



MOHAMED SATHAK A J COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai)

Siruseri IT Park, Egattur, Chennai - 603 103

3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Sl. No.	Name of the Author	Title of the paper	Name of the conference	Year of publication	Name of the publisher
1	Dr.A.Balakrishnan	Study on Coastal Ground water aquifers-suitability for drinking and irrigation purposes	National seminar in recent trends in smart materials	2017-2018	Kings College of Engineering, Chennai
2	Dr.E.Dhiravidachelvi	Energy Harvesting Using PELTIER through Cold and Hot Junction	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai
3	E.Dhiravidachelvi	Bright lesion detection using dynamic shape features for diabetic retinopathy screening	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai
4	Mrs.Suganthi.I.S	Driver monitoring and vehicle accident intimation system	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai
5	Mrs.Suganthi.I.S	Biometric Based Voting Machine	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai
6	Mr.S.Naveenkumar	Integration of location detection and user authentication for secured ATM	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai

PRINCIPAL

MOHAMED SATHAK A.J.COLLEGE OF ENGINEERING
34, Rajiv Gandhi Road (OMR), Siruseri IT Park
Chennai-603 103.



MOHAMED SATHAK A J COLLEGE OF ENGINEERING

(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai)

Siruseri IT Park, Egattur, Chennai - 603 103

7	Mr.S.Naveenkumar	Automated and Secured configuration in IPV6 and policy based routing	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai
8	Mrs.Suganthi.I.S	low cost Smart phone controlled car security system	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai
9	Mrs.Suganthi.I.S	Automatic vehicle detection and tracking in Surveillance in locking mechanism and tracking for negligence of insurance payment	International Conference on Emerging Trends in Information and Communication Technologies (ETICT 17)	2017-2018	Sethu Institute of Technology, Madurai

PRINCIPAL

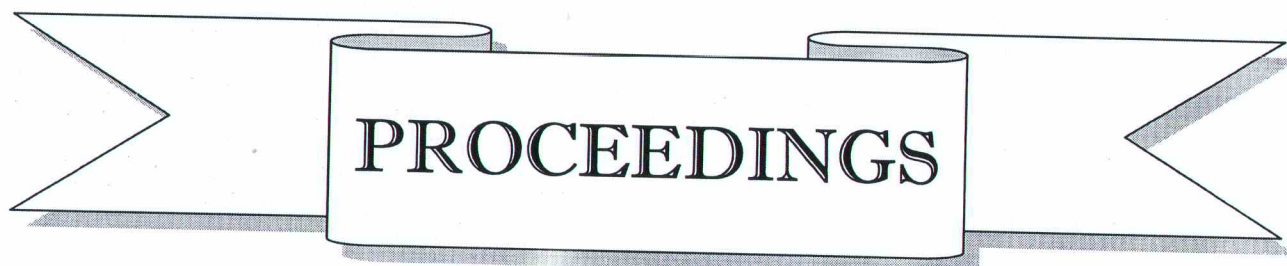
MOHAMED SATHAK A.J.COLLEGE OF ENGINEERING

34, Rajiv Gandhi Road (OMR), Siruseri, Chennai - 603 103.



National Seminar on Recent Trends in Smart Materials (NSSM – 2018)

17th February 2018



[Handwritten signature]

PRINCIPAL

MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING

**EGATTOR-603 103.
KANCHIPURAM DT.**

*Organized by
Department of Science and Humanities*



NSSM – 2018

Study on coastal ground water aquifers – suitability for drinking and irrigation purposes.

A.Balakrishnan¹ and A.Ramu^{2}*

¹ Department of Chemistry, Mohamed Sathak AJ College of Engineering, Chennai, 603 103 TN, India.

^{2*} School of Chemistry, Madurai Kamaraj University, Madurai, 625 021, TN, India.

