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Traffic Breaching Detection System using IOT

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Abstract: This project basically aims at the versatile version of RFID (Radio frequency Identification) module . The Radio Frequency identification device is connected with the Raspberry Pi . In this paper we used one of the versatile versions of RFID to manage the unmanageable part of our country.
Keywords: RFID, Raspberry pi , Traffic

I.   INTRODUCTION

This project basically aims to regulate traffic mismanagement. With the increase in the population day by day,road traffic is increasing at an incredible rate.

This is creating a sense of concern for all road departments. With the abrupt increase of traffic in roads, the traffic rules are broken everyday In the last 17 years from 2002 to 2019 the number of people Who lost their life is more than 20 lakhs. Now these are the only stats of people Who lost their life There were approximately 80 lakhs people injured during this whole period of time. According to the study, India experiences a traffic accident every 10 minutes.

This project highly aims for the well being of those who are marching their vehicle on the roads. That's why we choose this project. Traffic Breach detection is the only way by which we can decrease the number of accidents happening everyday and further can save lives of many. This project uses the latest technology in use i.e Raspberry Pi. With the Rfid card and reader The Raspberry reads the Rfid tag which we want to detect from every vehicle Every vehicle will be provided with the unique RFID number which has the information of the owner and its phone number. The Raspberry Pi is coded with the delay time provided accordingly to the traffic lights .

If at a traffic light someone breaks the rules and tries to flee away at a red light then immediately the Rfid reader starts reading the rfid tag attached on the vehicle front So by this way the data is collected. After that through IOT this data is stored in the cloud so that the E-challan is made and sent to the respective vehicle owner.

II.   LITERATURE REVIEW

A. The wireless sensor network helps very much to realize our project. [1]
B. The vehitrack technology can be the future enhancement of our technology. [2]

III. INFERENCE DRAWN

A.   Arduino Uno is inferior to the Raspberry Pi. On every level Raspberry Pi can work better than ArduinoUno.[3]
B.   The Infrared sensor works on the phenomenon of line of sight but they can't differentiate between vehicles or any person. [4]
C.   The indicative tapes work on the amount of change of flux. But any person having the metallic thing can change the flux, which can in turn generate electricity.[5]

IV. SYSTEM AND MODELS

The system contains the Raspberry Pi WHICH BASICALLY serves as the Brain of the project.When Rfid is connected to it, the brain starts working very efficiently. The Raspberry pi helps the model to work according to the instructions given .
ASSUMPTION-BEFORE STARTING the project we assume that the government will allow us to use the Rfid card on the front of every car.The cars passing through the traffic must have the rfid card reader,
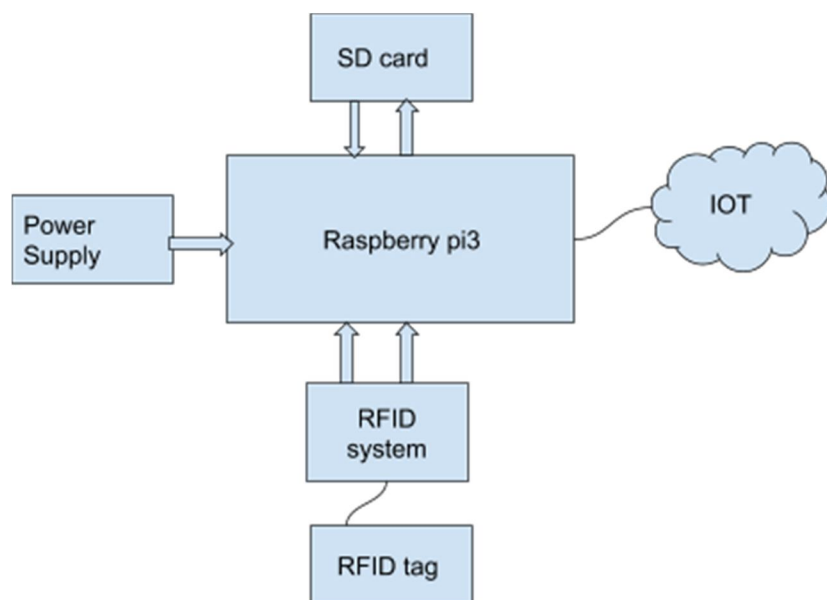
Fig1 : Block diagram of proposed system

Basically every traffic light has a different time difference between the red ,yellow and green light.

