ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

A Smart Anti-Theft System for Vehicle Security using GPS, GSM and RFID

Amrutha Chandran[1], F.R.Shiny Malar [2]

Master of Engineering, Department of Computer Science and Engineering, Stella Mary's College of Engineering, Nagercoil 629202, Tamil Nadu, India [1]

Associate Professor, Department of Computer Science and Engineering, Stella Mary's College of Engineering, Nagercoil – 629202, Tamil Nadu, India [2]

Abstract: Stealing the vehicle is the major threat to car or vehicle owners. Nowadays, it is increasing day by day. If not recovered soon, stolen vehicle are generally sold, revamped or even burned, if the resale price is considered to be too low. When a vehicle is stolen, it becomes hard to locate and track it, which considerably decreases the chances of recovering it. An Anti-Theft vehicle security has been developed to mitigate this problem. This system consists of a PIC16F876A microcontroller, fingerprint, RFID, GPS-GSM modules and a tilt sensor. The car will be started with RFID or fingerprint or password. If an unauthorized person wants to open the door of the vehicle, it will ask for correct RFID or password or fingerprint. The tilt sensor is used to measure any breaking of windows or doors and movement of the vehicle, a message will be sent to the owner's mobile containing the location of the car via GPS-GSM module. The system gives also an alarm. Furthermore, the connection to the fuel injector of the car is deactivated to prevent the unauthorized start of the vehicle anyhow. This anti-theft security system enhances the chances of recovering the car.

Keywords: Microcontroller, GPS, GSM, RFID, Anti-Theft.

I. INTRODUCTION

Radio frequency (RF) technology is used in many different applications, such as television, radio, cellular phones, radar, and automatic identification systems. RFID stands for radio frequency identification and describes the use of radio frequency signals to provide automatic identification. Unlike the electronic article surveillance (EAS) systems used for theft detection, RFID provides a unique serial number for identification of an object . RFID is used in the Mobil Speed pass system to pay for gas without going into the store, in automobile immobilizer systems to prevent theft by uniquely identifying a key with an embedded chip, in FastLane and E-Z Pass toll road systems to automatically pay tolls without stopping, in animal identification, in secure entry cards to secure access to buildings, and in the supply chain to manage the flow of pallets, cases, and items . RFID technology was invented in 1948, but it was not commercialized until the 1980s. One of its first known applications was during World War II, when it was used by the British radar system to differentiate between friendly and enemy aircraft with attached radio transponders .

Most media accounts of RFID are actually about one form of RFID, the electronic product code (EPC) system. Initially, RFID was being used to identify objects in the MIT robotics laboratory but was found to be useful for managing the supply chain. The electronic product code (EPC) was developed by the Auto-ID Center at MIT and is now being managed by EPCglobal Inc. EPCglobal Inc. is a global not-for-profit standards organization commercializing the Electronic Product Code™ (EPC) and RFID worldwide. It is one important form of RFID used by retailers to manage the supply chain. EPC has standardized chip designs and protocols to enable the mass production of low-cost passive RFID tags in the 860-960 MHz range. EPC is a technology similar to the uniform product code (UPC) barcode identification used to provide information about the product to which the EPC tag is attached except that it can be read at

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

a distance and does not require line-of-sight aiming like the barcode system.

Pervasive computing, also called ubiquitous computing, is the growing trend of embedding computational capability into everyday objects to make them effectively communicate and perform useful tasks in a way that minimizes the end user's need to interact with computers as computers. Pervasive computing devices are network-connected and constantly available. Unlike desktop computing, pervasive computing can occur with any device, at any time, in any place and in any data format across any network and can hand tasks from one computer to another as, for example, a user moves from his car to his office. Pervasive computing devices have evolved to include: Laptops, Notebooks , Smartphones, Tablets, Wearable Devices, Sensors (for example, on fleet management and pipeline components, lighting systems, appliances). Often considered the successor to mobile computing, ubiquitous computing generally involves wireless communication and networking technologies, mobile devices, embedded systems, wearable computers, Radio Frequency ID (RFID) tags, middleware and software agents. Internet capabilities, voice recognition and Artificial Intelligence (AI) are often also included.

