

Step 9: Rotate the first 3 column of Chr matrix. The resultant matrix is denoted by Cvr.

Step 10: Replace the numerical values of Cvr matrix by the corresponding blocks.

III. RESULTS AND DISCUSSION

In several distributed systems a user should only access data, If a user possess a certain set of credentials or attributes. Currently, the only method is to employ a trusted server to store the data and mediate access control. However, if any server which is storing the data is compromised, then the confidentiality of the data will be compromised. In this survey paper we are presenting a system for realizing complex access control on encrypted data that we call ciphertext-policy attribute-based encryption. The encrypted data

can be kept confidential even if the storage server is untrusted; moreover, our methods get secure against collusion attacks. In previous attributes where used to describe the encrypted data and built policies into user's keys in attribute-based encryption systems while in our new system attributes are used to describe a user's credentials, and a party encrypting data determines a policy for who can decrypt.

IV. CONCLUSION

Data which is available in the cloud can be at risk if not handled or protected in a rightful manner. This paper discusses various risks and security threats to data in the cloud and given an overview of three types of security concerns. The major concerns of this paper was data security and its malicious threats and solutions in cloud computing. Data has been discussed along with the techniques which are efficient for encrypting the data in the cloud. To build a cost effective and secure data sharing system in cloud computing, we proposed the notation called ABE-Attribute-based encryption is a type of public-key encryption, and ciphertext policy.

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Detection of Driver Drowsiness Using Eye Blink sensor

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ABSTRACT

Nowadays, drowsy driving has become a leading cause of accidents. The mechanism for detecting fatigue and sleepiness while driving has been categorized into three broad approaches, including vehicle-based, physiological-based, and behavior-based approaches. By the study of these measurement methodologies and comparing them, we came up with some new ideas to measure the drowsiness of a person on the road using more advanced techniques, more reliability, low complexity, etc. This system is developed using various sensors like eye blink sensor, alcohol sensor, fire sensor and raspberry pi microcontroller. If the driver is found drowsy he will be alerted by buzzing alarm. Driver gets distract when an object or event draws a person's attention away from the driving task. Alcohol consumption also results in the same effects. The paper leads to the solution for preventing the accidents happening due to these effects of alcohol consumption and drowsiness.

Keywords: Drowsiness, Eye blink sensor, Driving, Vibrator, Buzzing Alarm.

I. INTRODUCTION

The increased usage of vehicles has led to increased chaos on the roads. Increased chaos has led to increased number of accidents. According to WHO report of 180 countries, shows that the total number of deaths occurring in accidents are 1.25 million per year. For any vehicle accidents driver's faults are the most accountable aspect to cause dangerous problems to the society. Many drivers cannot control the vehicles due to different reasons it may cause severe accidents and sometimes death. Various reasons for these accidents are alcohol consumption, over speeding and many distractions like talking while driving and texting. One of the important factor is sleeping on the wheel. Nowadays, drowsy driving has become a leading cause of accidents.

The primary purpose of the system is to develop a system that can reduce the number of accidents happening due to driver drowsiness. The primary purpose of the system is to develop a system that can reduce the number of accidents happening due to driver drowsiness. With our three monitoring steps we can provide a more accurate detection .The first application is to detect the eye blink of the driver, eye blink sensor is continuously monitor the eye blink movement. Then next we will detect the alcohol content. And this paper also deals with temperature sensor, in case of any fire inside the vehicle.

II. LITERATURE SURVEY

Paper	Author name	Method	Achievement
Detection of driver drowsiness using eye blink sensor	Kusuma Kumari B.M Sampada Sethi Nishant Kumar	In this system if the driver becomes drowsy the eye blink sensors frame vibrates attached to the vehicle and also the LCD displays the warning messages. The wheel is slowed or stopped depending on the condition.	The LCD displays the warning messages.
Vehicle accident prevention using sensors	G.Keerthi Bhavani ,Shailaja Reddy	This project monitors and detects accident and minimizes the number of accidents. The device prototype support quality, low cost, flexibility and user safety. The work presence design of a lower power embedded system and its combination with different sensors	The device prototype support quality, low cost, flexibility and user safety.
Pragyaditya Das, S. Pragadeesh,	Microcontroller based car safety system :implementing drowsiness detection and vehicle –vehicle distance detection in parallel	This project involves measure and control eye blink using IR sensor. We can automatically park the vehicle by first using automatic braking system which will slow down the vehicle and simultaneously.	Automatic parking system for the vehicle by first using automatic braking system

Suparana Sahabiwas , Sourav saha	Drunken driving detection and prevention models using Internet if Things.	This paper proposed a system to safeguard drunken drivers especially at night. It includes analysis of alcohol concentration and hence undertake protective measures such as speed reduction , triggering an alarm ,informing the traffic control ,activation of auto piolet	Speed reduction when the drivers are drunken.
M Hemamalini Sathis Kumar	M	Accident prevention using eye blink sensor	This project has proposed a design and implementation of accident prevention using eye blink sensor with PIC16F77A microcontroller successfully
Shashidhara M,C Shruthi	N	Smart alert	Car

Prashant Sharma ,Tanu priya	Road accident prevention and control	The system works when the driver closes the eyes for around 30sec and also there is a vibrator present at the back of the seat, the vibrator vibrates and the brake is also applied gradually after 50sec.	Automatic brakes are applied when the driver's eyes are found automatically closed for about 30sec.
Jyotsna Gabhane , Dhanashree Dixit	Drowsiness detection and alert system: A review	This project provides a cost effective way to alert the truck driver as well as the owner of the company.	Cost effective way to alert the truck driver.
Suhas Katkar ,Mahesh Manik Kumbhar	Accident prevention system using eye blink sensor	In this system obstacle detecting sensor is used to detect the objects and obstacle's in front of sensor in a narrow angle useful in robotics application.	Robotics application.
Sonali Shankar Chalwad, Snehal Gaikwad	Accident prevention using eye blink sensor	This project is developed to keep the vehicle secure and protect it by the occupation of the intruders. It uses eye blink sensor,8051 microcontroller, LCD and buzzer	To keep the vehicle secure and protect it by the occupation of the intruders

Prashant Sharma ,Tanu priya	Road accident prevention and control	The system works when the driver closes the eyes for around 30sec and also there is a vibrator present at the back of the seat, the vibrator vibrates and the brake is also applied gradually after 50sec.	Automatic brakes are applied when the driver's eyes are found automatically closed for about 30sec.

III. METHODS AND MATERIAL

A. Raspberry pi

Raspberry Pi is an ARM based single board computer created by raspberry pi foundation. Raspberry pi runs Debian based Linux based Operating System. Modules are interfaced with Raspberry pi. The processed output is given to the output modules. Raspberry pi requires 5V power supply.

B. Eye Blink Sensor

Eye Blink module is made up of the frames. The frame is fitted with the IR sensor. The frame consists of IR transmitter which transmit the IR rays towards the driver's eyes and IR receiver which receives the reflected rays when the eyes are closed.

C. Alcohol Sensor

Alcohol Sensor is used to analyze the check driver's blood alcohol level. If alcohol presence is detected then the vehicle stops automatically from further driving.Then it gives the result on LCD screen.

D. Temperature Sensor

Temperature sensor measures the temperature accurately. In this system temperature sensor is used to check engines temperature, if it is over heated, it generates through an alarm.

