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DESIGN AND DEVELOPMENT OF NO PARKING SYSTEM USING IOT

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ABSTRACT

A huge number of manpower are deployed to check for illegal parking and fine those vehicle owners. Towing vans needs to search manually for illegally parked vehicles. This system requires huge overhead costs in manpower payments, fuel and other physical surveillance.Here we propose a method that allows for automatic unauthorized parking detection and alerting. In this method we make use of RFID Transmiterin every vehicle. Road Side Unit is mounted inevery area where parking is illegalwhich consists of RFID reader.If a vehicle is parked in a pathwhere parking is illegal the RFID Transmitter comes in range of the RFID Reader. Once this process happens theRFID reader reads the RFIDtransmitter id and it will alert the authority with area code to the nearest police station about the vehicle details and imposed to fine on the vehicle.

Keywords*:GSM, RFID, Node MCU, Buzzer.*

I.INTRODUCTION

We Human use for observing and security reason in the past as a considerable measure of downsides such as, 24x7checking, deferred data to approved people. With the constant increment in vehicle populace, car crashes and no stopping issues have been a noteworthy worry in the nation over the previous years, Vehicle stopping in illicit spots which makes activity around the area, Thispaper gives a very simple technique for detection of vehicle and identifies the illegal parked Vehicles at no parking area.

RFID is a technology that provides wireless recognition and tracking capability. Internet of things can be characterized as anything which could be associated with web comes about into " Internet of things" the thing in the IOT are sensors, actuators and RFIDTags. Thethings can be tracked, controlled or checked utilizing remote PCs associated through the internet.it gives a dream beam things (wearable,watch,alarm clock,sarrounding objects)become shrewd and carry on alive through sense registering and speaking with embedded little gadget which interface with remote articles or people through availability.In this technology automatically vehicle detected when parked in no parking area using RFID and buzzer indication in the vehicle, autofectching of

information to the police station if it is parked in the no parking area.For further implementation we use long range RFID reader and implementing real time application.

II.RELATED WORK

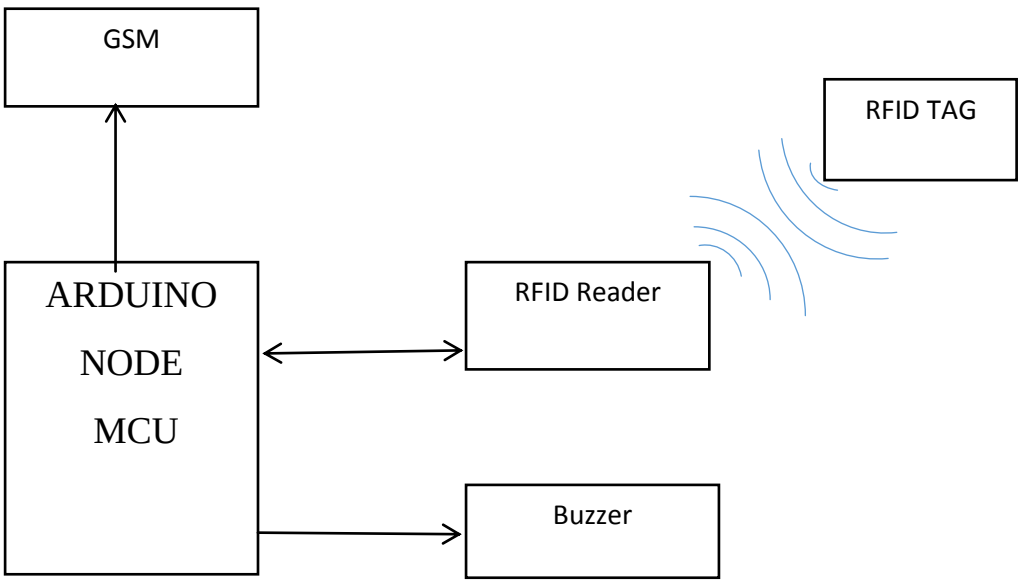
2.1 Illegal Parking Detection Using camera

The system should give an alarm if the vehicleis parked in no parking zone or stops within no parking zone and if the vehicle stops for more than sixty seconds in the no parking area using the principle of Gaussian mixture model and Kalman filter.According to Gaussian mixture model when the car is halted between the camera and background reference image,the camera captures the image of the car and considers it as an illegal parking and sends image to the nearest police station,where the fine is imposed on the particular vehicle .The drawback of this model is that the camera should capture a proper image of the vehicle or else the vehicle cant be recognised properly, it is cost effective, frequently monitoring is required.

III.PROPOSED WORK

The proposed system provides the base for no parking detection by using RFID and NODE MCU using IOT,the RFID reader is placed on road side unit and RFID transmitter is mounted in the vehicle,when vehicle comes in the range of RFID reader then it alerts the vehicle driver.if the driver ignores warning then the data is fetched from the RFID transmitter and sends it to the nearest police station.

3.1Block diagram



Fig(a):No parking system using IOT

3.2 NODE MCU

It is an open source IoT platform, it was created shortly after the NodeMCUESP8266 came out. ESP8266 is a Wi-Fi SoC integrated with a TensilicaXtensa LX106 core, NodeMCU also provides access to the General Purpose Input/output (GPIO).NodeMCU will also support the MQTT IOT protocol and it uses Lua scripting language.

Fig(b):NODE MCU

3.3 RFID READER

RFID is a device which is used to gather information from an RFID tag. It makes use of electromagnetic fields to automatically identify and track tags attached to objects. It is used to track individual objects. The Passive tags collects the energy from a nearby RFID reader's interrogating radio waves. Whereas Active tags have a local power source (i.e battery) and they can beoperated in hundreds of meters from the RFID reader.

Fig(c):RFID Reader

3.4 RFID Tag

A RFID tag is also knownas a Radio Frequency Identification Tag, it is an electronic tag that is used to exchange data with a RFID reader through radio waves.

The RFID tags are mainly made up of two main parts. The first one is the antenna ,which is used to receive radio frequency waves and the second is the integrated circuit, this is used for processing and storing of data, they can also perform modulation and demodulation of radio waves that is sent or received by the antenna. Since RFID tags are having similar applications of barcode reader but they are .The RFID tags are designed in a way that they can operate in both ULTRA HIGH FREQUENCY as well as LOWER FREQUENCY. The other name for RFID tag is RFID chip.

Fig(d):RFID Tag

3.5 BUZZER

It is an electrical device that makes a buzzing noise and it is also used for signalling.The types of buzzers or beeper aremechanical, electromechanical, or piezoelectric (piezo for short).The buzzers also includes alarm devices,timers. Typical uses of buzzersand beepers include alarm devices, timers

Fig(e):Buzzer

3.6 ALGORITHM

STEP1.Start
STEP2.Vehicle detected at no parking area
STEP3.If vehicle parked more than 10 sec
STEP4.Buzzer on else goto step 8
STEP5.Still vehicle is parked after warning
STEP6.Fecthes the vehicle information and sends to nearest police station else goto step 8
STEP7.Fine imposed SMS to owner
STEP8.Finish

IV.RESULT

The design and implementation of no parking system using IOTis presented. The proposed system is used to detect illegal parked vehicles and alert to vehicle driver. And also this system used for imposed to fine on vehicle.

V. CONCLUSION

The proposed technique will reduce the need of man power for monitoring and security applications. By making use of this technique there will be no need of physical presence of humans at the no parking areaand there will be no need to take action against illegally parked vehicles. This technique makes easy for the authority to take action against the vehicle owner and impose a fine.

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