II. LITERATURE REVIEW

A. D. Vikhankar1, Prof. R. P. Chaudhari2 Student, Dept. of E & TC, Govt. Polytechnic Pune, India1 Professor, Dept. of E & TC, Govt. College of Engg. Aurangabad, India 2.This Project introduces a programmed limitation framework utilizing GPS and GSM SMS administrations. The framework licenses confinement of the vehicles and transmitting the position to the proprietor on his cellular telephone as a Short Message (SMS) at his solicitation. This framework is likewise given crisis switch which can be squeezed when a man driving vehicle needs assistance. This switch assumes the liability to bolt the motor. The framework can be interconnected with the vehicle caution framework and alarm the proprietor on his cell telephone. This following framework is made out of a GPS beneficiary, Microcontroller and a GSM Modem. GPS Receiver gets the area data from satellites as scope and longitude.

The Microcontroller forms this data and this handled data is sent to the client/proprietor utilizing GSM modem. The framework additionally comprises of liquor sensor and flex sensor. Liquor sensor recognizes whether the driver is inebriated or not. In the event that he's smashed then the signal is turned on, motor is killed and the message and additionally area of the vehicle is sent to the beneficiary versatile number utilizing GSM module. Flex sensor distinguishes the vehicle collision. On the off chance that an vehicle collision happens then instant message and area of the vehicle is sent to the beneficiary portable number through GSM module. The exhibited application is an ease answer for car position and status, extremely helpful if there should arise an occurrence of vehicle burglary circumstances, for observing pre-adult drivers by their guardians and in addition in vehicle following framework applications. The proposed arrangement can be utilized as a part of different sorts of use, where the data required is asked for once in a while and at sporadic timeframe (when asked). If there should be an occurrence of vehicle burglary circumstances the proprietor can know the vehicles current area and taking into account that he can stop the vehicle by sending a predefined SMS message to this framework. In the wake of getting SMS message from proprietor this framework consequently stops the ignition framework subsequently the vehicle won't work anymore.

Pritpal Singh, Tanjot Sethi, Bibhuti Bhusan Biswal, and Sujit Kumar Pattanayak. Security, especially theft security of vehicle in common parking places has become a matter of concern. An efficient automotive security system is implemented for anti-theft using an embedded system integrated with Global Positioning System (GPS) and Global System for Mobile Communication (GSM).This proposed work is an attempt to design and develop a smart anti-theft system that uses GPS and GSM system to prevent theft and to determine the exact location of vehicle. The system contains GPS module, GSM modem, Infrared sensors, DTMF decoder IC MT8870DE, 8051 microcontroller, relay switch, vibration sensor, paint spray and high voltage mesh. GPS system track the current location of vehicle, there are two types of tracking used one is online tracking and other is offline tracking.. In case of accident this system automatically sends the message for help to ones relatives. The preventive measures like engine ignition cutoff, fuel supply cutoff, electric shock system (installed on steering wheel) and paint spray system are installed in the vehicle which is controlled using user or owner GSM mobile. The owner can lock or unlock his/her vehicle with the help of SMS. This complete system is designed taking in consideration the low range vehicles to provide them extreme security.

Kompalli Supriya1, M. Venkateshwarlu2 1pg Scholar, Sri KS Raju Institute of Technology and Sciences, Hyderabad, Telangana, India. 2Associate Professor, Sri KS Raju Institute of Technology and Sciences, Hyderabad,

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

Telangana, India. In modern day vehicles, vehicle anti-theft system is of prime importance. The vehicle anti-theft system presented here consists of multiple layers of protection swith one complementing the other, rather than the conventional anti-theft system where a particular system is only being used.

The first layer of protection in the system is a Key recognition, based on which the doors are opened. The Key matching is done by utilizing the Minutiae based Key recognition scheme. Also to prevent thieves from breaking the glass and getting inside the vehicle, vibration sensors are used in all the windows with a threshold level to prevent false alarms. Once inside, the vehicle is turned on only with the mechanical keys along with correct key number entry on the combination keypad present, failing to do so for three successive times will result in vehicle getting immobilized by cutting the fuel supply and an alert message is sent to the mobile number of the owner.