Abstract

The present study is aimed to assess coastal aquifer system along the sea shore area of Gulf of Mannar and Palk Strait. An effort has been undertaken for a detailed survey of 50 ground water samples collected during three different seasons namely pre monsoon, monsoon and post monsoon. For the above all the physico chemical parameters including Water Quality Index (WQI) approach were used scientifically to evaluate the coastal aquifer system and the suitability of ground waters. The suitability of ground waters for drinking has been assessed based water quality index (WQI). The average WQI value in Gulf of Mannar during pre monsoon, monsoon and post monsoon seasons are 243, 224 and 210 respectively and average WQI value in Palk Strait during pre monsoon, monsoon and post monsoon seasons are 244, 219 and 200 respectively. Suitability of ground water for irrigation purpose is evaluated based on Sodium percentage (Na%), Magnesium Hazard (MH), Permeability Index (PI), Kelley's Ratio (KR), Sodium Absorption Ratio (SAR), Salinity Hazard and USSL diagram. The study results highlighted that most of the study sites were found not suitable for potable purposes. Further, the same trend has been retained during all the climatic conditions stated that the coastal aquifer systems are being contaminated by infiltration / percolation of domestic and industrial waste water and very few found sea water mixing with aquifer.

Key Words: Water Quality Index (WQI) SAR, Gulf of Mannar Palk Strait.



PRINCIPAL
MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING
EGATTUR-603 103.
KANCHIPURAM DT.

**International conference on Emerging Trends in Information & Communication technologies
(ETICT -2017) -4TH April 2017**

SLNO	TITLE	PAGE NO
1	Four Wheel Drive By Wire Based On Embedded Systems	3
2	Energy Harvesting Using Peltier Through Cold And Hot Junction	12
3	Electromagnetic Modeling Of Non-Radioactive Trace For High Speed PCB	22
4	Driver Monitoring And Vehicle Accident Intimaion System	30
5	Diabetic Risk Assessment Predictive Model	37
6	DESIGN OF MULTIBAND ANTENNA USING DEFECTIVE GROUND STRUCTURE	45
7	Design And Implementation Of Mux Based Convolutional Encoder Architecture	49
8	Bright Lesion Detection Using Dynamic Shape Fetures For Diabetic Retinopathy Screening	57
9	Boat Localization And Warning System For Border Identification	64
10	Biometric Based Voting Machine	69
11	Automatic Vehicle Detection And Tracking In Surveillance In Locking Mechanism And Tracking For Negligence Of Insurance Payment	77
12	Automated and Secured Configuration In Ipv6 And Policy Based Routing	87
123	AMBULANCE BASED TRAFFIC LIGHT CONTROL SYSTEM	99
14	A Novel Approach For Drug Safety Monitoring In India	104
15	Hardware Implementation Of Classification Of Carotid Artery And Measurement Of Imt	119
16	UNMANNED LEVEL CROSSING USING ANDROID APP	134
17	STUDENT'S VOICE ONLINE FEEDBACK / COMPLAINT REVIEW SYSTEM (OPCS)	144
18	SMART ATTIRE PICKOUT-RFID BASED USER PROFILING	149
19	PERFORMANCE ANALYSIS OF VITERBI	159



PRINCIPAL
SATHI A. COLLEGE OF ENGINEERING
EGATTUR 603 103.
KANCHIPURAM DT.

ENERGY HARVESTING USING PELTIER THROUGH COLD AND HOT JUNCTION

N.T.Varnikha^{a1}, M.Sugaleka^{a2}, M.Sushmitha^{a3} and E.Dhiravidachelvi^{b4}

a^{1,2,3}UG student and b⁴ Associate Professor

Department of Electronics and Communication Engineering,

Mohamed Sathak A.J. College of Engineering, Chennai-603 103,Tamilnadu,India.

msajce.dhiravidachelvi@gmail.com

Abstract—Energy harvesting is also known as power harvesting is the process by which energy is derived from external power sources captured and stored for small wireless autonomous devices like those used in wearable electronics and wireless sensor networks. Energy harvesters provide a very small amount of power for low energy electronics. There are two types of energy such as Renewable energy and Non-Renewable energy. We are using peltier module which is similar to the solar energy, wind energy etc., and also it belongs to the renewable energy. By using the Peltier module, we are used in mobile charging and home load applications.

Keywords—component; Peltier module, Thermocouplesensor, LCD, Cooling fan, Sepic Booster.

I. INTRODUCTION

Energy harvesting has grown from long established concepts into devices for powering deploys sensor networks and mobile electronics. The demand for electricity usage in the growing technological world is increasing because it powers many industry process and home appliances at this point the traditional method of generating power are unsustainable and there is a need to find an alternate energy sources. Every form of power generation as it is positive and negative results.

