Mqtt Protocol Based Smart Prking System

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Abstract- *One of the major problem in our developing cities is about parking vehicles In such a huge crowd and less of vacant place. Customers should get enough space to park their vehicle so by this project we are trying to solve this problem of parking the vehicle.*

As the driver cannot know the current parking slot information for parking the vehicle , we propose the driver with parking lot guidance software which help him with the parking lot information in real time based on MQTT protocol. This system helps customers to save time in finding a parking spot. The Internet of Things is about installing different sensors like IR sensors, passive RFID, IR, etc. connect to the internet through different protocols for exchanging information and to communicate, in order to achieve monitoring, management. Using IOT, developing city can be established by integrating these features for IOT development.

There are also IR sensors used to detect the vehicle at entry side after swiping the RFID card and also IR sensor detects the vehicle when they are parked at the given lot in the parking area.

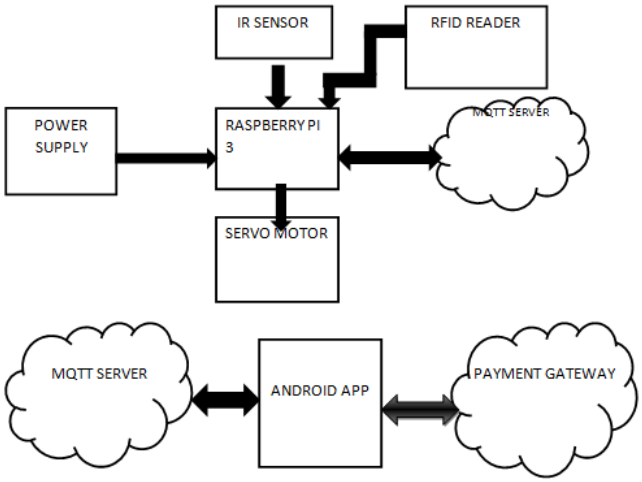
This paper presents the basic concept of using internet (server) or MQTT protocol based smart parking in developing cities as an important application of Internet of Things (IOT). This system will be available through mobile app and can be used to monitor or find the empty lots in that parking area.

I. INTRODUCTION

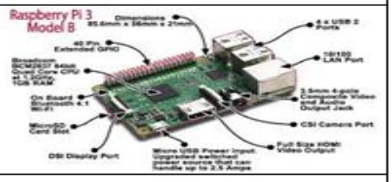
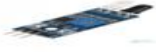
In developing city we faces many difficulties to park a vehicle in such a crowded place with less of parking space, to solve developing city issues we have to develop such system and this system is mixture of new technology with low cost and also reduce the fuel.

With the help of our system we are trying to reduce the excess traffic which uses the concept of IOT (Internet of Things) as the IOT applications in our daily life are blooming. In our system, we design and implement a prototype of Parking System that allows drivers to easily find the vacant parking spaces through a mobile application and learning the parking status from the infrared sensor .

II. BLOCK DIAGRAM



III. HARDWARE

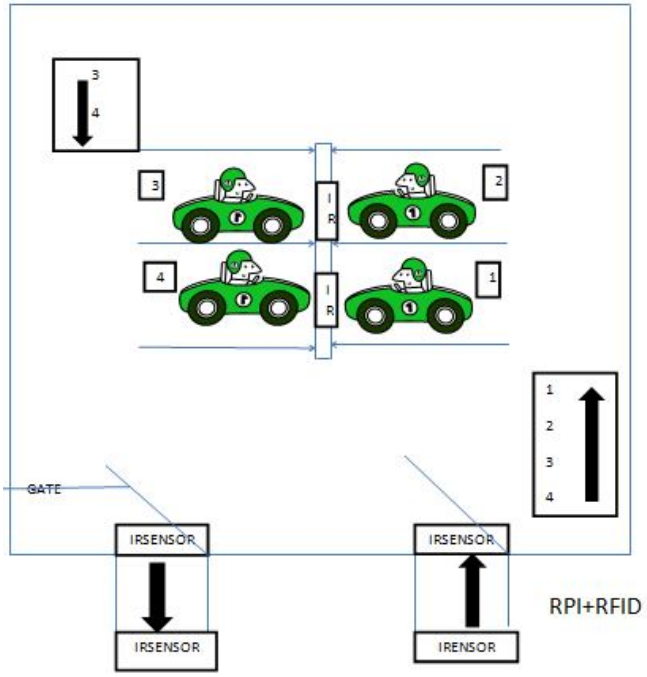
SR NO	NAME OF COMPONENT	OUTLOOK
1	RASPBERRY PI 3 MODEL B	
2	RFID MODULE READER	
3	RFID TAG	
4	IR SENDOR	

SRNO	NAME OF COMPONENT	OUTLOOK
5	SERVO MOTOR	

IV. SOFTWARE

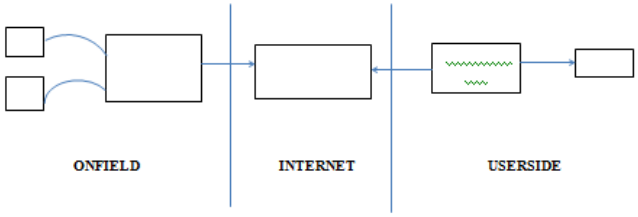
1. ADVANCED IP SCANNNER
2. PUTTY
3. ANDROID APP
4. PayTm

V. ARCHITECTURE OF PARKING AREA



VI. METHODOLOGY

1. RFID Reader is interfaced with Raspberry pi .
2. As the user enters he\she needs to tap the RFID tag and soon the date and time is recorded .
3. Notification will be sent to user on his android phone on parking app.
4. After that app will provide with the vacant parking lot information.
5. During exit the user will get the bill on his app according to the duration he parked his vehicle .
6. Payment of the bill will be done through PayTm which will be provided on the android app.
7. As soon as the payment is done ,exit gate will open and the user can exit.



VII. ACKNOWLEDEMENT

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VIII. CONCLUSION

By this project in developing cities we are trying to solve the problems of parking with the help of IOT, which reduces the parking time of the driver. we try to reduce the human efforts required for parking the vehicle and also it saves fuel. Hence our system tries to provide an efficient car parking system based on IOT(Internet of things).

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