

RFID SCANNED MULTI PURPOSE TRACKING SYSTEM USING IOT

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Abstract—As the numbers of vehicles on the road are increasing day by day parking problems are bound to exist. And also the medical issues increasing in cities. This system aims at replacing the conventional for both traffic & medical system with an IoT based multi purpose tracking system using RFID(radio-frequency identification). The users will be provided the card for checking your License Expiry Date, Insurance Details & Medical Details. The user will maintain the RFID card otherwise, the system will deny the access to get the data. The system makes use of multiple technologies to achieve the smart tracking system. This includes RFID scanner ,Wi-Fi module motors, IR sensors, Micro controller & electronics components to develop this system. In this way, this tracking system will help to reduce human effort & time by using automation technology. The RFID card is used in the both vehicle and medical field.

Keywords—RFID, Internet of Things (IoT), Medical Safety, Cloud Computing, IR Sensors

I. INTRODUCTION

In order to face as smarter, the cities use technologies to enhance their daily routine to develop the standard of life. With a larger number of families exceeding the whole number of vehicles and every one carry the vehicle license, insurance and other vehicle documents. In hospitals the more number of patients waiting to meet a doctor. In this situation it is the way to spread the disease. So the corona patients is not meet the doctors. Patients are long time to waiting for meet the doctors. So it makes a hatred situation in the hospitals. Traffic Police can check the vehicle details. So the person can't carry the all documents because it will be missed. So the traffic police will produced the fine amount to the person. So it makes the problem to the particular person. In medical field, the doctors can't check the all the patients because it takes more time for check the patients and give the medicines for the patients. The doctors sometimes give the wrong medicines to the patients. So it makes the medical error in the hospitals. It will be avoided by using the RFID card to the patients. The patients easy to meet the doctors and get the medicines in the medical shop. The person who has carry the RFID card for check your vehicle and medical details easily. The users go through a onetime registration process where there are asked to fill in

their personal details and an account is created for them, this account has information about them and also has money in it which they can recharge at kiosks present in the vicinity. The Rfid card is used to carry the information about the vehicle and the medical details.

The user is provided with a tag which he receives on registration, this tag is linked with his prepaid account and includes his personal information, and this tag uses Radio Frequency identification (RFID) technology and is placed on the top of the user's windshield.

II. PROBLEM DEFENITION

In smart cities, there are many vehicles. Thus, it contributes to the cities' traffic problems. The car data & vehicle are occasionally checked by the traffic police. Because they shouldn't leave the area, the unknown person. The traffic police therefore confirm your information and that of your vehicle. The result was the massive traffic in the cities. The person who has been injured in the accident may not always be found at the scene by the police. They are unable to inform the person's relatives. The person who is unable to carry all of the vehicle's paperwork since they will be missing. Consequently, it causes problems for that specific person. In hospitals, patients must wait longer before seeing a doctor. The sickness will spread to further patients as a result. Therefore, we must prevent diseases from spreading to patients and minimise the time spent seeing doctors. Every time, patients spend more money on our care and visits to the hospital. Every doctor examines their patients and administers various medications. The numerous medications can be recommended by the doctors at any time.

III. PROPOSED SOLUTION

The idea you're describing seems to be a security system that restricts access to data on a user's vehicle and medical history using RFID technology. Only authorised personnel with a valid RFID card are permitted access to the data by the system, enhancing security and lowering the possibility of unauthorised access or data breaches. It's also intriguing that before giving customers an RFID card, the system asks them to register their vehicle registration and medical

information. This helps prevent fraudulent usage of the RFID card by ensuring that only authorised people have access to the data. Another effective technique to make sure consumers preserve their cards and keep their information current is through the RFID tag payment system. The system encourages users to take care of their RFID cards by charging a fee every six months, and this also makes sure that the system is correct and up to date. Overall, it seems like this initiative has the potential to be a useful tool for enhancing security and lightening the workload of human staff. In order to preserve the security and privacy of user information, it will be crucial to make sure that the system is designed and deployed securely.

IV. LITERATURE SURVEY

There are various existing system available for the vehicle And medical management which try to reduce the manual effort and the time. A “Iot Based smart vehicle parking system using rfid” has the potential disadvantages is slot of availability and improve the standard of living of consumers.

The author can proposed the plan for the real-time parking system.

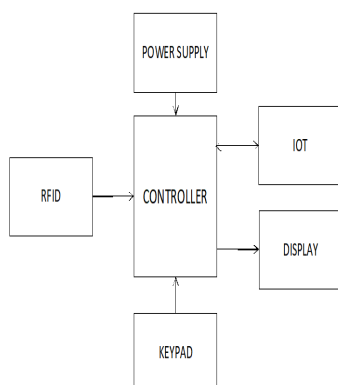
In “Radio Frequency identification based electronic voting machine using fingerprint module”, the author propose a solution for a voting system. The voters details stored in a server. The disadvantage of this project is machine may be integrated with face recognition system also by replacing the fingerprint block.

