

Traffic Control System using RFID

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Abstract: The present scenario of traffic violations is increasing rapidly. It gives rise to major problems that are beyond human control directly and therefore there is a need of automation. This paper deal with traffic control system using RFID technology to identify the vehicles which break the traffic rules.

Keyword: RFID tag, RFID Module, RFID reader, Traffic Signal

I. INTRODUCTION

India is the biggest populated country. Nowadays peoples are facing traffic issues like time, congestion and pollution and road accident due to poor maintenance of the roads or inpatients of human behaviour. There is very slightly awareness of road safety and traffic laws are wilfully violated. In the growing of mechanical era traffic also in increasing mode. This system tries to control the breaking of traffic rules using RFID(Radio-frequency identification) technology.

II. LITERATURE REVIEW

An Intelligent traffic control system using RFID Anuran Chattaraj, Saumya Bansal, Anirudhha Chandra, 2009. :-In this paper RFID tags are attached with vehicles and RFID reader is used to count vehicles number. According vehicles count .microcontroller change the signal. This system does not provide any emergency condition for passing ambulance.

Intelligent cross road traffic management system (ICRTMS) : Ahmed S. Salama, Bahaa K. Saleh and Mohamad M. Eassa, 2010.: -This system gives alert signal about the emergency situation using RFID technology.

Design of Intelligent Traffic Light Controller : J R Latha, U Suman, 2015. :- This system uses GSM interface , serial communication interface (SCI), Real-Time Clock 1307 and a clock circuit. To detect traffic using sensor signal with maximum accuracy but this system is not compatible for higher distance traffic.

An Integrated Traffic light Control System Using RFID Technology and Fuzzy logic: Javed Alam and Prof. (Dr.) M. K. Pandey:- This system uses RFID technology, Simulation in MATLAB and fuzzy logic.

III. METHODOLOGY

Basically RFID uses electromagnetic fields to automatically recognize and track the tag attached to things. In this RFID system following components are used:

8 RFID modules, Arduino UNO Arduino Mega 2560, Red LEDs (4 pieces), Yellow LEDs (4 pieces), Green LEDs (4 pieces), 220ohm resistors (12 pieces), Jumper cables, Breadboards, MFRC 522 RFID Module, 3 X 220-ohm resistors, Buzzer, RFID tag, IR Transmitter & Receiver Sensor. The RFID tag holds a chip for storing information about the physical object and an antenna to receive and transmit a signal. RFID tags can usually store 1KB of data. An RFID reader produces a high-frequency electromagnetic field and when the tag comes near it, a voltage is induced. This induced voltage turns as power for the tag. The tag return converted the signal in power and responds to the reader.

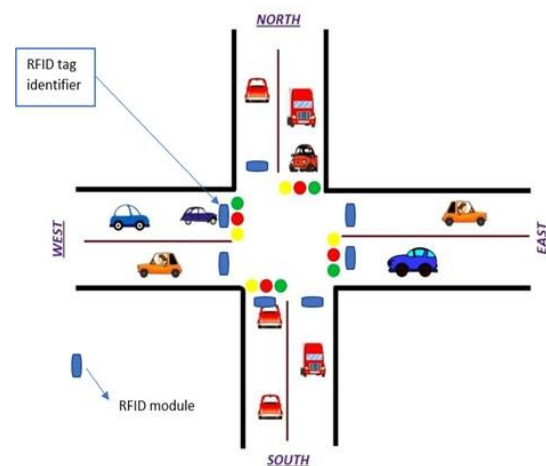


Fig. 1. Traffic Control System

In this system 8 RFID modules are used to read the vehicles which are coming from any direction. RFID reader is placed on a road at zebra crossing. When any vehicles pass by following signal rules , RFID reader reads RFID tag which is attached to vehicle's and that vehicles data added into database. If vehicle's does not follow signal rules and passes then that data store in database and send the warning and fine messages to a registered mobile number.

IV. CONCLUSION

In this system, RFID technologies are used to monitor real-time traffic information. This system is good enough to track the information about vehicles which break the traffic rules and help to collect the passing vehicle data that break the traffic rules. A warning message can be sent to a registered number with a penalty receipt.

V. REFERENCES

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