E. Vibrator Sensor

Vibrator sensor is used to sense any jerk given to the vehicle which is the emulation of the accident occurrence in real time. Output of this is that it suddenly stops the motor.

F. LCD

LCD is a display device. It displays the warning message, if the driver falls asleep. All the modules are connected to it so that the particular signals can be received and hence message could be displayed. It also provide 5V module to other module.

G. GSM Module

Global System for Mobile Communication (GSM) sends the message from one place to another. In this system, we are using GSM module to end message to the owner of the vehicle automatically if driver drowsiness or alcohol consumption is detected.

H. Buzzer

This device will buzz an alarm when the driver's eyes are closed for more than the referenced value.

IV. CONCLUSION

We have studied the Detection of driver drowsiness with the different type of sensors. We have focused detecting the drowsiness using eye blink sensor .The purpose of such model is to advance a security in transport system by detecting the drivers eye blinks and also alert the driver by buzzing alarm to avoid accidents. This project involves certain measures and

controls drowsiness using IR sensor. It will also detect the alcohol presence and temperature inside the vehicle.

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Automatic Detection of Diabetic Eye Disease

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ABSTRACT

Recent technologies in diabetic user our aim at reducing unnecessary visits to medical specialists, reduse visiting time overall cost of treatment and optimizing the number of patients seen by each doctor. To detect diabetic diseased eye, here Support Vector Machine classifier is used for classification and their performance are compared. Extraction of features is performed on the segmented images of the breast. Multilayer neural perceptron network based on supervised technique of machine learning is used to classify breast thermo grams as normal, benign and perceptron.

Keywords : Diabetic, Perceptron, Perceptron, Segmented.

I. INTRODUCTION

Diabetic eye disease is a chronic disease affects various organs of human body including the eye. Infrared thermography offers a digitized thermal distribution called thermograph. It indicate the observation are with a thermal variation of the surface temperature. Various color are used to describe variations in temperature because color is a powerful descriptor. The use of computational methods that aid in the diagnosis of disease has contributed significantly to improve the quality of life of patients.The imaging modality also suitable for the detection of diabetes using foot images. Textural features are extracted from the segmented

II. PROBLEM STATEMENT

The diagnosis has attained in medical procedure by identifying the symptoms using emerging imaging modalities are many limitations which needs to be improved.

III. LITERATURE REVIEW

1. A Brief Review of the Detection of Diabetic Retinopathy in Human Eyes Using Pre-Processing & Segmentation Techniques

AUTHORS: Yogesh Kumaran, Chandrashekar M. Patil

In this research article, a brief insight into the detection of DR in human eyes using different types of preprocessing & segmentation techniques is being presented. There are a number of methods of segmenting the blood vessels that are present in the retina & once the retinal nerve fibres are segmented, one can detect whether the eyes are affected with diabetic retinopathy or not. In fact, this detection depends on the area of the RNFL network. If the total

area of the nerve fibre is less, then it is affected with diabetic retinopathy (DR)& if the area of the nerve network is more, then the eyes are not affected with the diabetic retinopathy and hence it is normal.

2. Detection of Diabetic Retinopathy using Image Processing and Machine Learning

AUTHORS: Salman Sayed, Dr. Vandana Inamdar, Sangram Kapre

Diabetes is a chronic disease caused by either failure of insulin production in body or inability to resist insulin in the body. Complications of Diabetes leads to heart disorders, vascular disease and stroke, Kidney disease, Neuropathy and Diabetic eye disease known as diabetic retinopathy. Diabetes for a prolonged time damages the blood vessels of retina and thereby affecting seeing ability of a person and leading to diabetic retinopathy. Diabetic retinopathy is classified into two categories, non-proliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). In this paper, detection of diabetic retinopathy in fundus image is done by image processing and machine learning techniques. Probabilistic Neural Network (PNN) and Support vector machines (SVM) are the two models adopted for detection of diabetic retinopathy in fundus image and their results analyzed and compared. Accuracy of detection in SVM is 90% and that of PNN is 80%. Thereby SVM model is outperforming the PNN model.

3. Blood Vessels Extraction from Retinal Images Using Combined 2D Gabor Wavelet Transform with Local Entropy Thresholding and Alternative Sequential Filter

AUTHORS: Juan Shan, Lin Li

Retinal blood vessels extraction is a primary step for detecting eye diseases including diabetic retinopathy which causes blindness. It also simplifies other image processing techniques such as classification. Since manual extraction is a long task and it requires training, many automated methods have been proposed. In this paper, an algorithm for extracting blood vessels from fundus images has been proposed. The algorithm is based on two dimensional Gabor filter, local entropy thresholding and alternative sequential filter. The proposed method has been tested on fundus images from Structured Analysis of the Retina (STARE) and Digital Retinal Images for Vessel Extraction (DRIVE) databases using MATLAB codes. The results show that this method is perfectly capable of extracting blood vessels.

4. A Deep Learning Method for Microaneurysm Detection in Fundus Images

AUTHORS: Juan Shan, Lin Li

Diabetic Retinopathy (DR) is the leading cause of blindness in the working-age population. Microaneurysms (MAs), due to leakage from retina blood vessels, are the early signs of DR. However, automated MA detection is complicated because of the small size of MA lesions and the low contrast between the lesion and its retinal background. Recently deep learning (DL) strategies have been used for automatic feature extraction and classification problems, especially for image analysis. In this paper, a Stacked Sparse Autoencoder (SSAE), an instance of a DL strategy, is presented for MA detection in fundus images.

Sr.no	Paper	Author	Description
1.	A Deep Learning Approach to Adherence Detection for Type 2 Diabetics	Ali Mohebbi1, Tinna B. Arad´ottir1,2, Alexander R. Johansen1, Henrik Bengtsson2, Marco Fraccaro1, Morten Mørup 978-1-5090-2809-2/17/$31.00 ©2017 IEEE	A novel adherence detection algorithm using Deep Learning (DL) approaches was developed for type 2 diabetes (T2D) patients, based on simulated Continuous Glucose Monitoring (CGM) signals.
2.	Fully-Automated Segmentation of Fluid/Cyst Regions in Optical Coherence Tomography Images with Diabetic Macular Edema using Neutrosophic Sets and Graph Algorithms	Abdolreza Rashno, Dara D. Koozekanani, Paul M. Drayna, Behzad Nazari, Saeed Sadri, Hossein Rabbani, Keshab K. Parhi 0018-9294 (c) 2017 IEEE	presents a fully-automated algorithm to segment fluid-associated (fluid-filled) and cyst regions in optical coherence tomography (OCT) retina images of subjects with diabetic macular edema (DME).
3.	Detecting Diabetes Mellitus and Non-Proliferative Diabetic Retinopathy using Tongue Color, Texture, and Geometry Features	Bob Zhang, Member, IEEE, B.V.K. Vijaya Kumar, Fellow, IEEE, and David Zhang, Fellow, IEEE 2013	A non-invasive capture device with image correction first captures the tongue images. A tongue color gamut is established with 12 colors representing the tongue color features.
4.	Assessing the Need for Referral in Automatic Diabetic Retinopathy Detection	Ramon Pires, Member, Herbert F. Jelinek, Jacques Wainer, Siome Goldenstein, Eduardo Valle IEEE 2013.	Explores image recognition for the screening of diabetic retinopathy, a complication of diabetes that can lead to blindness if not discovered in its initial stages.

