A Enhanced Novel Methodology for Checking Driver Eligibility and Vehicle Security Using Image Processing

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Abstract: Around the world, cars are becoming a more and more common form of transportation. Adolescents driving without proper identification is a serious reason for concern in our country because it leads to accidents. According to figures from the World Health Organization, Chennai has the highest traffic collisions of any Indian city over the past ten years, followed by Tamil Nadu. India has the highest fatality rate at 16.6 per 100,000 people. Many technologies have been developed to reduce accident rates and, on average, detect auto thefts based on accident and theft scenarios. Researchers take a number of safety precautions when using modern technologies like Clonally Selection Algorithms, Artificial Fish Swarm Algorithms, and Intelligent Car Security Systems. It is important to know the license plate numbers in order to identify the car theft. In this study, we examine a range of technologies that can help detect and prevent car burglaries and accidents. Currently, the basis of transportation in the modern world is road communication. Unauthorized driving and auto theft have grown to be serious issues in our nation as more people rely on their cars for transportation. The most popular technique for screening drivers is to pull over the car while it is in traffic and check their licenses. At rush hour, it worsens the congestion in the traffic. The vehicles in the traffic lane cannot all be checked by the traffic police. Similarly to this, it could be challenging to pin down the exact cause of an accident.

Keywords: Driver, RFID GSM,, Zigbee, License, .

1. Introduction

RFID technology is used to ensure the evidence of the person and verify the person is an authorized one or not. RFID readers are used to read the stored database. RFID tags are used to contain the stored information about the drivers. RFID writer is a device which contains the program for enabling the RFID technologies. The RFID technology is the main source which is playing a major trend in the society on the concept of accepting the personal as an authorized one or not Similarly, Alarm system is implemented in all the devices such that if any car theft occurs, then immediately an alarm sound occurs. A hidden Smartphone is also been set up in the car without the knowledge of the car driver and it can trace out the location of the car. The set of very strict rules must be issued in order to allow and accept for the

licensed drivers. The rules can follow few concepts such as there must be proper driving skills for issuing license, there must be all the proper practices on the road in advance. The final suggestion among the objective of the car security and driver eligibility is that to reduce the accidents in the society and to maintain the healthy life among the drivers without any loss.The rule must be created and designed in such a way that the driver without the license will be punished very effectively. The fatality rate Gets increased day by day due to the accidents which is happening in our society.

Car theft is the main issue which is being faced in recent times by the society. Zigbee has the main feature to send and receive messages through the devices. IOT modules are set up for communicating within devices and to alert the driver using sensors. GSM, GPS are the various technologies used for communication purpose among the devices. The communicating technologies are mainly used to find and trace out the location of the car. An autonomous car had come into existence where it leads to various hurdles. Autonomous car used to fail in the navigation directions and end up in many accidents which take off many lives in the society. The rule must be created and designed in such a way that the driver without the license will be punished very effectively. The

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In the modern world, the prevalence of car accidents among the general populace is a very severe problem. Numerous factors, such as intoxication, fatigue, illness, being unconscious, and being unable to run a vehicle, frequently result in car accidents.

This serves as a concrete illustration of how the concept of Car Driver Eligibility operates. A daily average of 50 to 90 people are allegedly injured or killed in collisions involving unlicensed drivers.

Accidents happen frequently because individuals lack knowledge and experience. According to accident data, between 17 and 19 unlicensed adolescent drivers die each day. Statistics also dispel the widespread misconception that teens without drivers' licenses are more likely to cause fatal crashes. Teenagers are frequently found guilty and given execution sentences. Teenage drivers who were negligent and lacked the necessary experience and instruction were also to blame for a large number. The new driver is the person who immediately steps out from the secured phase and entered into the road zone [21]. The system mainly focuses to strengthen the traffic rules, increasing the level of acceptance of the license eligibility and to improve the quality of the driving school. The proposed method paves a way that only experienced users are less in committing accidents whereas the new drives are sentenced to the road killers. The road safety rules, the traffic rules of the road and the mechanism of the vehicle must be known to the new driver. In [22] characterized various ways in which the person face, iris and different facial regions are captured. Authentication, License matching techniques and Fingerprint are the major methodologies used in the system to improve the quality of the system. Multiple fingerprint images must be taken for safety since if any of the fingerprint is injured, the other image can be used. The major merits of this invention is that there is no need to carry license, it neglects the frauds and crime rates. The system also faces some challenges such as it cannot trace out the fingerprint when finger is being injured, finger is sweaty and when finger changes its features due to the ageing factors.