Imadu Olurotimi Ernest, 2Lawani Aigbiniode Sunday, 3Anao Gloria Chidinma 4Salisu Hindatu Ango 5Muhammad Muzzammil Yusuf 1, 2,4, 5Power Equipment and Electrical Machinery Development Institute(PEEMADI),Okene,KogiState,Nigeriaolurotimiimadu@gmail.com,sundayalawani@yahoo.com,hindatuango@gmail.com,ymmuzzammil@gmail.com,3SevenfeatEngineering Construction Ltd, Port Harcourt Rivers State, Nigeriagloriaanao@yahoo.com

L. K. Hema*, Achal Mercy Banra,Raju Kumarand Ranu Rakesh Singh Department of Electronics and Communication Engineering, Aarupadai Veedu Institute of Technology,CHENNAI (T.N.) INDIA Security, especially theft security of vehicle in common parking places has become a matter of concern. An efficient automotive security system is implemented for anti-theft using an embedded system integrated with Global Positioning System (GPS) and Global System for Mobile Communication (GSM).This proposed work is an attempt to design and develop a smart anti-theft system that uses GPS and GSM system to prevent theft and to determine the exact location of vehicle. GSM system is also installed in the vehicle for sending the information to the owner of the vehicle because GPS system can only receive the vehicle location information from satellites. The preventive measures like engine ignition cut-off, fuel supply cut of are installed in the vehicle which is controlled using user or owner's GSM mobile. The owner can lock or unlock his/her vehicle with the help of SMS. This complete system is designed taking into consideration the low range vehicles to provide them extreme security.

III. METHODOLOGY

A set of guiding principles and processes for managing a project.Your choice of methodology defines how you work and communicate.

A. RFID Technology

An RFID system consists of tags, readers, communication protocols, computer networks, and databases. A typical RFID system being standardized by EPCglobal is shown in Figure 1. The tag is a miniature chip containing product information with an affixed radio antenna. The tag is attached to an item or its packaging and contains a unique serial number called an electronic product code (EPC). The EPC is used to uniquely identify the pallet, case, or item. For low-cost tags, a reader transmits a radio signal to the tags to energize them so that the tag can transmit its EPC. A reader can be either stationary in a fixed state or handheld. There are communication protocols that define the exchange of messages from the tag to reader and reader to tag. The readers are connected to a computer network so that they can be queried by a management system. Then the management system can query a database determined by the EPC to find out more information about the item to which the tag is attached.

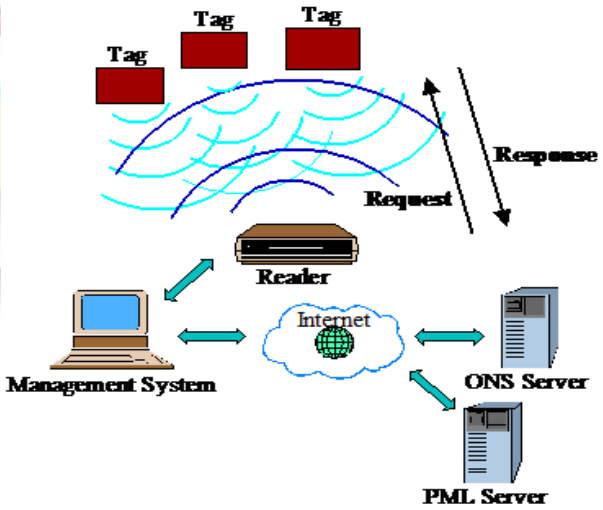

Fig. 1 RFID System

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

A tag contains information and a reader queries the tag for the information. A tag is sometimes called a transponder. The word transponder comes from the words transmitter and responder. It is an identifier affixed to a certain item or an object holding its identification information. The tag responds to a reader's request by transmitting the information. The tag consists of a microchip connected to an antenna and sometimes a battery. The chip has memory and today can store information up to 128 Kbytes. The tag's antenna is physically attached to the chip and is used to draw energy from the reader to energize the tag. Recent technology advances have made the size of a tag microchip smaller than a sand grain. However, its physical dimensions are determined by the size of antenna. A tag with a battery is known as an active tag and a tag without a battery is known as a passive tag. Active tags generate energy from its battery and passive tags receive energy from the reader that generates a radio frequency (RF) field.

A reader, also known as an interrogator, is a device used to query one or more tags within its range and communicate with them. It consists of one or more antennas that emit radio waves and receive signals from one or more tags. The reader sends a request as an interrogating signal for identification information to the tag. The tag wakes up and responds or broadcasts with the respective information by sending an encoded modified signal, which the reader decodes, forwarding it to the data processing device.