A thermocouple is a device used extensively for measuring temperature. A thermocouple is comprised of at least two metals joined together to form two junctions. One is connected to the body whose temperature is to be measured; this is the hot or measuring junction. The other junction is connected to a body of known temperature; this is the cold or reference junction. Therefore the thermocouple measures unknown



BRIGHT LESION DETECTION USING DYNAMIC SHAPE FEATURES FOR DIABETIC RETINOPATHY SCREENING

Lubna Amathul Wadhoodh ^{a1} V. Mosina Thabassum ^{a2} E.Dhiravida chelvi ^{b3}

^{a12} UG student and ^{b3} associate professor

Department of Electronics and Communication engineering

Mohamed Sathak A. J. College of Engineering, Chennai 603103 Tamil Nadu, India
msajce.dhiravidachelvi@gmail.com

ABSTRACT- Diabetic retinopathy does not show any symptom of the disease till the person is fully affected with it. The fundus of the eye opposite the lens and includes the retina, optic disc, macula and fovea and the posterior pole. This eye fundus must be examined periodically by ophthalmoscope or fundus photography. This fundus examination can easily denote any changes in the retina due to the very less number of ophthalmologists some automated screening process is need to be developed in order to cover all the diabetes affected people. Automatic telemedicine system for computer-aided screening and grading of diabetic retinopathy depends on detection of retinal lesions in fundus pictures, a complete unique technique for automatic detection of each micro aneurysms and haemorrhages in colour fundus pictures is delineated and valid. The most contribution is a new set of form options, known as Dynamic form options, that don't need precise segmentation of the regions to be classified. These options represent the evolution of the form during image flooding and permit to discriminate between lesions and vessel segments. It proves to be strong with relevance variability in image resolution, quality and acquisition system.

INTRODUCTION

Diabetic retinopathy (DR) is a complication of diabetes that can lead to

impairment of vision and even blindness. It is the most common cause of blindness in the working-age population. One out of three diabetic person presents signs of DR and one out of ten suffers from its most severe and vision-threatening forms. DR can be managed using available treatments, which are effective if diagnosed early. Since DR is asymptomatic until late in the disease process, regular eye fundus examination is necessary to monitor any changes in the retina. With the increasing prevalence of diabetes and the aging population, it is expected that, in 2025, 333 millions diabetic patients worldwide will require retinal examination each year. Considering the limited number of ophthalmologists, there is an urgent need for automation in the screening process in order to cover the large diabetic population while reducing the clinical burden on retina specialists. Automation can be achieved at two levels: first, in detecting cases with DR, and, second, in grading these cases. Indeed, the identification of the severity level, through DR grading, allows more appropriate and consistent referral to treatment centres. Our research focuses on the development of an automatic telemedicine system for computer-aided screening and grading of DR. Since computer analysis cannot replace the clinician, the system aims at identifying fundus images with suspected lesions and at sorting them by severity. Then, the annotated images are sent to a human expert for review, starting with the suspected most severe cases. Such an

Department of ECE, Sethu Institute of Technology, Kariapatti.

DRIVER MONITORING AND VEHICLE ACCIDENT INTIMAION SYSTEM

MOHAMMED AASIF K ^{a1}, DHAMOTHARAN C ^{a2}, ARAVINDHAN M ^{a3}.

^{A1,2,3} UG STUDENTS (DEPT.OF ECE)

MRS. I.S.SUGANTHI ^{b4}

^{B4} ASSISTANT PROFESSOR (DEPT.OF ECE)

(MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING)

ISO 9001:2008 CETIFIED INSTITUTION

(Approved by all India council for technical education, New Delhi and affiliated to Anna University,

Abstract— This system provides a unique method to curb drunken and drowsy people. This system has an alcohol sensor, eye blinking sensor and vehicle sensor embedded in the vehicles. Whenever the driver start vehicle, the sensors senses the eye blink and measures the content of alcohol in his breathe and automatically sends the signal to buzzer. In this system the outputs of sensors are given to the microcontroller for comparison. And if the accident is occurred the message will be passed to the register number and location of the accident is sent by the gsm. This will help to save life of the people. The motorcycle accident is a major public problem in many countries. Despite awareness campaign, this problem is still increasing due to rider's poor behaviors such as speed driving, drunk driving, riding with no helmet protection, riding without sufficient sleep, etc. The numbers of death and disability are very high because of late assistance to people who got the accident. These cause huge social and economic burdens to people involved. Therefore, several research group and major motorcycle manufacturers including have developed safety devices to protect riders from accidental injuries. However, good safety device for motorcycle is difficult to implement and very expensive.