An approach of Traffic Control system [23] was implemented using Finger print recognition and license plate detection techniques. Character recognition techniques is being used to differentiate the characters, Persian numbers and digits. Edge detection is done by morphological image processing. The system implementation is being efficient since it focuses on removing the unwanted regions. The experimental results are having the highest accuracy in recognising the characters that 93% , accuracy in segmentation that 97% and accuracy in extraction of plate region that 96%. The main objective of the system is to reduce the traffic and controlling accidents during traffic. Similar Persian letters are not being recognised even with the character recognition technique.

In researching the various character segmentation concepts. The character segmentation sets as an efficient way in detecting the license plate details. The various technologies in character segmentation are used such as Vector quantization, Hidden Markov[24] Chain techniques, based on prior knowledge, using horizontal and vertical projection. The exact character can be detected in the license plates by removing the upper and lower bound regions. The system mainly focuses on the detecting the characters with the help of recovering an image from the gray scale. Using threshold image unwanted part of the image can be deleted easily and used to recover an original image.

Automatic collision notification technique [25] plays a major role in maintaining and limiting the accidents happening in the traffic areas. The system deals with various concepts that few accidents happens due to inattentiveness of the driver, drunk and driving and equipment error in the car. The model has created and designed various embedded modules to be installed in the car and speed control system is designed in such a way that sensors are very much helpful in giving notifications about the speed limited areas, accident prone areas and preventing the collision of the vehicles. GSM and GPS technology are being used for communication purpose. Horn Prohibition technique also plays a major role in preventing the driver to press the buzzer or horn in horn prohibited areas.

Contrarily, the different strategy is used [26] for defining and building a model and prototype for license plate recognition mechanism and finger print detection methods. Seat belt detector is also being used in order to detect the driver and people inside the car are wearing the proper seat belts or nor before the start of the car engine. Ignition system is the main and major concern that only when the stored fingerprint details and swiped fingerprint details are getting matched, the car gets started up. The proposed system is still under experimentation process and it does not produce any of the state of art results.

Safety measures of the vehicle with different [27] communicating technologies. DTMF,GSM,GPS, Zigbee are the various technology used in this proposed method.

GPS traces out the exact location of the car if it is being theft, Zigbee communicates via messages to the person's relatives or any other devices if the driver is in risk. The system faces a major drawback by using pressure sensor. To overcome this limitation, radar and sonor sensor is being used to monitor the environment and their situations. The system is still under experimentation and cannot produce the state of art results. Designed the concept based on automating the driving[28] license test. The main advantage of the system is that the proposed method can reduce the time of the test and also to reduce the effort of the test. The main reason for developing the system is to reduce the accidents by providing automation on testing the driver license. The Near Field communication database is used to store the license details of the person and it gives an unique identification. The person can access the admin using unique id and if traffic police finds any case on this id. The traffic police immediately stores the case and complaints on the user. The process in this system is very helpful and time consuming such that there is no need to check the license of an individual in the traffic places.

The different approach for recognising the license plates is monitoring the vehicles with embedded system [29]. The system also includes the character segmentation with the vertical and horizontal projection which is used for clearing the noise. The major advantage of the proposed work is to maintain the system in an efficient way and able to provide the low cost license plate recognition system. The accuracy of the proposed system is not exact as some of the real time solutions. The accuracy level of the license plate recognition system can be increased by adding some deep learning algorithms. The system proves that the clear image is obtained by reducing the overall noise.Proposed the idea to prevent the thefts and crimes for the vehicles. The[30] paper mainly focuses on providing the security and safety measures to the driver and as well as the car. The authentication techniques such as fingerprint and image processing is also being used to recognise an authorised user. The system has implemented few features to increase the quality of the work such as checking an alcohol content, giving notification about the hill prone areas, rash driving detection and collision avoidance system. The paper also focuses the research on child in car alertness system.

2. Related Works

Contrarily,VHDL(Hardware Description language) and RFID technology [1] are being utilised in the system to propose the solution for the problem of illegal parking space and vacancy issues. Archika Singh et.al., had a very great strategy to produce the proper parking space of the vehicles which is very much essential in the society. The system also added itself to implement the concept of Prepaid Parking card which is a very much intelligent move. Though the system is being designed, it takes time to produce the state of art results. The Data Transmissions in the prepaid parking card is not much accurate. The paper finally achieves the customised parking system with an available limited space.