IV. EXISTING SYSTEM

Accurate diagnosis has attained in medical procedure by identifying the symptoms using emerging imaging modalities. The present modalities of medical imaging are invasive and painful for patients as well. Diabetic eye disease is a chronic disease affects various organs of human body including the eye.

V. PROPOSED SYSTEM

The proposed system uses supervised machine learning techniques to classify the thermal images of an eye into Normal or Diabetic Diseased Eye.The color conversion model is very important to extract the required features. In this work, two conversion such as RGB to Gray and RGB to HSI are done and RGB, Gray and HSI color model are used as an input images for feature extraction module. Feature Extraction is the most important step in the analysis of images. It is a process of gathering distinguishable information from the image itself from an object or group of objects.

VI. ALGORITHM

CNN Algorithm Steps

CNN Convolution neural networks

A CNN consists of an input and an output layer, as well as multiple hidden layers.

The hidden layers of a CNN typically consist of convolutional layers, pooling layers, fully connected layers and normalization layers.

A CNN consists of an input and an output layer, as well as multiple hidden layers as:

1. Convolutional layer
2. Pooling layer
3. Activation Function layer
4. Fully connected layer
5. Loss layer.

Modules:

- Image Preprocessing
- Apply Algorithm
- Detection of Diabetes

A. BLOCK DEIAGRAM OF SYSTEM

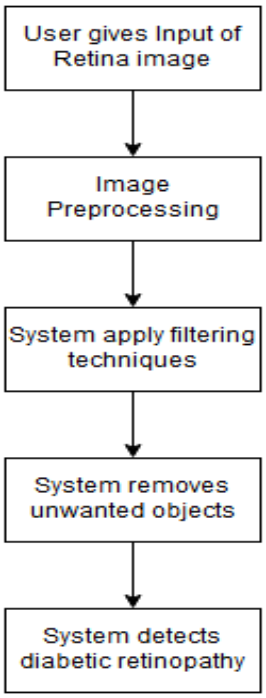

Figure 1. Block diagram of Identity based

VII. ADVANTAGES

- User Friendly
- Helps to detect diabetic retinopathy

VIII. CONCLUSION

Extracting blood vessels from retinal images help in early diagnosis of eye diseases. We are proposing automated system for extracting blood vessels from retinal images. System uses advanced image processing techniques including classification of image pixels into vessels or non-vessels and classification of retinal images into normal or abnormal. This helps in diagnosis of different types of eye disease.

IX. ACKNOWLEDGMENT

It gives us a great pleasure in presenting the paper on Automatic detection of diabetic eye disease using thermal images. We would like to thank Prof. Pallavi shimpi, Assistant Professor of Computer Engineering Department,DYPSOE(SPPU-PUNE), for giving us all the help and support we needed during the course of the paper writing work. We are really grateful to her.

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Fake News Detection Using Machine Learning

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ABSTRACT

Information preciseness on Internet, especially on social media, is an increasingly important concern, but web-scale data hampers, ability to identify, evaluate and correct such data, or so called "fake news," present in these platforms. In this paper, we propose a method for "fake news" detection and ways to apply it on Facebook, one of the most popular online social media platforms. This method uses Naive Bayes classification model to predict whether a post on Facebook will be labeled as REAL or FAKE. The results may be improved by applying several techniques that are discussed in the paper. Received results suggest, that fake news detection problem can be addressed with machine learning methods.

Keywords : Machine Learning, Naïve Bayes Classifier, Web Scrapping, Clustering.

I. INTRODUCTION

Modern life has become quite convenient and therefore the individuals of the planet have to be compelled to impart the Brobdingnagian contribution of the net technology for communication and knowledge sharing. There is no doubt that internet has made our lives easier and access to surplus information viable. But this information can be generated and manipulated by common folks in bulk and the spread of such data is reckless due to the presence of social media. Platforms like Facebook and Twitter have allowed all kinds of questionable and inaccurate "news" content to reach wide audiences without proper monitoring. Social media users bias toward basic cognitive process what their friends share and what they scan notwithstanding believability permit these faux stories to propagate wide through and across multiple platforms and increase their credibility. Google and Facebook have now begun testing out new tools to help users better spot and flag fake news sites. Google is currently exclusion hoax sites from its advertising platform and is testing fact-checking labels in Google News, and Facebook is implementing a new system for users and fact checkers to report suspicious stories.

In this domain, computational machine learning algorithms have proven useful where data volumes overwhelm human analysis abilities. This paper describes a simple fake news detection method based on one of the machine learning algorithms – naïve Bayes classifier. The goal of the research is to examine how naïve Bayes works for this particular problem, given a manually labeled news dataset, and to support the idea of using artificial intelligence for fake news detection. Further, this technique can easily be applied to social platforms like Facebook and Twitter by adding recent news and enhancing the dataset on a regular basis.

Web Scrapping is a technique employed to extract large amounts of data from different websites and to store as desired. This extraction of data is used to withdraw truthful information from reliable sources which in turn will update the dataset in real time. These sources can be news websites which rely on journalistically trained "gatekeepers" to filter out low-quality content.

A. NAIVE BAYES CLASSIFIER

In machine learning, naive Bayes classifiers are a family of simple probabilistic classifiers based on applying Bayes theorem. It predicts relationship probabilities for each class such as the probability that given record or data point belongs to a particular class. Naive Bayes classifier assumes that each one the options square measure unrelated to every alternative. Presence or absence of a feature doesn't influence the presence or absence of the other feature. It is not a single algorithm for training such classifiers, but a family of algorithms based on a common principle of the number of times a particular event has occurred.
Naive Bayes has been studied extensively since the Nineteen Fifties. It was introduced under a different name into the text retrieval community in the early 1960s and remains a popular baseline method for text categorization which is the problem of deciding documents as happiness to at least one class or the opposite with word frequencies as the features. With appropriate preprocessing, it is viable in this domain with more advanced methods including support vector machines resulting in improved accuracy.

B. WEB SCRAPPING

Web Scraping may be a technique utilized to extract giant amounts of information from websites. The data which is extracted from any web source is saved to a local file in our computer or to a database in a table format.

The data available on these websites do not offer the functionality to save a copy for personal use. The only possibility then is to manually copy and paste the info - a awfully tedious job which might take several hours or generally days to complete. Web Scraping is that the technique of automating this method in order that rather than manually repetition the info from websites, the online Scraping software system can perform a similar task at intervals a fraction of the time. Here we are using web scraping technique to obtain news articles from websites of trusted news agencies. They are labeled as "REAL". In this way, we can update our database by keeping track of the recently happening events and can also check the truthfulness of the freshly posted content on Facebook using the model. Basically, the use of web scraping is to modernize the dataset we have with newly happening events.

C. CLUSTERING

"Clustering" is the process of grouping similar entities together. The goal of this unsupervised machine learning technique is to find similarities in the data point and group similar data points together.
Grouping the similar types of news based on their meaning and the source credit worthiness, this will give us a underlying patterns of different data.