INTRODUCTION

The main purpose of this paper is to save the people from accidents and message passing the accident area, so that the help can be reach at the right time. By this method many people's life can be gets saved. Nowadays the drunk and driving cases got increased due to this many people losing their innocent lives. An external thing is needed to monitor on people who is drunken. By this method there is no need for any external monitoring. And there is no need for the external message passing for the accident. The microcontroller to be used will send the information to the registered number. This will do at the right time so that the victim's life can get saved.

In this the microcontroller takes the every action. The whole process will runs on the command of microcontroller. And the microcontroller to be used is the ARDUINO UNO CONTROLLER. Board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PW

Software requirements

- ARDUINO IDE
- EMBEDDED C

Embedded C is a set of language extensions for the C Programming

PRINCIPAL

MOHAMED SATHAK A.J.

COLLEGE OF ENGINEERING

Page 31

KANCHIPURAM DT.



BIOMETRIC BASED VOTING MACHINE

HEMALATHA.P^{a1}, CELESTINE LIZA.J^{a2},
DHANISHA JOTHI.M^{a3}

^{a1,2,3}UG STUDENTS (DEPT.OF ECE)

MRS. I.S.SUGANTHI^{b4}

^{b4}ASSISTANT PROFESSOR (DEPT.OF
ECE)

Abstract: The main objective of this paper is to design and develop a RFID based electronic voting machine and using fingerprint scanner for authenticating for sorting out the wired electronic voting problems. Design is based on the microcontroller (PIC16F877A) .RS232 Cable which is used for interfacing between microcontroller and the fingerprint module. Liquid Crystal Display (16*2) for displaying the instructions and voter information . Fingerprint module for scanning voter's fingerprint before voting, RFID reader, RFID tag, Buzzer alarm. If Indian government adopt biometric voting system for voting purpose we can easily avoid rigging in election. Database

comprising personal details of all the voters and fingerprint are stored in microcontroller for

comparing and verification during polling. If already vote casted person enters into booth with his RFID tag for second time voting, then buzzer will alert booth level officer. This electronic voting machine will save time and efforts of human.

Thus, the proposed EVM system is more fast and reliable as compared to existing electronic voting system. At the end of the polling, just by pressing the button result can be obtained. The security of data, privacy of the voters and the accuracy of the vote are also main aspects that have to be taken into account while building secure electronic voting system. Overcoming the disadvantages of current voting

system, this paper provide a secure and reliable voting system

KEYWORDS: RFID, Fingerprint module, LCD Display

Introduction

Voting machines are the total combination of



INTEGRATION OF LOCATION DETECTION AND USER AUTHENTICATION FOR SECURED ATM

^[1]T.JANANI, ^[1]K.ANITHA, ^[1]V.ARCHANA, ^[2]S.NAVEEN KUMAR

^[1]Student, Department of Electronics and Communication,

^[2]Assistant professor, Department of Electronics and Communication,

Mohamed Sathak A.J College of Engineering (MSAJCE),

IT Highway, Egattur, Kanchipuram-603103,

Email ID: ece.naveen@msajce-edu.in

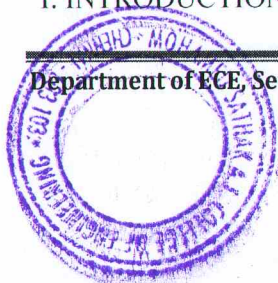
Abstract—This paper is designed to handle the cash boxes in the logistics vehicles using open CV and ZigBee technology by making the locks electronic and password protected. Cash box of the vehicle is allowed to open only at the respective place to avoid misuse of the cash. To ensure this, the system uses pattern recognition and ZigBee device pairing and address verification to know the exact location of the vehicle by reading the address of the corresponding ZigBee fixed at the respective destination points (say, ATMs). The lock is allowed to open using a random One Time Password (OTP). The OTP will be sent to the personnel's phone who is handling the Cash Box in the vehicle. The OTP should be entered correctly on the device connected to the cash box. If the OTP is correct then the person can open the cash box using the locker key and can transfer the cash. During emergency and abnormal period, an alarm is generated to alert the main controlling department from the vehicle.