In [2], AbhiramiKolli et.al., proposed a method to detect an emotion of the driver using Thermal camera. The main objective is to secure the car from accidents, to protect the driver's life from risk and damage, to prevent the risk of person behind/beside the driver. The face detection technology is being used to identify the person emotion such as sad, happy, fear. The system faced a major hurdle to detect an emotion 'FEAR'. The system performs best implementation on detecting the emotions such as 'HAPPY' and ' SAD'.The another major drawback is that only limited sensors are used along with the thermal camera. Few achievements are being done in this paper that exact size of the face region is being detected, the exact face and emotion is being detected at its best.

Feature and technology such as AdaboostFace Recognition and Prinicipal Component Analysis [3] is used for securing the car lock. The accuracy level of detecting the faces using Adaboost face recognition is only 84 percent which is a very important drawback. The system passes a success that the accuracy level of skin detection technology is very high such as 95 percent. The failure is that adaboost cannot able to detect few areas. The author also suggests that FPGA can used in the proposed system for better and accurate results. The proposed method in the system is used to recognize and extract the exact facial images using Adaboost and skin color detection techniques.

As suggested, FPGA (Field Programmable Gate Array) [4] is used to detect and recognize the exact images. The system also focuses on the Pixel distortion technology where it is used to detect, store and recognize the facial factors and images. The system also has an advantage of non-intrusiveness. The Hardware Description Language and Dev board is also used to enhance the features of the proposed system. The system faces a major pitfall that it cannot recognize the facial features if the person is sitting

under different pose, if the intensity of the light differs and if there is a very difficult illumination conditions. The objective of the paper is that to reduce the car thefts by recognizing exact facial images.

An approach of an Embedded System [5] is being discovered and used for Autonomous Car System. Mohammed Faisal et.al., addresses the problem of crimes, thefts and accidents due to distracted driving such as drunk and driving, sleepy driving and rash driving. The other technologies such as Image Processing, Face Detection and Facial Recognition is used. The famous framework named as Viola-Jones Object detection Framework is used to detect the frontal image immediately after capturing the image. This was implemented in the real time with proper implementation and execution. The paper deals with the major drawback that the system is not able to recognize the face if the head orientation is at different positions. The system although tastes few achievements on limiting the vehicles in the speed limit areas so as to reduce the accident rate.

Dechao Luoet.al., [6] had designed and implemented a new method for improving the recognition and detection rate with highly added extraction features. The system again deals and shakes hand with the skin detection technology and Adaboost technology. Though the detection rate was not upto the level as expected. The hurdle faced by the system is that it was difficult to identify the shadow images, images under illumination conditions. The system proceeds with success as it was able to identify and detect the facial images even if the head rotations are under different poses. The Skin color and facial features are extracted under some fixed rate. The method with some added technologies and test cases is expected to be the best system for detecting minor features of images.

A New Embedded Car Theft Detection System [7] was designed by Zhixiong Liu at.al., such that to detect the facial images of the car driver. If anything goes wrong with the car driver then immediately it must be proceeded and report to the public database provided by the Police. The system paves a better way in detecting facial images even with different genders, even if it is under difficult illumination conditions. Though the accuracy rate of detecting the car driver i9s only 85 percent which is very low. The system performs well with an official and authorized person and it is pulling down a hurdle if it is the case with an unauthorized or unofficial drivers. The police takes an immediate action after being suspected and confirms whether he/she is a theft or not. The system

sets itself as a representative for best car theft detection system.

In [8], Miguel Porta G., et.al., addresses the problem of securing the car with movement detection system. The GMRS(General Mobile Device Service) and WSS (Wireless Security System),Movement Detection System are used to sense the car always along with its movements. The alarm is also being set up in the system so as to specify the alertness in the public for detection mechanism. The system has the major drawback that alarm system is a bit noisy. Remote Location Device is being set up such that it traces out the car movement away from accidents and theft. The system would be much realistic without the alarm concept and it is expected to be master piece in upcoming projects.

An Intelligent Car Security System [9] is built and invented for securing the car in a smart way. The Movement Detection System is being set up in such a way that it traces out the exact movements of the car and if any risk happens, immediately it sends the alert messages to the smart phone. Though the system has a wise plan, it plays with a fall off that it is not possible if the mobile phone is switched off and if the battery condition of the smart phone gets dried up. The proposed system alerts the security of the car with the help of the messages which does not produce the noise is being considered as the boon of the paper. The advanced GSM is implemented in order to secure the cars from any of an unauthorized users.

Contrarily, In [10] Embedded Operating System,Zigbee Technology are utilized to implement the car control system. The system mainly uses the Magnetic field sensors to estimate the navigations on the road. The linear Optimal Quadratic fleet tracking control Algorithm is used to track and control the car using some commands such as START,STOP,MOVE,BREAK and also able to perform an uniform control actions of the car. The system implements a methodology that there must be a distance between the cars consistently and the speed of the car must be in a limited specification. Thedrawback of this paper is that the maintenance work of the system is very difficult and cost of implementing the system is high.