II. LITERATURE SURVEY

Saeed Abu-Nimeh, Thomas Chen[1] published a paper on Proliferation and Detection of Blog Spam. The objective if this project is to prevent and detect spam. They used Support Vector Machine to classify whether the post is a spam or not. Also they used the source IP to check for prior spams. Marco Ramilli[2] published a paper on Comment Spam Injection Made Easy in IEEE journa the main objective of this paper is to check the authenticity of the data that is published on various online platforms. Qianqian Wang, Bin Liang, Wenchang Shi, Zhaohui Liang, Wei Sun[3] published a paper on Detecting spam comments with

malicious users' behavioral characteristics solves the problem by using naïve bayes algorithm to detect the spam comments on various sites. This also takes into consideration of the pattern in which some users post spam comments. Amir A. Sheibani[4] published a paper Opinion mining and opinion spam: A literature review focusing on product reviews in IEEE journal that detects the fake reviews posted on online ecommerce websites. This is done by mining the opinion along with taking consideration of buyer habit and if they might have actually purchased and used this product.

III. COMPARATIVE ANANLYSIS OF THE SYSTEMS

Sr. No.	Paper Name	Author	Objective	Limitations
1.	Proliferation and Detection of Blog Spam	Saeed Abu-Nimeh, Thomas Chen	Method for preventing and mitigating such spam were broadly surveyed	Blog spammers likely operate from a few colocation facilities.
2.	Comment Spam Injection Made Easy	Marco Ramilli	Guaranteeing the authenticity of the published data	Trace a possible path leading to a more effective solution.
3.	Detecting spam comments with malicious users' behavioral characteristics	Qianqian Wang, Bin Liang, Wenchang Shi, Zhaohui Liang, Wei Sun	Propose several heuristic methods to detect spam comments	The preliminary evaluation of the proposed detection methods shows promising result.
4.	Opinion mining and opinion spam: A literature review focusing on product reviews	Amir A. Sheibani	To detect and flag fake reviews posted	Results are not Refined

IV. CONCLUSION

We study the various machine learning techniques such as Naïve Bayes to predict if the news is true based on the priors and studying the pattern of news article for prior spread of fake news. We will use Clustering to gather the data and group them based on the credit worthiness of the source and sentiment of the news. All the data for the news will be scraped off the websites of news publication and various other sources.

V. ACKNOWLEDGEMENT

It gives us a great pleasure in presenting the paper on “Fake news detection”. We would like to take this opportunity to thank Dr. Panjak Agarkar, Head of Computer Engineering Department, DYPSOE, Pune for giving us all the help and support we need during course of the Paper writing work. We are really grateful to him. Our special thanks to Dr. E B Khedkar, Director DYPTC who motivated us and created a healthy environment for us to learn in the best possible way. We also thank all the staff members of our college for their support and guidance.

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Traffic Management System for Emergency Vehicles in City

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ABSTRACT

Lots of people loses their life due to ambulance unable to reach hospital due to unclearable road by traffic jams and number of these scenarios are getting increased day by day. In smart ambulance different sensors like heart rate sensor, temperature sensor will be judging status of patient values, the status of these health values will be send to hospital's database simultaneously traffic signals will be operated by using RFID technology. After getting status of patient values, hospital authorities will plan accordingly. As the smart ambulance will reach within range some meter, signal will be turned to green if it is red, the communication between smart ambulances will be done by Wi-Fi network through cloud.

Keywords: Smart traffic, smart ambulance, RFID reader, ESP8266.

I. INTRODUCTION

By considering the current heavy traffic conditions in India, in emergency situations like body part transplants, road accidents, etc. ambulance service gets highly affected. People die due to not getting proper and timely treatment which is a serious issue. In emergency situations time is a very important factor, so we have proposed a system to encounter this problem.

Our system i.e. 'smart traffic with ambulance', for ambulance gives a special path in which all the red signals will be turned to green for the ambulance which helps the ambulance in reaching its destination within time. Generally the ambulances pick up the patients and take him to the hospital, after reaching the hospital, the actual treatment starts. In this so much time is wasted and the patient might lose his life.

Our system continuously analyze vital health parameters of the patient like blood pressure, heart rate, body temperature in the ambulance itself and send it to the hospital's database while reaching the hospital, so the hospital authorities will know what Type of treatment to be given to the patient, saving so much time which ensures to save patient's life.

In this system, we are implementing smart ambulance system web Based Medical System. This system was implemented based on present criteria that tracking patient health records and another one is making traffic monitoring during the emergency ambulance using IoT. In this way it acts like a life saver project as it saves time during emergency.

II. LITERATURE SURVEY

In the era of smart cities, people face many problems regarding health issues like not getting aid on time or doesn't get quick facilities or delay in healthcare service. To overcome these situations, system describes a solution concept called 'Intelligent Ambulance with traffic control. This concept describes monitoring health parameters accessed by different sensors deployed on patient's body and transferring these to hospital system. At the same time traffic signal lights are monitored by driver of ambulance to reach to hospital as early as possible. RF communication is used for traffic controlling purpose. While designing algorithm to control traffic lights traffic density is also considered. [1]

Traffic is the biggest problem in India. It is very important to clear the traffic in case of any emergency. Vehicles are increasing day-by-day on a large scale in India that's why traffic problem is increased. Author used RFID tag which will be read by RFID reader for detecting a vehicle. With automatic traffic signal, traffic will be automated based on traffic volume. It will clear the path for emergency vehicles like ambulance, fire trucks etc. [2]

Currently we come to face a very common yet annoying issue in the world i.e. Traffic jams on the roads. Traffic jams during rush hours is very serious issue as emergencies like Police chases, Fire brigades or Ambulances may get stuck which might be life threatening. Here, a system is developed with the help of accelerometers, Zig-Bee, GPS and GSM modules to encounter the proposed problem. A system is developed with GSM and GPS system which detects the exact location of vehicles under emergency which is detected with the help of accelerometer to determine the state of the vehicle. This system is fully automated, so it was able to operate spontaneously right from detecting the vehicle under emergency to helping it to reach the hospital in time and safely. [3]

III. EXISTING SYSTEM

The current traffic control system in India are inefficient due to randomness in the traffic density pattern throughout the day. Traffic signal is unable to switch the signal light within a time as the interval time period is fixed. Due to this, the Emergency vehicles have to wait for a long time span. Sometimes it is completely controlled by traffic police which leads to traffic jams. Existing system is lengthy and time consuming. Once any hardware fail then all system fails. Traffic not clear during the ambulance coming because of traffic control not know where the ambulance is arrived.

Existing system does not check any patient health problem analysis during ambulance traveling. In this case the patient is analyse after reaching the hospital which risk the persons life.

IV. PROPOSED SYSTEM

The overcome the existing system problem we have implemented smart system. In proposed system we are making smart traffic signals which identify the emergency vehicles by reading the RFID tag placed on emergency vehicle, the tag will be read by RFID Reader which will be placed at certain distance from traffic signal according to traffic density in particular area. All the emergency vehicle containing RFID tag unique number and other vehicle details will be stored in the database, so that only emergency vehicle will be able to change the traffic signal by identifying its identity in database.

Our system also helps to analyse the patients health, we have used heart beat sensor to measure heart beat and temperature sensor to measure temperature which will be send to hospitals for pre-preparation.

Below diagram shows system architecture.