Keywords—Automated Teller Machine (ATM), Micro controller, ZigBee, OPEN Computer Vision (CV), One Time Password (OTP)

I. INTRODUCTION

In most of the logistics vehicles the cashbox must be secured for protecting the valuable amounts so that the security issues is most important in recent days. Nowadays there is demand for more efficient security systems to avoid access of unauthorized persons. In recent system a unique password is set to open locker, which is only known to authorize person. The most of locker systems are based on only mechanical key operations; if key is misplaced or stolen then again it is difficult to maintain security of that locker. Thieves smash and grab the lighter, less secure and free-standing units, or pop they open to grab the cash box for later dissection. Physical restraints help, but technology now provides electronic locks to protect the machines from those who would steal cash boxes.

The main purpose of this paper is to implement a locker system with high security based on random password and open CV technology which can be organized in ATM cashbox vehicles where high security is required. After that pattern confirmation of open CV the person receive the password to the microcontroller, which will verify the passwords entered by the key board.



Automated and Secured Configuration In Ipv6 And Policy Based Routing

HARRYSRICHARDSON.P^[1],^[1]DHINESH KUMAR.U,^[2] S.NAVEEN KUMAR^[1]Student,
Department of Electronics and Communication,^[2]Assistant professor, Department of Electronics
and Communication, Mohamed Sathak A.J College of Engineering (MSAJCE), IT Highway,
Egattur, Kanchipuram-603103, Email ID: ece.naveen@msaice-edu.in

Abstract - The internet is a worldwide publicly accessible system of interconnected computer networks. Currently, two versions of the Internet Protocol (IP) are in use on the Internet namely IPv4 and IPv6. In some sense, there is a competition going on between these protocols, as they are not directly compatible, the aim of this project is to show the compatibility of Ipv6 packets through IPv4 and network providers and users are being forced to determine whether to support one or both protocols for various network services. In this project we are taking IPv6 network in GNS3 simulation tool and implement the Policy Based Routing scheme and Routing the packet by varying cost on the OSPF routing protocol. Routers normally forward packet to destination addresses based on information in their routing tables. By using Policy Based Routing (PBR), we can implement policies that selectively cause packets to take different paths based on source address, protocol types or application types. Therefore PBR overrides the routers normal routing procedures. Another method to route the packet is by varying cost of an OSPF routing protocol in the router interfaces. The packet will be routed the packet in the least cost OSPF path. By implementing the above two schemes, packets coming to the router to the same destination network is routed in different outgoing paths based on the source

network id and interface of the incoming pack

Key Words: Networking, IPV6, IPV4, Tunneling, Dual stack, PBR (policy based routing), Router, GNS3.

I. INTRODUCTION

The internet is a worldwide public accessible system of interconnected computer networks. Currently, two versions of the Internet Protocol (IP) are in use on the Internet namely IPv4 and IPv6. In some sense, there is a competition going on between these protocols, as they are not directly compatible, the aim of this project is to show the compatibility of Ipv6 packets through IPv4 and network providers and users are being forced to determine whether to support one or both protocols for various network services.

II. TUNNELING

DESIGNING OF THE NETWORKS

Designing of IPv6 and IPv4 network is proposed in this project. In order to communicate with the networks, its protocol has to be enabled. Here the IPv6 and IPv4 is designed by enabling the OSPF protocol. In the network routers are configured and they are made connected to communicate with each others. In this network two IPv6 host have been placed with IPv4 as the core network. IPv6 cannot communicate with IPv4 since they are incompatible. So the routers between the networks have to be

LOW COST SMART PHONE CONTROLLED CAR SECURITY SYSTEM

R. Geetha^{a1}, R. Kalpana^{a2}, S. Kavitha^{a3} and I.S. Suganthi^{b4}
a^{1,2,3}UG student and b⁴ Associate Professor

Department of Electronics and Communication Engineering,
Mohamed Sathak A. of Engineering, Chennai-603 103, Tamilnadu, India.