In 2014 [11], Wireless Webcam based Car Burglar Detection System was proposed in such a way that it provides the security to the car using Image processing and Survelliance system. The paper has a main objective to secure the car from crimes and accidents. The proposed system had an accuracy of detecting car burglar with 96.2% .The detection time of detecting the car burglar is about 1.28 seconds. The system faces a very hard hurdle that it cannot be implemented under certain

conditions such that outdsoor areas during nights, variation of sunlights and with different illumination conditions. The major added feature of this paper is that the whole system works with wireless mechanism.

In [12], Hammad Afzal et.al., had introduced Low Cost Smart Phone Controlled Car Security System. The basic methodology used to implement this paper is that GSM modem,GPS Technology and Transistors. The proposed system provides the locking and unlocking mechanism of the car and ON/OFF mechanism of the car engine. This system using various technologies traces and identifies the latitude and longitude details of the car. Though this system had designed and implemented well, it cannot be stated in the real world and it does not produce the state of art results. The true myth about the paper is that it is under low cost and limited components.

Vivek Kumar Sehgal et.al., at [13] discussed the problem of identifying the car when it is being stolen or when the car is being faced by any of the damage conditions. The system is implemented with the help of the hidden smartphone, GSM Technology, and Android application. The paper attains its objective in such a way that to provide the security to the car that all the IP enabled devices are being connected at any of the distances through IOT protocols. The main hurdle faced by the paper is that the battery of the hidden smartphone would get drained and switched off easily as it is being connected with various sensors. Arduino power supply which is being provided by the 9V battery also gets drained up so quickly. On neglecting the drawback, the system makes out the different view on viewing the car security mechanism when it is being stolen or damaged.

Contrarily, In [14] Khattah M Ali Alheeti et.al., has a very stubborn idea that to provide an intelligent car security system for an autonomous car using infrared sensors. Security System and Intrusion Detection Methodology are used in order to assure the security of the car. The major limitation of this paper is that it cannot prevent the accidents in advance. The communication configuration must be updated periodically in order to maintain the current trend of the communication. The chances of both internal and external attacks in an autonomous cars is really high. The proposed system identifies the accuracy rate of the attacks faced by an autonomous cars at the rate between85.02% and 98.45% . The paper though improves the accuracy level of preventing the attacks on an autonomous cars.

E.Kiran Mahesh et.al., at [15] implemented a methodology of providing advanced security to the car. TheSpy cameras are being used without known to the car driver. Image Processing,Database Management and Sensor system are used in order to store the datasets in the database. The Car owner can hand over an evidence of the footages and pictures to the detection team. The detection team will immediately take an action and finds for the culprit. The system has the difficulty in maintaining the database so that it is not being promised to be the confidential one.

In [16], Chunliang Zhao presented the work based on the various ways of detecting the license plates with the help of the dynamic scene. The character segmentation is being taken as the major goal to segment the character and to detect the characters individually. After an image is being taken into consideration, then it proceeds to few features such as image pre-processing, image positioning, then it forwards to the concept of database processing. Horizontal projection is utilized if the characters on the license plates falls are invisible due to the adhesiveness. The system achieves few concepts on the research of detecting the license plates are locating the license plates, extracting the license plate regions ,segmenting the characters and recognizing the characters. The final model is implemented mainly with few objectives such as to reduce the noise and to maintain the accuracy and detection level.

The new feature named Accident detection [17] and communication system is built with the help of the GSM and GPS. The main objective of the system is to reduce the accidents which is happening in day to day life and to ensure the public healthy life. The system has major concern on an individual's life if that any accident occurs, then the information must be immediately passed on to the friends and relatives. The heart rate sensor which is used to sense the heart rate actions and immediately sends the information via GPS receiver. The system faces a major hurdle that it cannot proceed with the state of art results and cannot be implemented in real time. The toy car is used for experimentation purpose and checks its working and specification. The system is proved to be working for the society and as well as based on an individual life. In [18] , Helen WR had proposed some strategy to reduce the road accidents. Fatality Analysis Reporting System had issued that there is a gradual increase in the death rate due to accidents. The main objective of the proposed system is to find the reason for the diverted attention of the car driver. The K-means algorithm, Road Accident analysis and data mining techniques are used to analyse the rate of accidents.