So the Raspberry Pi coded such that when the red light turns on the traffic then the Raspberry Pi will start it's operation of our model. it'll turn on the Rfid reader

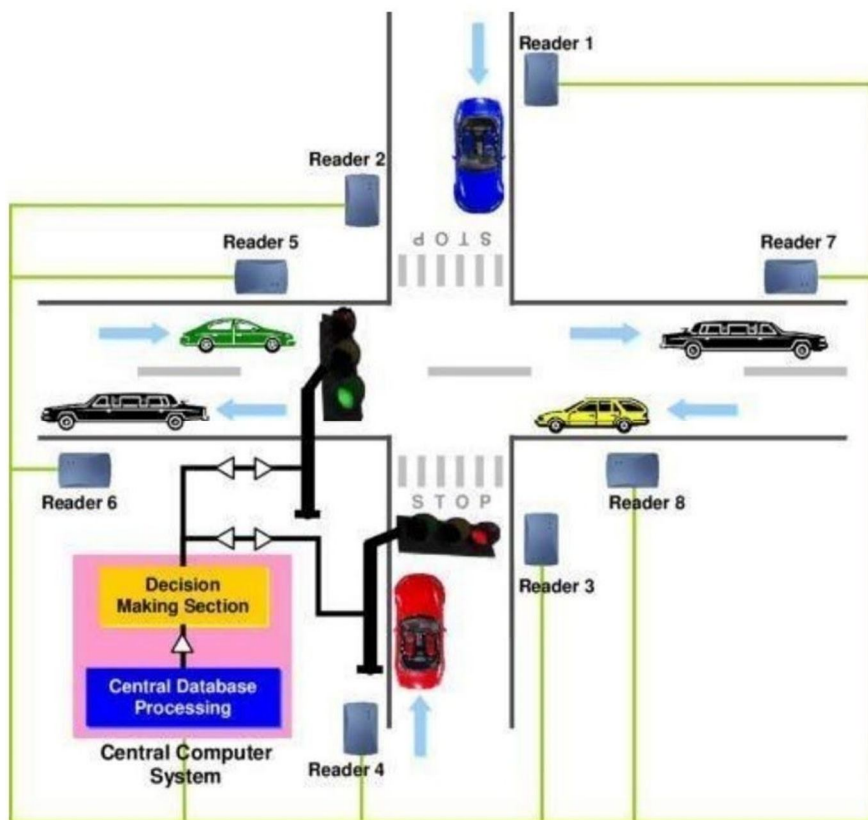Then the vehicle crossing the traffic light during a red light will get caught .
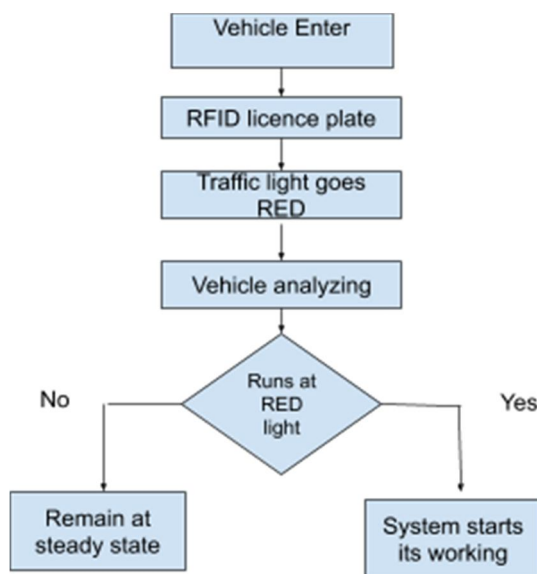

Fig 2 Diagrammatic Representation

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Fig 3 . flow chart

V. ADVANTAGE OF PROJECT

A. This model will decrease the no. of accidents happening everyday .
B. The corruption rate will decrease in society .
C. This model will help decrease the burden on the traffic police .
D. This model saves the storage data in the cloud storage.

VI. ENHANCEMENT POSSIBLE IN FUTURE

A. Project can be further enhanced by using ALPR (automatic licence plate recognition) . If ALPR is connected with RFID, detection of theft vehicles becomes easier .
B. Camera can be installed in this system for image capturing so that an appropriate action can be taken at the time of fine .
C. The initial cost of setup will decrease, if the tags are produced in bulk . Lifespan of a tag must be long lasting .
D. As this system has a software prototyping model , it may be created in a real time scenario with low budget .

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