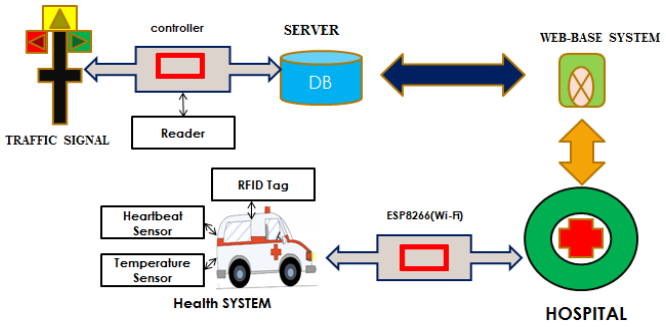

Fig 1. System Architecture

A. System Flow

This system consists of health analysis and traffic control system in an ambulance, signal, and a cloud server (Fig.1). The ambulance application is used for sending the patient health records based on the heartbeat sensor and temperature sensor during traveling one position to another and information continuously send to the cloud server. We designed the RFID based technology to detect the ambulance before traffic signal for clear the signal to fast reach at the hospital.

B. The general Ambulance Vehicle application

We developed this application as a Web application. After Admin authentication, it displays the patient health values from the ambulance vehicle, here admin check the patient heartbeat values, temperature values from the cloud server (Fig.1).

C. The cloud server application

After getting the request from ambulance vehicle using the ESP8266 for Wi-Fi network, it replies to the server patient records to hospital admin for analysis.

D. RFID Tag detection and Ambulance verification

RFID tag will be placed on top of the ambulance for convenient tag detection. Details of Ambulance (EMv) places with RFID tag will be stored in database so that no other vehicle other than Ambulance (EMv) will not be able to change the Traffic signal.

E. Traffic Signal Control

Traffic signal will be placed with ArduinoUno which will be connected to database. So, when the RFID reader reads the tag the signal will be send from RFID reader to arduinoUno then the Arduino will check for ambulance details in database and when it matches the requirement the Arduino will change the signal

Hardware Component:

1. ESP8266

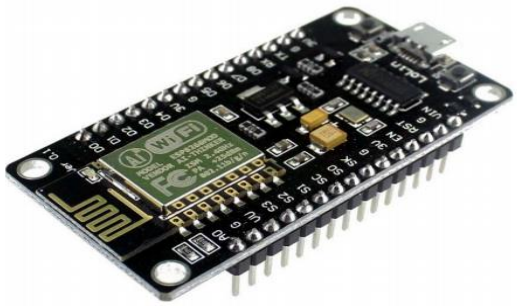

Fig 2. Wi-Fi model

Feature:

- Voltage:3.3V.
- Wi-Fi Direct (P2P), soft-AP.
- Current consumption: 10uA~170mA.
- Flash memory attachable: 16MB max (512K normal).
- Integrated TCP/IP protocol stack.
- Processor: Tensilica L106 32-bit.
- Processor speed: 80~160MHz.
- RAM: 32K + 80K. • GPIOs: 17 (multiplexed with other functions).
- Analog to Digital: 1 input with 1024 step resolution.

2. RFID Reader

Fig 3. EM-18 Reader

Feature:

- Voltage: 5VDC
- Current: <50mA
- Operating Frequency: 125Khz
- Read Distance: 10cm
- Size: 32mm(length) * 32mm(width) * 8mm(height)

3. RFID Tag

Fig 4. RFID card

Feature:

- Highly efficient
- Stringently tested for their quality
- Highly reliable

4. Heart beat Sensor

Fig 5. Heartbeat Sensor

Feature:

- Use IR LED and an optical transistor to detect pulsation in fingers
- Small and Compact module
- Easy to use.

5. Temperature Sensor

Fig 6. Temperature Sensor

The LM35 series are precision integrated-circuit temperature sensors, whose output voltage is linearly proportional to the Celsius (Centigrade) temperature. Since it has Linear + 10.0 mV/°C scale factor it is very easy to calculate temperature value.

V. MATHEMATICAL MODEL

System Description:

Input:

Function Health Calculation()

P : Patient
D : Doctor
S: Sensors(heartbeat, temperature)
M : Microcontroller
V : Value of Patient health

Output:

When Patient connect to the device in ambulance then automatically calculated patient health using the sensors and send to the hospital.

Input

Function Verification (id, request)

ID : unique id for ambulance.

Request : reader read ambulance id send to the server.

Output: Traffic signal automatically changes.

Success Conditions: Success when system sends correct patient value to the doctor and traffic monitoring automatically.

Failure Conditions: Our system fails when no records found from server for ambulance verification.

VI. CONCLUSION

This work is developed with a main intension of saving the life of a person.The traffic is cleared for fast running of the emergency vehicles. And at the same time, the patient's condition inside the ambulance is monitored frequently and the information is updated to the hospital server, which could be viewed by the doctor at the hospital and make the necessary arrangements.

VII. FUTURE SCOPE

The system is more manual than automatic. In the future scope, this system could be made completely automated as it could automatically set the change in traffic signal by knowing the path followed by the ambulance and system will share the updated information to the traffic police device which are in the path of ambulance. This saves more time and the patient is taken to the hospital in minimum time possible.

Also by putting RFID tags in all vehicles we can also make a system which can identify the stolen vehicle as the RFID tag has unique number so when the stolen vehicle passed by the traffic signal the RFID reader will read the signal and informs the last identified area of the stolen vehicle.

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Android Application to Detect and Provide Post Accident Services

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ABSTRACT

Now days, road accidents widely happens due to lots of problems like, rush driving, pothole, drunk driving etc. The existing system has lots of issues and problem is that it is totally hardware based application with high cost. So we have proposed a new system that uses smartphone sensing of vehicle dynamics to detect the accident. The given system design can facilitate many traffic safety applications for victims. We have developed an android application that use embedded sensors i.e., accelerometer and gyroscope, to capture differences in centripetal acceleration due to vehicle dynamics. Once any car accident happens then our application will activate and generate alert. If no any respond to the application then it will find nearest hospital and police station using KNN algorithm and then it will automatically send the notification to the nearest police station, nearest hospital and parent. We have also enhanced this project based on IoT Concept using RFID technique to detect the vehicle number plate information for verifying complaint to the police station for further process.

Keywords: Accident, Smartphone, Accelerometer, Gyroscope, RFID, Hospital, Police Station.

I. INTRODUCTION

Now day's road safety as an important area for research. Action programmed has received a great deal of scientific attention in recent years. Progress has been made on several different fronts but in one area there would appear to be a serious lack of interest or, at the very least, a paucity of published information and informed debate.. In the case of road safety it can be argued that solutions which build on the acceptance of life motor car as a major and immutable technology will reinforce that position and generate a primary paradox: solutions designed to reduce a major negative effect of motorized transport contribute to the perpetuation of the circumstances which lead to road traffic accidents.

Traffic accidents are a major public issue worldwide. The huge number deaths are result of road traffic accident that uncovers the story of global crisis of road safety. Road accidents are the second major leading cause of death for people aged between of 5 and 29 and third major cause for people aged between 30 and 44.

A. Problem Statement:

Whenever an accident happens then nearby people call the ambulance. The problem with this system is that the victims has to be depend on the mercy of nearby people. So to remove all these cons we are developing a system with minimum human interaction for rescue operation of victims. When victim meets with an accident system detect the

accident with the help of output values from sensors. System will send notifications to the nearby hospital, police station, users and relatives.

II. LITERATURE SURVEY

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[2] Naji Taaib Said Al Wadhahi, Shaik Mazhar Hussain, Kamaluddin Mohammad Yosof; Shaik Ashfaq Hussain, Ajay Vikram Singh, "Accidents Detection and Prevention System to reduce Traffic Hazards using IR Sensors", The detection phase is carried out using IR sensors that could detect and alert the people by sending SMS using GSM module that contains predefined numbers and accident location using GPS module. Second Phase, Accident prevention is carried out using IR sensors by warning the driver about the neighbouring vehicles when the distance between them is beyond the threshold value.