A data processing device aggregates the information from multiple tags and processes data. It provides a distributed database of information about items identified by tags and is positioned between readers and enterprise applications. It can provide a variety of computational functions on behalf of applications.

The EPCglobal and International Standards Organization (ISO) standardization groups have a standardized communication protocol stack for the physical and data link layers of the open systems interconnect (OSI) model between the readers and the tags. The OSI model is shown in Figure 2. The data link layer includes the local wireless communication that occurs between a reader and the tags within its read field. The physical layer standard describes the specific radio frequencies and whether tags and readers are communicating in half or full duplex mode. EPCglobal has standards for systems operating in the high frequency (HF) band of 13.56 MHz and for the ultra high frequency (UHF) bands from 860 to 960 MHz . The focus in EPCglobal is the UHF band because it is used in the supply chain. Communications between readers and in-house or third party databases are not standardized, but determined by individual implementations.

Inter-company communications are not standardized. Each company or organization uses EPC information service (IS) to communicate EPC related information with other organizations and business partners. EPC IS is a data repository used to store information about an item in the supply chain. Today, retailers and their suppliers use the RFID-based EPC system like they have been using uniform product code (UPC) barcodes although the existing middleware software is still being developed to handle the extra details provided by RFID.

Suppliers and manufacturers provide retailers with a listing of EPCs and what pallets or cases of product they represent. The retail companies typically then feed that information into their existing in-house database systems called Warehouse Management Systems (WMS), Enterprise Resource Planning Systems (ERP), Or Manufacturing Execution Systems (MES).

A major challenge is keeping data synchronized for trading companies. The Uniform Code Council (UCC) is working on this problem in today's world of UPC bar codes via the UCCnet.

Global Data Synchronization Network (GDSN) is a network of interoperable data pools and a Global Registry, the GS1 global registry, for exchanging certified standardized data from a data source to a data recipient. The GS1 Global Registry is the central directory for providing information to the registering trading parties, making data pools interoperable by sharing subscription.

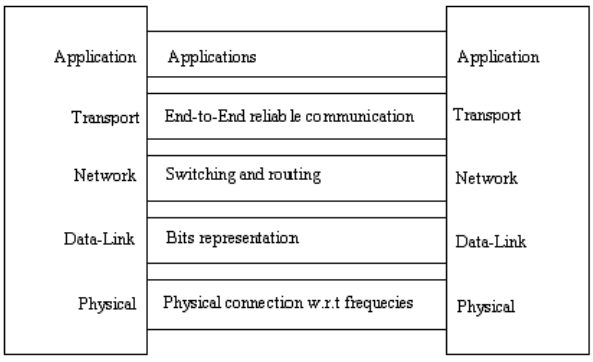

Fig.2 OSI protocol stack

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

B. Tags

There are two broad categories of RFID tags: active and passive. The characteristics of active and passive tags are summarized in Table 1. Each type will be described in separate sections.

The battery-supplied power of an active tag generally gives it a longer read range. The trade off is greater size, greater cost, and a limited operational life that may yield a maximum of 10 years, depending upon operating temperatures and battery type. There are two types of active tags: transponders and beacons. Active transponders are woken up when they receive a signal from a reader. These are used in toll payment collection, checkpoint control and in tracking cargo.

Transponders conserve battery life by having the tag broadcast its signal only when it is within range of a reader. Beacons are used in most real-time locating systems (RTLS), where the precise location of an asset needs to be tracked. In an RTLS, a beacon emits a signal with its unique identifier at pre-set intervals. It could be every three seconds or once a day, depending on how important it is to know the location of an asset at a particular moment in time.

RTLS are usually used outside, say, in a distribution yard, but automakers use the systems in large manufacturing facilities to track parts bins.

TABLE I

COMPARISON BETWEEN PASSIVE AND ACTIVE TAG

Characteristics	Passive RFID tag	Active RFID tag
Power Source	Provided by a reader	Inbuilt
Availability of power	Within the field of reader	Continuous
Signal Strength (Reader to Tag)	High	Low
Signal Strength (Tag to Reader)	Low	High
Communication range	< 3meters	>100 meters
Tag reads	< 20 moving tags @ 3mph in few seconds	>1000 moving tags @ 100mph in 1 sec
Memory	128 bytes	128 Kbytes
Applicability in supply chain	Applicable where tagged items movement is constrained	Applicable where tagged items movement is variable and unconstrained
Expense	$0.05	$10.00-$50.00

The trade off is that they have shorter read ranges than active tags and require a higher-powered reader. Passive tags operate at low, high, and ultra-high frequencies. Low-frequency systems generally operate at 124 kHz, 125 kHz or 135 kHz. High-frequency systems use 13.56 MHz. Ultra-high frequency (UHF) systems operate at approximately 900 MHz and 2.45 GHz.The tags used in the supply chain operate between 860 and 960 MHz and are the most common. Common frequencies used by passive systems are shown in Table 2.