Clustering algorithm is used to group all the similarity among the objects. The systems with all the research and analysis, it concludes that though the person is having proper license and maintaining proper license status, they are not properly obeying the traffic rules. The system which is implemented can be used to reduce the people involved in facing the accidents.

Contrarily, the recent trend focuses on the vehicle identification and driver's license authentication[19] . RFID tags, RFID readers and RFID readers are utilised where all the vehicle information is being stored in the TCP/IP protocol. RFID writers is used to write the program in the RFID tags. IOT methodology is used that the license information is being stored in an IOT module and the fingerprint sensor is used to sense the person is a license holder or not. The system has the major advantage that it is able to reduce the carry load of the people who is carrying the RC book and Insurance. The system just implements and produce the state of art results only with RFID reader module and the Fingerprint sensor module will be further implemented in the future work.

In 2009, HUA-CHUN TAN [20] had a major interest on researching the searching system of the car. The system is mainly to reduce the difficulty of the people who is searching for the car in large parking area. The idea is to maintain the database information based on the car colour and car license plates. The segmentation is done and stored accordingly. Initially an image gets captured, then the vehicle is being detected, license plate gets recognised, colour classification of the car using the probability technique. The vision information is used in order to extract all the information about the car and to store in the database. The major hurdle of the system is that this proposed method only proves for its experimentation and not being proceeded with the state of art results.

3. Proposed work

An IR sensor is used in the suggested system to ascertain whether a person is actually seated in the seat. The value of an IR sensor is constantly received by a microcontroller. The RFID scanner is accessible to the microcontroller in the event that an IR sensor is found. If the RFID scanner is unable to access the microcontroller, then the IR sensor also cannot, in a way similar to that of the IR sensor. The RFID reader now extracts the driver's data from the gadget for
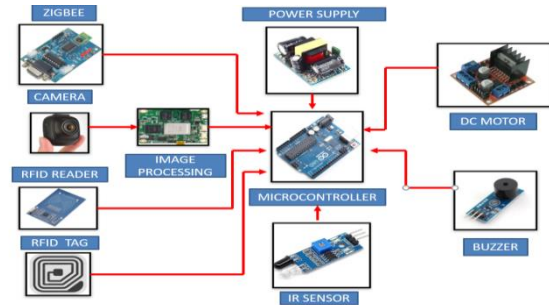
further processing.

Fig 1. System Architecture

The fig 1. shows microcontroller receives these output values, and the LCD shows the state of the outcome. The result of the recommended system is displayed on the LCD, regardless of whether the user is authorized.The RFID role in this proposed system is to check the driver's main parameters such as name, age, validity limit of the driver, date of issue, image of the driver. These parameters plays a very important role in maintaining and providing the authorisation report of the driver. RFID reader reads an information from the RFID tag and if all the parameters stored in the tag gets satisfied with the current parameters, it depicts that the person is an authorised one. The microcontroller also commands the information according to the results of an IR Sensor.

RFID Tags

RFID tag contains the information about the license concept with various parameters such as age, name and duration of expiration mainly. This makes sense to the proposed system. There are various sequences in the proposed system design mainly to initially from an IR sensor, to the microcontroller and then proceeds with the RFID reader which is being read by the RFID tag and finally the result and output will be displayed in the LCD display.

RFID

RFID technology in the proposed system in the proposed system is used to check the driver eligibility and to verify the person is an authorized driver or not. RFID reader is used to trace out the information from the RFID tag.Each tag in an RFID system is given a unique identification number (UID), and the tag will give the reader all of its data, including the UID, upon request. The reader won't be able to decode the signal from the tags if multiple tags are supplying data to it simultaneously in the same slot. When the tags are compelled to broadcast their data again, the system's performance declines and its energy consumption increases.

The size of the competing frame will significantly affect the performance of the system since significant collisions may happen if it is too tiny and bandwidth waste may

happen if it is too large. The contending frame size frequently deviates greatly from the ideal size, as estimated by the DFSA algorithm, because the reader is unaware of the amount of unidentified tags in its interrogation zoneIn an RFID system with a low collision rate, there aren't many unidentified tags, hence the contending frame size should be maintained to a minimum. On the other side, frequent collisions indicate that a lot of unidentified tags are competing for the system's channel. The size of the competing frame should be considerably increased in order to avoid conflicts during the subsequent read cycle. The likelihood that an idle slot will occur in a time slot in the competing frame in order to exploit the channel status information is known as the probability of idle slot. Collision, successful, and idle are the three main subcategories of channel state.