In “Helping Blind People in Their Meeting Locations to Find Each Other using RFID Technology”, the author proposed a solution for a blind peoples. The disadvantages of this project is Extending this system is to use it for appointments in very crowded, dark, or less known locations.

In “Suitcase traceability system via RFID and NoSQL database”, the author is proposed a solution for a traceable suitcase. The major disadvantages of this project is Sometimes the tracker does not working in forestral areas. So need to improve the tracking system.

In “Efficient Attendance Management System Based on Facial Recognition”, the author is proposed a solution for the attendance management system. This project the rfid scan system used for attendance and note the time. The disadvantages of this project is Adding the voice note for the attendance for easy to identify it.

V. BLOCK DIAGRAM AND WORKING



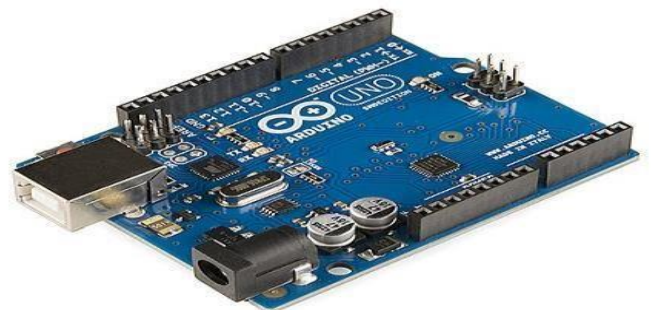
WORKING:

Basic User Information is already on the server. Using the IR Sensor, the RFID tag is read. then the microcontroller verifies the rfid tag information and whether the card is authentic before using the IoT to obtain the data from the server. IoT involves two-way communication between the server and controller. The vehicle and medical information are stored on the RFID tag. If the user requires details regarding their automobile. By using an RFID card, it is simple to obtain. Additionally, clinicians can access patient information using an RFID card. Therefore, both regions use RFID cards, which decrease time and human effort.

COMPONENTS:

ARDUINO MICROCONTROLLER:-

The ATMEGA328P is the brain of the system. It can control the all other devices and the display unit. Arduino is an open-source electronics platform based on easy to use hardware and software.



SPECIFICATIONS:

- Operating Voltage: 5V
- Input Voltage(recommended): 7-12V
- Input Voltage(limits): 6-20V

16x2 DISPLAY:

The Display unit can be controlled by the microcontroller. The LCD display connected to the external pins. It shows the medical and vehicle report.

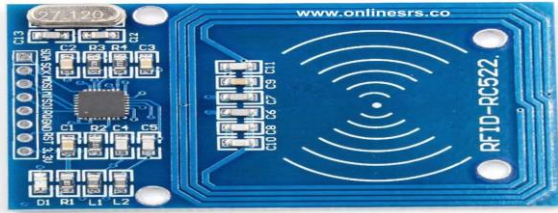


SPECIFICATIONS:

- Operating Voltage: 4.7-5.3V
- Font Size: 0.125width x 0.200 height

RFID MODULE:

RFID System consist of two main components a transponder/tag attached to an object to be identified. The tag will be readed by the ir sensor and then the data move to controller.

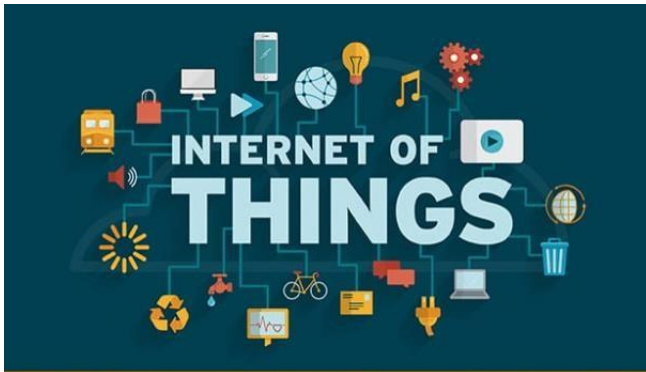


SPECIFICATIONS:

- Operating Frequency: 125Khz
- Operating Voltage: 4.5V- 5.5V
- Current Consumption: 50mA

INTERNET OF THINGS:

IoT is used to communication between the controller and the server. The user details will be updated by using the keypad and also get it from the server. It used to transmit the data from one to another place.



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VI. CONCLUSION

As a result, our designs are successful and we comprehend the user's situation. The shortcomings of the present systems and all prior research are examined, and our suggested approach addresses these issues. It is practical for both the car and the medical report in this project. Information about the user is stored on the RFID tag. The RFID tag is utilised to address the issue of vehicle inspection and shorten hospital stays.

VII. REFERENCES

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