TABLE II

COMMON RFID FREQUENCIES AND PASSIVE RANGES

Frequency Band	Description	Range
125 – 134 KHz	Low frequency (LF)	To 18 inches
13.553 – 13.567 MHz	High frequency (HF)	3 -10 feet
400 – 1000 MHz	Ultra-high frequency(UHF)	10 – 30 feet
2.45 GHz	Microwave	10+ feet

IV. SYSTEM ANALYSIS

Automation is now a blessing for modern life. Almost every industrial work is done by robots or Programmable Logic Controllers (PLC). As the increasing in the number of Automobiles on the road, the crime involving it also increased like automobile stealing. Indeed, even with enhanced automobile protection systems and expanded mindfulness among automobile proprietors, automobile burglary has not yet been checked down to a noteworthy measure. A straightforward patching up of the vehicles outside makes it difficult to track the stolen vehicle thus only a few vehicles are recovered. To protect the precious vehicle, proprietors are currently being compelled to spend huge amount of cash on vehicle protection.

The goal of this project is to develop an anti-theft security system which protects vehicle from theft. In this protect, a tilt sensor has been used which is used for detecting any tilt of the vehicle. PIC16F876A is a microprocessor. When giving the correct password or correct RFID or correct fingerprint, the vehicle will start to run. At that the security system will be deactivated. When anyone gives the wrong password or wrong RFID or wrong fingerprint, the security will be activated, at that time engine switch is switched off. The vehicle does not move and the owner will get a message automatically with the help of GSM module. If anyone tries to pick up the vehicle, the tilt sensor detects the movement of the vehicle. The alarm will

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

be switch on. The owner receives a message about the position of the vehicle through GPS. We have introduced wireless Access Points (APs) and RFID readers will be deployed throughout the city. Exploiting the pervasive deployment of these devices, location and status information of vehicles can be actively captured and logged in a large number of distributed local nodes. Real-time vehicle tracking is easily done that is, any query for a vehicle must be answered within a certain bounded time.

V. System Analysis

Stealing the vehicle is the major threat to car or vehicle owners. Nowadays, it is increasing day by day. If not recovered soon, stolen vehicle are generally sold, revamped or even burned, if the resale price is considered to be too low. When a vehicle is stolen, it becomes hard to locate and track it, which considerably decreases the chances of recovering it.

An Anti-Theft vehicle security has been developed to mitigate this problem. This system consists of a PIC16F876A microcontroller, fingerprint, RFID, GPS-GSM modules and a tilt sensor. The car will be started with RFID or fingerprint or password. If an unauthorized person wants to open the door of the vehicle, it will ask for correct RFID or password or fingerprint.

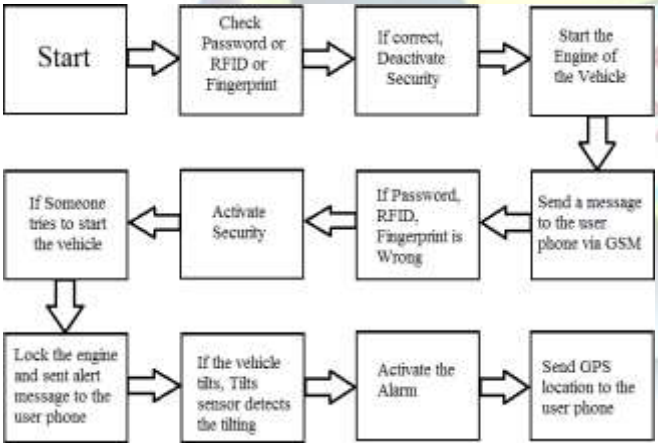

Fig.3 Process diagram of anti-theft vehicle Protection System.

When the vehicle starts, the system checks the password or RFID. If the password or RFID is correct, the system deactivates the security and the engine starts working and send a message to the user's mobile through GSM. If the password is wrong, the security activated. If someone tries to start the vehicle, the engine stops and then a alert message to the user's mobile.