These audits might be offered as a service to companies by a consumer association. A company like BT might fill this post as well. Businesses are incentivized to implement such a strategy because it increases customer assurance that their privacy is safeguarded while simultaneously providing benefit to the business. The term "RFID tags" refers to a collection of passive RFID tags that are affixed to the surface of the road and contain positional information such the distance between reference points, the lane number, and the direction of travel. When a vehicle passes over an RFID tag with its antenna and RFID reader, the tag is triggered and its positional data is read.The RFID communication range and the proximity of tags to one another may have an effect on the accuracy of the RFID positioning system. Because RFID can only communicate within a few meters, the accuracy of the technology is ensured by only scanning tags when a moving vehicle passes over them. The location of the vehicle must be estimated if it is unable to receive position updates from tags. Estimation inaccuracy increases with the duration of kinematics integration. Accuracy must be maintained by avoiding large gaps between tags. The correctness and viability of the locating methods are verified by two test processes, one based on a photoelectric switch and the other on radar, according to this study

Road tests have verified the RFID-based positioning technique. One type of experiment employs RFID and radar scanners. With the use of the radar, it is possible to compare positioning predictions from RFID-based positioning to the test vehicle's "real" placements. The end result demonstrates an excellent match between the two car placement sources. The

alternative type of experiment checks to verify if the position established by the tags and the kinematics integration is accurate.As part of an RFID system, the things that need to be recognised are affixed with labels or tags. Readers, also known as interrogators, are two-way radio transmitter receivers that send a signal to the tag and then read its response. Battery-powered passive, active, or passive RFID tags are all possible. An on-board battery powers an active tag that regularly sends its ID signal. A tiny battery inside a battery-assisted passive (BAP) turns on when an RFID reader is nearby. A passive tag, which uses the reader's radio energy rather than a battery to operate, is a less expensive and smaller substitute.A passive tag, however, requires illumination at a power level that is almost a thousand times higher than what is required for signal transmission in order to function. The interference and radiation exposure are impacted by this. Tags come in two flavours: read-only, where a factory-assigned serial number acts as a database key, and read/write, where a system user can add object-specific data to the tag. Field programmable tags that can be written using electronic product codes can be used to create 'blank' tags that can be read multiple times but only written once.

Image Processing

The After getting the date images they undergo many preprocessing to avoid the unwanted noises in the image of the Driver. Unwanted Disturbances removed by using many preprocessing Algorithms to avoid the improper recognition of the person which is denoted in the image. An antenna for sending and receiving signals, as well as an integrated circuit for data processing and archiving,RF signal modulation and demodulation, collecting DC power from the incident reader signal, and other specific operations. The majority of the time ,RFID tags have two or more of these parts. The tag data is kept in a permanent memory. Fixed or programmable circuitry in the RFID tag processes the transmission and sensor data. An RFID scanner emits a radio signal that has been encoded when it scans a tag.

4. Result and Discussions

Database which the table 1 contains various database details about the user who are using the license card. This license card details are further checked and verified by the RFID reader and decides whether the user results in "match" or "exact match". The database contains various details such as name ,age, validity and the license card number. The basic conditions and parameters must be satisfied for the car ignition process or else as per the proposed system the car ignition process will be stopped automatically. Table 4.1 data are stored in MySQL database and if the license is being valid then it depicts the details are being stored in the database.

Table 1. Database of driver details

Name	Age	Validity	License Number	Mobile Number	D.O.B	Address
Praveen	19	2018-2038	TN108976 5432901	98 87 98 75 64	12-11-2000	No 10, BazzarStreet,Chennai
Hariharan	21	2016-2036	TN124536 7893098	94 46 78 98 89	22-09-1998	No 22, Gandhi Street,Chennai
Shruthi	23	2012-2042	TN19 5678 2490 876	76 37 63 76 83	08-09-1997	No 34, Anna Street,Chennai
Priya	24	2009-2049	TN16 8937 0284 920	83 32 48 77 34	09-02-1996	No 21, Nehru Street,Chennai
Banu	25	2017-	TN21 2093 8845 021	82 25 64	19-1	No 14, Kamaraj Street,Chennai
		2037		3892	1-1-1995	
Jayakumar	35	2008-2028	TN16 2993 4075 473	92 27 83 28 01	13-09-1985	No 65, ASP Street,Chennai
Madhumitha	19	2018-2038	TN20 6453 9803 245	97 78 72 31 41	14-01-2000	No77,KarunanidhiStreet,Chennai
Yogashree	20	2019-2039	TN16 7864 3292 229	87 72 34 90 32	17-04-1999	No 36, Amma Street,Chennai
Nikitha	21	2019-2049	TN23 2653 3897 633	87 44 89 02 67	14-03-1998	No 28, KambarStreet,Chennai
Monisha	28	2016-20	TN21 0908 8762 367	88 78 27 80 09	09-02-	No 13, Kovil Street,Chennai