[3] Usman Khalil, Adnan Nasir, S.M. Khan, T. Javid, S.A. Raza, A. Siddiqui, "Automatic Road Accident Detection using Ultrasonic Sensor", Accident detection using ultrasonic sensor provides the facility to detect an accident not only in various street situations but also it might perform well under various natural conditions like rains.

III. PROPOSED SYSTEM

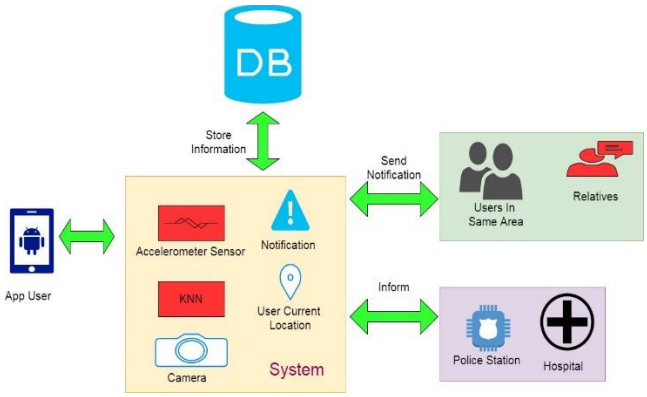

Fig 1. System architecture

A. Module Description:

1)User: In this module user register into the system. All information of user stored into database. User places the mobile in car.

2)Accident detection: In this module accident is detected with the help of accelerometer sensor. After detection of accident, system will give an alert to user and will wait for the response if user doesn't response to system then system will conclude that a critical accident has been occurred.

3)Take photo: After detection of accident application takes photo from front camera.

4)Inform Nearest Hospital and police station: If user does not responses to the system then application will search for nearest police and hospital with help of KNN algorithm. After searching system will send notification to police station ,hospital and relatives. We are user current location of user to find nearest hospital and police station.

5)Inform to relatives and other user: After detecting accident system will inform to the nearest users . System will also send message to the relatives mobile number which is stored while registration.

B. Objective:

- Automatically infirm to nearest police station and hospital.
- Required time is reduced.
- Reduction of paper work.
- Detect the Vehicle information.
- Detect vehicle information using RFID tag based on IoT.

C. Algorithm:

K-nearest neighbours KNN algorithm:

1. Parameter K = number of nearest neighbours.
2. Find the distance between the query-instance and all other the training samples.
3. Sort the distance and determine nearest neighbours based on the K-th minimum distance.
4. Gather the category y of the nearest neighbours.
5. Use simple majority of the category of nearest neighbours as the prediction value of the query instance.

III. CONCLUSION

Finally we conclude our proposed results show that the minimizing the overall cost of the project with better output. total time required to perform all the tasks, including the delivery of an SMS with the accident details, followed by providing the nearby police station and hospital details, also vehicle details from sensors and sending them an alert message of the user accident with exact location of user, is taking short time period.

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Information Leakage in Cloud Data Warehouse

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ABSTRACT

Now today's entire world has we many issues in internet security and privacy. Research survey discusses regarding privacy and security is based on the use of internet in travelling, E-Commerce site, social media, banking, study etc. Existing system also often faces the problems with the privacy of the entire network system and stored private data. To conquer these issues, increment generally utilized application and information intricacy, so web administrations have plan to a multi-layered framework wherein the web server runs the application front-end rationale and information is recover to a database or record server. Intrusion detection system plays a key role in computer security technique to analysis the data on the server. This problem overcome in proposed Duel Security technique is introduced based on ecommerce application. For data security we use the message digest algorithm, an in built web server of windows platform, with database My SQL Server. In this paper proposed system monitoring both web request and database requests. Most of the people do their transaction through web based server use. For that purpose duel security system is used. The duel security system is used to identify & prevent attacks using Intrusion detection system. Duel security prevents attacks and prevents user account data from unauthorized updating from his/her account.

Keywords: Duel security, MD algorithm, Intrusion detection, multi-tier web application, data leakage detection.

I. INTRODUCTION

Presently day's database security is a significant part of every single association. Database is utilized for the store information in database isn't adequate for any association, since they need to manage all issues identified with database, from which one of the primary issue is database security. In this paper we plan with the fundamental methodology that decides if information put away in database is altered or not. Any business can't manage the cost of the danger of an unapproved client watching or changing the information in their databases. Web administrations are broadly utilized in informal organization by individuals. Web administrations and applications have gotten prevalent and furthermore their multifaceted nature has expanded. The vast majority of the errand, for example, banking, long range informal communication, and internet shopping are done and straightforwardly rely upon web. As we are utilizing web administrations which is available wherever for individual just as corporate information they are being assaulted effectively. Aggressor assaults backend server which gives the helpful and significant data in this way separating front end assault. Information spillage is the enormous issue for

businesses and various organizations. It is exceptionally hard for any framework director to discover the information leaker among the framework clients. It is making a genuine danger to associations. It can devastate organization's image and its notoriety.

Interruption Detection System inspects the assault exclusively on web server and database server. So as to ensure multi-layered web benefits a proficient framework call Intrusion Detection System is expected to recognize assaults by mapping web solicitation and SQL inquiry, there is immediate causal connection between solicitation got from the front end web server and those produced for the database backend. Dynamic site permit determined back end information change through the HTTP solicitations to incorporate the parameters that are variable and rely upon the client input. In view of which the mapping between the web and the database rang from one to numerous as appeared in the mapping model.

The MD5 calculation is a broadly utilized hash capacity delivering a 128-piece hash esteem. Not withstanding the way that MD5 was from the start proposed to be used as a cryptographic hash work, it has been found to encounter the evil impacts of expansive vulnerabilities.It can in any case be utilized as a checksum to confirm information honesty, yet just against unexpected defilement.

MD5 was structured by Ronald Rivest in 1991 to supplant a previous hash work MD4. The truncation "MD" means "Message Digest."

SQL infusion is a code infusion system, used to assault information driven applications, in which loathsome SQL proclamations are embedded into a passage field for execution (for example to dump the database substance to the assailant). SQL infusion must adventure a security helplessness in an application's product, for instance, when client info is either mistakenly separated for string strict departure characters inserted in SQL explanations or client information isn't specifically and out of the blue executed. SQL infusion is for the most part known as an assault vector for sites however can be utilized to assault any kind of SQL database.

SQL infusion assaults enable assailants to parody character, alter existing information, cause revocation issues, for example, voiding exchanges or evolving balances, permit the total exposure of all information on the framework, obliterate the information or make it generally inaccessible, and become chairmen of the database server.

To make a framework for interruption discovery on static and dynamic website pages (making session ID's for every client containing the web front end[HTTP] and back end[SQL server]) additionally make it ready to keep those interruptions from assaulting the pages and it ought to have the option to discover the culprit.

II. LITERATURE SURVEY

X. Chen, J. Li, X. Huang, J. Mama, and W. Lou," New Publicly Verifiable Databases with Efficient Updates", 2015, in this paper creator has built up a model which thought of unquestionable database (VDB) empowers an asset compelled customer to safely redistribute a huge database to an untrusted server so it could later recover a database record and update it by doling out another worth. Likewise, any endeavor by the server to alter the information will be distinguished by the customer. Creator proposes another VDB system from vector duty dependent on the possibility of responsibility official. The development isn't just open unquestionable yet in addition secure under the FAU assault. Moreover, he demonstrates that our development can accomplish the ideal security properties.