If the vehicle is tilted by some someone then tilt sensors starts working and activate the alarm and send the location message to the user's mobile through GPS.

The tilt sensor is used to measure any breaking of windows or doors and movement of the vehicle, a message will be sent to the owner's mobile containing the location of the car via GPS-GSM module. The system gives also an alarm. Furthermore, the connection to the fuel injector of the car I deactivated to prevent the unauthorized start of the vehicle anyhow. This anti-theft security system enhances the chances of recovering the car.

First, the user initializes the system, then read the tag. If the key in the tag is correct then pass the information to the wireless access point to the local server then ATM server handles the queries and local server send and receives request to the user. If the key reads from the tag is incorrect then the system tries to reads the tag again and the process is repeated again until the key is matches.

A. *Hardware Specifications*

The hardware specification for the system can be given below:

1) Hard disk : 40 GB
2) RAM : 128mb
3) Processor : Pentium
4) GPS, GSM
5) Fingerprint
6) Tilt Sensor

B. *Software Specifications*

The software specification for the system can be given below:

1) Java,J2SE
2) Windows 98 or more.
3) MS-SQL Server

VI. System Implementation

To Register the vehicle Details with RFID. To find the any theft occurred using wireless access point. If any problem occurs the local server initiate the GPS system and send the information to the owner mobile using GSM. Also pass the information to the ATM server to recover the vehicle.

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

The modules are RFID Tag and RFID reader,Wireless access point, Local server, ATM Server. The vehicle contains the RFID tag that has been used in the vehicle for the purpose of tracking and gets the present location of the vehicle. The tag contains the key that can be read by the card reader with this card reader it can communicate to the wireless access point.

Wireless Access Point can communicate with the RFID reader that has been present in the vehicle and gets the information about the vehicle where it is moving and its position. This is been passed to the local server which keeps on monitoring the many RFID reader that are been under the control of that particular access point. Then passes the information to the local server.

Local server can communicate with the wireless access points that has the information about the vehicle . This local server gathers the information about the vehicle using tilt sensor that the user wants about the vehicle location and information.This local server can have a interaction the ATM(any time monitoring) server which keeps on monitoring about the particular vehicle that has been needed by the user.

This ATM server which keeps on monitoring about the particular vehicle that has been needed by the user and have an interaction with the local server. It handles the request that are given by the user. Even it can handle any large number of queries that has been given. It directly interacts with the query from the user and process that and gives information that are needed by the user. This contains many sub domains that are connected to it.

VII. SYSTEM TESTING AND MAINTENANCE

Testing is a set of activities that can be planned in advance and conducted systematically. For this reason a template for software testing, a set of steps into which we can place specific test case design techniques and testing methods should be defined for software process.

Testing often accounts for more effort than any other software engineering activity. If it is conducted haphazardly, time is wasted, unnecessary effort is expanded, and even worse, errors sneak through undetected. It would therefore seem reasonable to establish a systematic strategy for testing software. There are two type of testing according their behaviors.

A. *Unconventional Testing*

Unconventional testing is a process of verification which is doing by SQA (Software Quality Assurance) team. It is a prevention technique which is performing from begining to ending of the project development. In this process SQA team verifying the project development activities and insuring that the developing project is fulfilling the requirement of the client or not.

B. *Conventional testing*

Conventional Testing is a process of finding the bugs and validating the project. Testing team involves in this testing process and validating that developed project is according to client requirement or not. This process is a correction technique where testing team find bugs and reporting to the development team for correction on developed project built.

Unit Testing is a level of software testing where individual units/ components of a software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output. The procedure level testing is made first. Testing is done for each module. After testing all the modules, the modules are integrated and testing of the final system is done with the test data, specially designed to show that the system will operate successfully in all its aspects conditions. Thus the system testing is a confirmation that all is correct and an opportunity to show the user that the system works.

Module Testing is a process of testing the system, module by module. It includes the various inputs given, outputs produced and their correctness. By testing in this method we would be very clear of all the bugs that have occurred. The Interface Testing is performed to verify the interfaces between sub modules while performing integration of sub modules aiding master module recursively. The final step involves Validation testing, which determines whether the software function as the user expected. The end-user rather than the system developer conduct this test most software developers as a process called “Alpha and Beta Testing” to uncover that only the end user seems able to find.