Name	Age	Period	ID	Phone	DOB	Address
	36				1992	
Mugen	33	2009-2049	TN188729 0345890	9023 4787 89	18-05-1986	No 19, Mount Street,Chennai
Tharshan	36	2008-2048	TN226780 0347210	9934 87 9089	16-09-1983	No 42, Murugan Street,Chennai
Sandhya	40	2002-2042	TN08988 8222338	8735 67 8457	23-12-1979	No 18, MGR Street,Chennai
Ramesh	26	2012-2042	TN047873 2215609	8445 65 4092	15-09-1994	No15,Padmavathy Street,Chennai
Theju	27	2013-2043	TN345668 3709748	8663 65 3549	19-08-19	No 141/A, Jain Street,Chennai
					93	
Sai haripriya	19	2015-2045	TN347483 7448898	9663 45 7764	23-04-2000	No12,RamachandraStreet,Chennai
Malathi	42	2016-2036	TN563723 6768378	9445 76 7898	22-09-1977	No 56, SPM Street,Chennai
Ram	21	2018-2034	TN128976 5434567	9004 89 2234	09-11-1998	No 42, PerumalStreet,Chennai
Janu	43	2000-2030	TN234582 7598287	8898 37 7589	07-10-1976	No 36, Chetty Street,Chennai
Santhosh	32	2004-2024	TN162726 3726837	8347 67 0992	01-05-1983	No 29, Asuri Street,Chennai

Sam	20	2018-2024	TN999768 4409876	7855 4656 34	05-03-1999	No 11, North Raja Street,Chennai	Bhavani	23	2000-2030	TN14 4657 6889 379	9876 4707 64	05-02-1996	No 43, Trunk Street,Chennai
Ashwini	21	2000-2020	TN174273 8890934	7700 0654 69	31-09-1998	No 156, C.V naiduStreet ,Chennai	Anitha	19	2001-2031	TN09 4762 4576 746	9597 9885 52	09-09-2000 0	No 95, Gandhiji Street,Chennai
Divya	41	2009-2018	TN670925 6190181	9884 7569 09	30-06-1976	No 24, Karapakka mStreet,Chennai	Usha	25	2019-2039	TN08 4365 4244 657	7078 9267 89	06-11-1994	No 12, Pillai Street,Chennai
Deepika	24	2004-2024	TN193774 6779853	7648 7879 02	22-09-1995	No 34, OilmillStreet,Chennai	Raja	26	2016-2029	TN07 4376 5377 998	8876 9024 67	19-10-1993	No 21, WavinStreet,Chennai
Sowmya	23	2003-2023	TN167354 6582896	7226 7657 90	09-07-1996	No 99/C, KPJ Street,Chennai	Kavibharathi	27	2015-2045	TN18 4872 5646 576	9888 7645 76	29-01-1992	No 69, Agarwal Street,Chennai

Table 2 illustrates the various conditions in which the user

details must be matched with the parameter that has been stored in the database. Car1 and Car 2 is being detected as exact matches since the conditions are satisfied and matched with the database. Car 3 and Car 4 are being resulted as not exact match since it faces various issues that the age requirement is below 18, there is a imperfect license number and if the validity of the license gets expired.

Table 2. Representations of accidents

License Type	SEVERITY OF ACCIDENT(in no)				
	Mortal	Critical Injury	Other Accidents	Equipment Destruction	Total
Authorized	152	1340	1629	1996	5117
Unauthorized	2140	23566	58237	74609	158552
Unknown	120	957	2987	5660	9724

Car theft is the main issue which is being faced in recent times by the society. Zigbee has the main feature to send and receive messages through the devices. IOT modules are set up for communicating within devices and to alert the driver using sensors. GSM,GPS are the various technologies used for communication purpose among the devices. The communicating technologies are mainly used to find and trace out the location of the car. An autonomous car had come into existence where it leads to various hurdles. Autonomous car used to fail in the navigation directions and end up in many accidents which takes off many lives in the society.