Anmin Fu, Shui Yu, Yuqing Zhang, Huaqun Wang, Chanying Huang, "NPP: A New Privacy-Aware Public

Auditing Scheme for Cloud Data Sharing with Group Users", 2016, this paper creator structure another protection mindful open reviewing system for shared cloud information by developing a homomorphic evident gathering mark. In contrast to the current arrangements, our plan requires in any event bunch chiefs to recoup a follow key agreeably, which wipes out the maltreatment of single-authority control and gives non-frameability. In addition, our plan guarantees that gathering clients can follow information changes through assigned twofold tree; and can recoup the most recent right information square when the present information square is harmed. What's more, the conventional security investigation and exploratory outcomes show that our plan is provably secure and proficient.

Ekta Naik, Ramesh Kagalkar, "Distinguishing and Preventing Intrusions In Multi-level Web Applications", 2014, In this paper, creator proposes executed twofold gatekeeper utilizing web data and administration supervisor Furthermore, it measure the restrictions of any multitier IDS regarding instructional meetings and usefulness inclusion. I am executing the aversion procedures for assaults. I am additionally discovering IP Address of interloper. A system Intrusion Detection System can be characterized into two kinds: inconsistency recognition and abuse discovery. Peculiarity discovery initially requires the IDS to characterize and described the right and satisfactory static structure and dynamic conduct of the framework, which would then be able to be utilized to recognize unusual changes or atypical conduct.

V. Vu, S. Setty, A.J. Blumberg, and M. Walfish, "A half breed architecturefor intuitive unquestionable calculation", 2013, this work is promising yet experiences one of two issues: it is possible that it depends on costly cryptography, or else it applies to a confined class of calculations. More regrettable, it isn't in every case clear which convention will perform better for a given issue. He depict a framework that (a) broadens upgraded refinements of the non-cryptographic conventions to an a lot more extensive class of calculations, (b) utilizes static examination to flop over to the cryptographic ones when the non-cryptographic ones would be progressively costly, and (c) consolidates this center into a fabricated framework that incorporates a compiler for a significant level language, a circulated server, and GPU speeding up. Trial results show that our framework performs preferable and applies all the more generally over the best in the writing.

S. Pearson and A. Benameur, "Protection, security, and trust issues emerging from distributed computing", 2010, Cloud processing is a rising worldview for enormous scale frameworks. It has the upside of diminishing expense by sharing processing and capacity assets, joined with an on-request provisioning instrument depending on a compensation for every utilization plan of action. These new highlights directly affect its planning yet additionally influence conventional security, trust and protection components. A significant number of these components are never again satisfactory, yet should be reconsidered to fit this new worldview. In this paper he survey how security, trust and protection issues happen with regards to distributed computing and talk about manners by which they might be tended to.

III. EXISTING SYSTEM

In Existing System we often face the problems with the privacy of the network system and private data. There are some security issues like data modification can be done by attackers using unauthorized access. It will be the loss of business person because restore facility for modified data is not available.

The attacker objective for using the data tempering and injection technique is lies in gaining control over the application database. In a web based application

environment, most of the web based applications, social web sites, banking websites, online shopping websites works on the principle of single entry point authentication which requires user identity and password.

A user is known by the system supported his identity.This process of validation based on user name and password, is referred as authentication.

In general shopper send a communications protocol request to net|the online|the net} server and web server successively send it to the information layer. Database end contains relational tables so queries will be proceeding and result will be send to the web server. So entire method is information driven and every information contains several tables that ar why SQLIA may be simply doable at this level.

SQL Injection could be a basic attack used for principally 2 intentions: 1st to realize unauthorized access to a information and second to retrieve data from information.

Function primarily based SQL Injection attacks ar most vital to note as a result of these attacks don't need information.

IV. PROPOSED SYSTEM

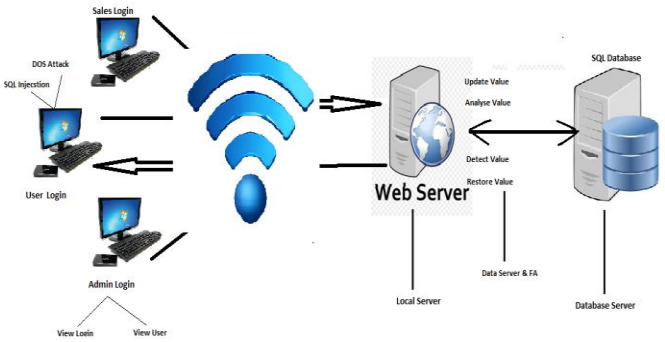

Fig 1. System architecture

Module Explanation:

Client Module:

Client can approve login get to. He can refresh all close to home data. He additionally can offer position to created secure encryption process.

Deals Department:

Deals office fill in as a programmer. Here programmer changes the database estimation of any item without confirmation.

Administrator Module:

Administrator is the approved individual, he check all the client action records just as profile. He likewise watch the hardening on changing the qualities from information base.

Synopsis:

First of all regularly database motors are turned over and altering location is instated when assault is played out a spring up worth is created at the administrator's board and the information worth is reestablished effectively.

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VI. CONCLUSION AND FUTURE SCOPE

Conclusion:

This is an Application of Modified data detection system through unauthorized access. By using MD5 algorithm we are restoring modified data in cooperation the front end web (HTTP) requests and back end DB (SQL) queries.

Future Scope:

In future we can analyze the phishing attack and cross site scripting attack can be installed on wide range of machines having different operating systems and platforms. In our future we work on global server to analysis the temper server.

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A Survey on Secured Data Transmission Using RSA Algorithm and Steganography

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ABSTRACT

Conceptual In the cutting edge world, there is a need of high security of media information. This verified framework ought to give classification, genuineness, respectability and non-disavowal in the system. The private subtleties moved through web are hacked by phishing in an electronic correspondence world. So data security plays a significant job. The Cryptographic calculations are applied over numerous applications for secure transmission of information against dangerous assaults. Steganography is utilized to conceal their reality. Rivest-Shamir-Adleman (RSA) is an awry cryptographic, profoundly verified calculation. Since it is mind boggling to process, extraordinary strategies are applied to build the speed of a RSA calculation. This paper proposed a strategy to upgrade the security of correspondence by consolidating cryptography and steganography strategies. The proposed framework is progressively productive in verifying information from unapproved clients.

Keywords : Cryptography, RSA, Encryption, Unscrambling, Steganography.