Abstract: Vehicle security and keeping pace of advancement in car features with technology have been major concern in automobile industries. Many people have to face difficulties in locking/unlocking and switching ON/OFF the car engine upon losing the car key. In addition to that in most of the higher range car, people have to wait for few minutes after turning on the car engine to allow the car engine to attain its normal operating temperature to get better performance of the car engine and improve its life. Moreover, if a car gets stolen and used for some illegal activities banned by the government then a car owner will face many legal hitches. So to tackle all these issues, an electronic system is designed and implemented in a real car that does not provide only car security feature but provides additional features such as unlocking and locking of the car, and switching ON and OFF the car engine remotely using smart phone. This paper basically discusses the technical aspects of

such electronic system. Key words: GSM modem, GPS modem, Microcontroller, Relays, Transistors.

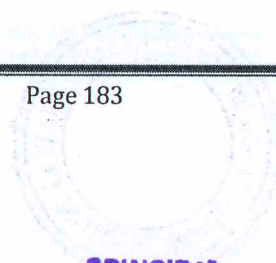
I. INTRODUCTION

In this world, everyone and every industry like to keep pace with the advancement in the technology. Automobile industry is also not behind in this aspect. Nowadays almost everyone has a car. As purchasing a car is a big investment, people are really concerned about the advanced technologies in automobile industry. Therefore, automobile companies have witnessed a major boost in their technological aspects by introducing automation in the vehicles to provide user friendly and advance features to their customers.

As far as vehicle security is concerned many options are available depending upon the technology being adopted. Many auto theft alarms and devices are installed in cars but they didn't prove to be a solution to the



Handwritten signature in blue ink.



AUTOMATIC VEHICLE DETECTION AND TRACKING IN SURVEILLANCE IN LOCKING MECHANISM AND TRACKING FOR NEGLIGENCE OF INSURANCE PAYMENT

S. Sheela devi¹, S. Savithri², K. Sandhiya devi³ and I.S.Suganthi⁴
UG student, UG student, UG student and Assistant Professor Department of
Electronics and Communication Engineering, Mohammed Sathak A.J College Of
Engineering, Chennai-603 103, Tamil Nadu, India

PRINCIPAL
MOHAMED SATHAK A.J. COLLEGE OF ENGINEERING
EGATTUR-603103.
KANCHIPURAM DT.

Department of ECE, Sethu Institute of Technology, Kariapatti.



Abstract—An embedded system is a special-purpose computer system designed to perform a dedicated function. Unlike a general-purpose computer, such as a personal computer, an embedded system performs one or a few pre-defined tasks, usually with very specific requirements. Since the system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product. As the technology develops, security becomes a major concern. The security not only means securing the important things but also the data's. Nowadays we hear lot of problems for tracking the vehicles in the bus stops, for particular vehicles. We may also be one of the victims of that issue. So we here use a simpler technique to track the vehicle. This method can find vehicles without paying insurance.

INTRODUCTION

The main objective of this project is to make the person to pay his insurance on time, else the vehicle will be automatically locked using Locking Mechanism.

EXISTING SYSTEM

Existing system of this project is nothing but it's just the documentation of the particular person.

When the person failed to pay his insurance, at the time the agent will call the person he will intimate

about the insurance. and also no automatic detection system for license and helmet.

DISADVANTAGES

- ❖ Easy to escape.
People can easily forget his insurance in his busy schedule.
- ❖ Not trustable.

PROPOSED SYSTEM

In proposed system, microcontroller will help to pay the insurance. The process is when the person fails to pay the insurance amount then the agent sends the warning message to the person and the microcontroller will display the intimation message by using LCD. When GSM receives the intimation message, microcontroller will glow the LED light and LCD will display the intimation message, and buzzer will alarm. If the person failed to pay the insurance when the microcontroller will off the vehicle using locking mechanism. And RFID id reader is used to helmet is present or not. If helmet and license is not present at pick up of bike microcontroller will automatically lock the bike. If the bike is

Handwritten signature