The compilation of the entire project is based on the full satisfaction of the end users. In the project, validation testing is made in various forms. The objectives of this maintenance work are to make sure that the system gets into work all time without any bug. Provision must be for environmental changes which may affect the computer or software system.

ISSN 2394-3777 (Print)
ISSN 2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 7, Issue 10, October 2020

This is called the maintenance of the system. Nowadays there is the rapid change in the software world. Due to this rapid change, the system should be capable of adapting these changes. In our project the process can be added without affecting other parts of the system.

VIII. CONCLUSION

This is a methodology of designing and grouping an affordable, theft control system for associate degree automobiles providing multiple input method where any one input method needs to match. This device is an ultimate treat to the thieves because any unauthorized access attempt will block the engine and ignition system of the vehicle.

However, making an anti-theft security system forvehicle protection with all necessary features is not possible due to some limitation including cost, availability of equipment and complexity of interfacing etc. Due to these limitations, all necessary features could not be added for developing the anti-theft security system. So this anti-theft security system has some future work.

Using Voice Recognizing technology, the door of the vehicle could be open by the voice of its Owner. This device can also be used in accident prevention system by using highly sensitive vibration system. If somehow an accident occurs then it will notice the location to the hospitals and nearest police station. Traffic system can be improved by this system by monitoring the location of the vehicle.

REFERENCES

[1]. Finkenzeller and Handbook.R,(1999), "Radio-frequency identification fundamentals and applications," Chippenham: John Wiley & Son.

[2]. Muruganandham.P,Mukesh.R,(2010), "Real Time Web Based Vehicle Tracking Using GPS", World Academy of Science, Engineering and Technology, 61.

[3]. Ganesh G.S.P, Balaji B and Varadhan T.A.S,(2011), "Anti-theft tracking system for Automobiles," IEEE International Conference on Anti- Counterfeiting, Security and Identification (ASID), pp. 17-19.

[4]. Mohammad Al-Khedher.A,(2011), "Hybrid GPS-GSM Localization Of Automobile Tracking System," International Journal of ComputerScience & Information Technology (IJCSIT), Vol 3, No 6.

[5]. Rajasekhar reddy.A, Anwar basha.P,(2012) ,"The Terminal System Design based on hybrid RFID-GPS in Vehicular communications," International Journal of Modern Engineering Research (IJMER),Vol.2, Issue.4, pp-2316-2319.

[6]. Mulge.V, Mrs Sathyaprabha. G, Mr VaraPrasad Rao P. V,(2014), "Anti-Theft Security System Using GSM, GPS, RFID Technology Based On Arm7," International Journal of Research in Information Technology(IJRIT), Volume 2, Issue 9,Pg. 764-769.

[7]. Shepard.S, (2015), "RFID: radio frequency identification". McGraw Hill Professional.

[8]. Ashwini Dilip Lahire(2016), "GPS & GSM based vehicle tracking and security system," lnternational Journal of Engineering Research and Development, Volume 12, Issue 6, ssPP.55- 60.

BIOGRAPHY

Amrutha chandran was born in Pandalam,Kerala State,India in 1995.She studied Computer Science and Engineering in Satyam College of Engineering, Aralvoimozhy,Kanyakumari District,Tamil Nadu State,India from 2013 to 2017.She received Bachelor's degree from Anna University, Chennai 2017.She did her Master degree in Stella Mary's college of Engineering, Anna University, Chennai in the year of 2020. She do had a paper presentation in International conference.

Dr. F.R. Shiny Malar was born in Nagercoil, Tamil Nadu State, India in 1986. She studied Information Technology in St.Xavier's Catholic college of Engineering, Chunkankadai, Kanyakumari District, Tamil Nadu State, India fom 2003 to 2007. She received Bachelor' s degree from Anna University, chennai 2007. She received the Master degree from Manonmaniam Sundaranar University Tirunelveli. And also received Doctorate degree in the Department of Computer Science and Enginering, in Noorul Islam Center for Higher Education, Noorul Islam University, Kumarakoil, Tamilnadu, India; Currently she is working as a Associate Professor in Stella Mary's College of Engineering, Nagercoil, Tamil Nadu State, India. She has published more than 8 international journals and presented more than 10 papers in international and national conferences and their research interest include image security, networking and image processing.