I. INTRODUCTION

An expanded interest for exchange of data and internet providers needs security from the interlopers. In this manner, mystery of information move in correspondence media in nearness of programmer, for example, cryptography and steganography are utilized. Cryptography clutters a message to be transmitted with the goal that it can't be perused and get it. Steganography is procedure of correspondence that covers up the nearness of emit message in another message[1]. The two significant advances are beginning one is covering data from unapproved gatherings and second is making information incomprehensible to individuals separated from assumed recipient. Cryptographic calculations are recognized as symmetric and hilter kilter calculations. In symmetric calculations, a solitary key is applied by sender and recipient during conveying called as mystery key. These calculations are otherwise called discharge key and single-key encryption. This procedure have less computational expense. Likewise experience issues while keys being traded, non-renouncement and confirmation. In unbalanced calculations, two separate keys are applied. One is open key used to encode messages. Another is private key used to decode got messages. Here open key is known by both sender and recceiver, where as private key is kept emit. Numerous lopsided calculations are being utilized to slove numerical entanglements to get them in an irreversible state. Figuring Challenge: The huge numbers are utilized in creating RSA keys. The RSA Factoring challenge is the one confronting trouble while figuring these huge numbers. Two huge

prime numbers are consolidated to get each number. Modulus of a key pair is additionally created in comparable manner[6]. Figuring of a number is the one getting it as the result of prime numbers. Time to register figuring increments if the size of the number increments. Another test is mystery key test where the key should be exchaged utilizing better encryption calculation safely among sender and proposed receipient without being known to outsider. The basic objective of steganography is to oppose fascination with respect to transmission of covered information.

II. LITERATURE SURVEY

A picture steganography utilizing a Hash-LSB (H-LSB) encoding and unraveling, RSA encryption and decoding what's more, Blowfish calculation is proposed [1]. RSA is utilized to encode the mystery data and after that it is covered up into the spread picture document utilizing Discrete Cosine Transform (DCT) and Hash-LSB method. Reviews different enhancements for RSA calculation by applying alterations so as to improve it [2]. Improved RSA is proposed in [3] where the estimations of x, y and n are known to both sender and recipient, the estimation of d is known as it were to collector. The strategy to upgrade the security of RSA plan disposes of the excess messages which happened in certain estimations of n or in the result of two prime numbers [4]. LSB Replacement system which is a procedure of altering the least noteworthy piece pixels of the spread picture [5]. RSA was picked as an encryption system due to its encryption and decoding speed, and furthermore its base stockpiling necessity for the figure content. An audit around two methods of picture steganography are proposed in 0 produced. Fig.1

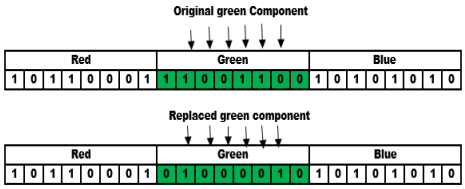

Fig 1.

Green Pixel Replacement Continuing of 2018 IEEE International Conference on Current Trends toward Converging Technologies, Coimbatore, India

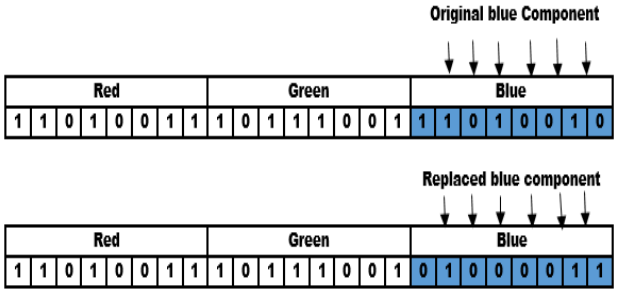

Fig 2.

III. EXISTING SYSTEM

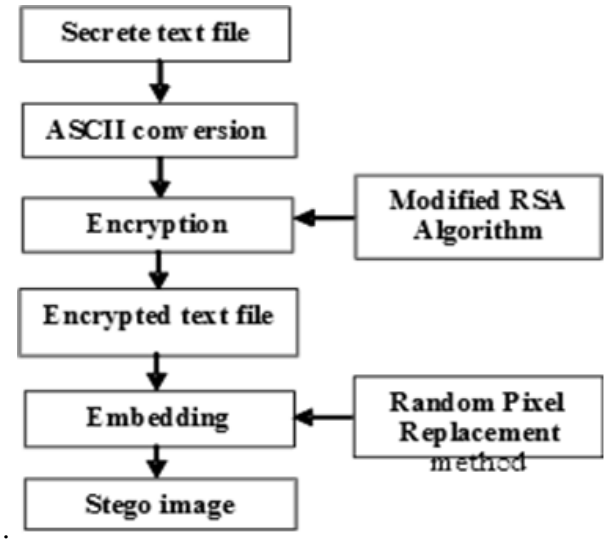

Fig 3. Encoding Process

This stego picture is transmitted in the system to arrive at the goal. The stream chart for disentangling is delineated in Fig.7. Stego picture is gotten at the goal. The initial step is to get the mixed encoded information from the stego picture. This is finished by extraction strategy. The encoded information will be gotten by separating every estimation of pixels based on the arbitrary number produced utilizing pixel substitution strategy. The acquired information must be decoded utilizing the private key from altered RSA calculation. The first mystery content document will

be acquired subsequent to decoding the scrambled information.

IV. PROPOSED SYSTEM

In this proposed framework, an altered RSA calculation is actualized to expand security for the mystery message. Without utilizing the key it is difficult to remove the mystery data. An arbitrary pixel substitution method is utilized for inserting. The mix of encryption and inserting in our method gives a two-layer security in the web. Execution examination is assessed by contrasting RSA calculation [14] and altered RSA, which has given a superior MSE and PSNR values for the diverse test pictures. Time taken for encryption and decoding is additionally assessed

Time taken for encryption and decoding is additionally assessed. The future work can be reached out for other information documents like sound, video and furthermore for other picture arrangements and pictures of other size. Some assault investigation can likewise applied for the proposed technique.

System Flow

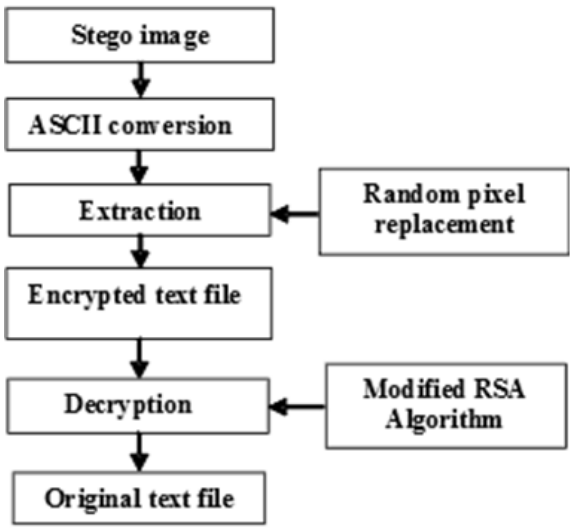

Fig 3. Decoding Process

ALGORITHM

Step 1: Receive a stego image.

Step 2: Find 4 LSB bits of each RGB pixels from stego image.

Step 3: Apply hash function to get the position of LSB's with hidden data.

Step 4: Retrieve the bits using these positions in order of 3, 3, and 2 respectively.

V. CONCLUSION

In this proposed framework, an altered RSA calculation is actualized to expand security for the mystery message. Without utilizing the key it is difficult to remove the mystery data. An arbitrary pixel substitution method is utilized for inserting. The mix of encryption and inserting in our method gives a two-layer security in the web. Execution examination is assessed by contrasting RSA calculation [14] and altered RSA, which has given a superior MSE and PSNR values for the diverse test pictures. Time taken for encryption and decoding is additionally assessed. The future work can be reached out for other information documents like sound, video and furthermore for other picture arrangements and pictures of other size. Some assault investigation can likewise applied for the proposed technique.

VI. FUTURE SCOPE

We have compared and analysed existing cryptographic algorithm like DES, AES and RSA along with the same LSB technique for hiding the document in an image file. Our future work will focus on SLSB which replace LSB technique.

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