Table 3. Detection of an authorised driver

PARAMETERS / CARS	NAME	AGE (>=18)	VALIDITY OF LICENSE (valid till 2023)	LICENSE CARD NUMBER (14 digits)	CHECKING EXACT MATCHES (checking parameters)	DETECTING AUTHORISED DRIVER
CAR 1	Karthi	57	2014-2034	TN1289765434567	MATCH	Yes
CAR 2	Vishnu	28	2018-2038	TN9997684409876	MATCH	Yes
CAR 3	Raja	36	2012-2031	TN0967843267980	NOT MATCH	No
CAR 4		16	-	-	NOT	No
	Ramya				MATCH	
CAR 5	Nisha	32	2013-2033	TN5702289177101	MATCH	Yes
CAR 6	Nivetha	26	2018-2038	TN6709256190181	NOT MATCH	No
CAR 7	Adavan	33	2014-2034	TN3456983245904	MATCH	Yes

Table 2 contains the information of the few selected users and then the details are being checked by the RFID reader. If the tag contains the details of the user which are also being present in the database, then the user will be in match state and it is set as an authorized user. If the details are not being present in the database, then it displays as not match state and then it displays as an unauthorized person.

To verify that the passenger is there, in the vehicle, and seated. The IR Sensor keeps track of everything the subject is doing at any given time. When the IR frequency is high, information is transmitted to the microcontroller because the IR sensor's value rises. In response to a low IR value, the IR sensor sends a message to the microprocessor, which prevents the automobile from starting.

Detection of driver eligibility

To check whether the driver is an authorized or unauthorized in order to ensure safety while driving. When person movement is detected by an IR Sensor and if RFID tag is read by the RFID Reader.
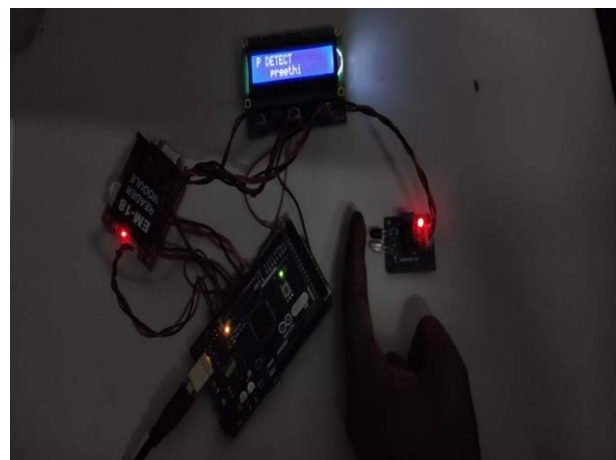
Fig.3 Person movement detection

Fig 3 represents the display of the detected person with the microcontroller. This predicts the driver has a higher chance of the unauthorised driver who are the maximum lead in creating the accidents in the society. When person movement is not detected by an IR Sensor and if RFID tag is not read by the RFID Reader.
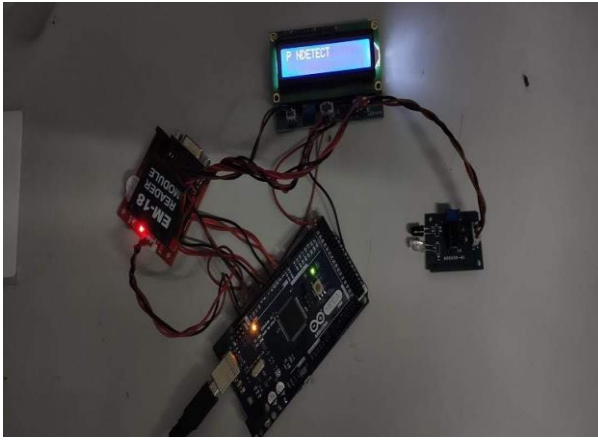
Fig.4 Detection of detecting unauthorised driver

The RFID tag receives the transmission and responds with its own identity and other information. It might only have a unique tag serial number, or it might also contain information about the products, such as a stock number, lot or batch number, manufacture date, or other crucial information. The RFID system design can distinguish between multiple tags that may be present and scan them all at once since tags have unique serial numbers.

5. Conclusion

Investigates the various technology used to safeguard car owners, prevent accidents, and reduce auto theft. Several researchers had developed a range of solutions to the problem based on real-world experiences with car security. The tables above offer a complete examination of how contemporary technology is monitoring how automobile security and traffic accidents continue to be issues and have an effect on a sizeable number of people in and around society. The biggest risk to the general public is the inability to keep cars locked, which increases the likelihood that they will be stolen or used improperly. Analysis indicates that in order to improve the vehicle, some alterations will need to be made in the future.According to analysis, future modifications will be necessary to improve the vehicle.The taken image and the approved RFID details are checked simultaneously so that to verify and make confirmations about the user or driver is an authorised driver or not. If the exact match happens, then it proceeds with the ignition of the car and it allows the car to move. If the exact match does not take place, then the ignition of the car does not take place and it won't allow the car to move from its place. This is the working for the future representation of the proposed system.

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