Automatic Parking System using Internet of Things

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Abstract:

In now a day's world, majority of human beings travel by using vehicles, and commonly humans are facing troubles on parking vehicles in parking slots in a city. So maximum of the time humans spending their treasured time in looking for parking masses. The usage of automated smart parking machine we will lessen the time, fuel intake and additionally human efforts. Our system is based totally on Internet Of Things(IOT). IOT is a idea used to attach all our surrounding things to a community and communicating with each other. It's far widely labeled into 3 classes sensing, processing and connectivity. Our machine is cloud based machine which contains Optical sensor to stumble on empty parking slots and send this records to server, this records may be accessed by means of the customers.

Keywords: Internet of Things (IOT), Optical Sensor.

I INTRODUCTION

The project aims in coming up with a sophisticated good parking system victimization IOT technology. The devices are often switched employing a mobile through server (Wi-Fi). These had bigger importance than the other technologies because of its easy nature. Contemplate the benefits of Wi-Fi a sophisticated automatic system was developed to observe the standing of parking slots. Wi-Fi (Wireless Fidelity) could be a wireless technology that uses frequency to transmit knowledge through the air. Wi-Fi transmits knowledge within the waveband of two.4 gigacycle per second reach up to a hundred and fifty feet (46 m) inside and three hundred feet (92 m) outdoors. It implements the construct of frequency division multiplexing technology. The dominant device for the watching within the project could be a Microcontroller. This show of data is finished by implementing the construct of net of Things. IOT could be a construct accustomed connect all our close things to a network and act with one another. Microcontroller reads the info and sends the info over Wi-Fi to the IOT online page. The Microcontroller is programmed used embedded C language.

Problem Statement:

To design and implement the system that will aid the driver to have immediate knowledge of the vacant parking spots in his vicinity, by displaying the information over the web.

II LITERATURE SURVEY

"Smart Parking System using Internet of Things (IOT)"to overcome troubles of finding vacant parking spot in nearby parking. While developing this they've used Raspberry Pi as a hardware platform and they maintained their, database on a central server. They constantly captured snaps of parking area to determine which slots are empty and which one are occupied.

Automatic Parking Management System and Parking Fee assortment supported variety Plate Recognition.", Intelligent Transport System and Electronic toll assortment (ETC) victimization optical character recognition

(OCR) creates a record for all getting into vehicle. This creates tag less entry for all vehicles within the automobile parking space, however it doesn't assign a slot to the user. A universal OCR algorithmic rule isn't obtainable, creating it tough to make same records.

III PROJECT OVERVIEW

An embedded gizmo could be a mixture of computer code and hardware to hold out an infatuated enterprise. a number of the first gadgets utilized in embedded structures area unit Microprocessors and Microcontrollers. Microprocessors area unit usually referred to as most popular reason processors as they sincerely take delivery of the inputs, method it and deliver the output.

In distinction, a microcontroller not simplest accepts the statistics as inputs but conjointly manipulates it, interfaces the statistics with various devices, controls the information and for that reason later on offers the result.The task "automatic Parking system the usage of web of things" became designed such the recognition of parking slots will be regarded from everyplace within the customers webpage.

IV BLOCK DIAGRAM

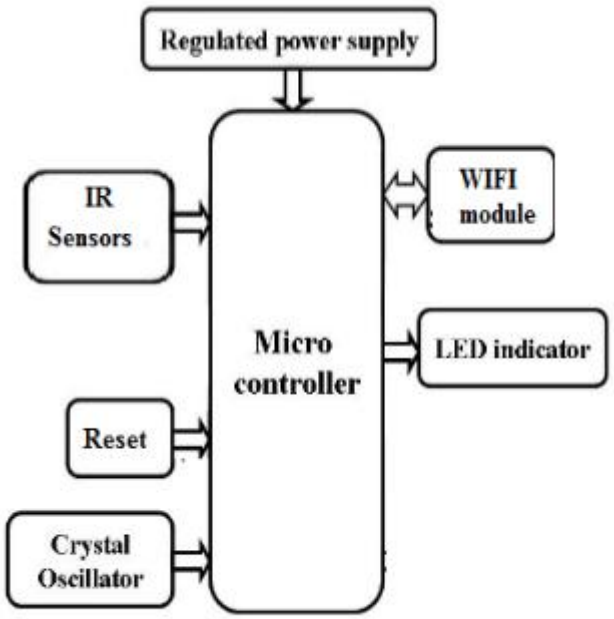

Fig.1. Block diagram of IOT based Automatic Parking system

In this project "Automatic parking system mistreatment web of Things" is especially supposed to observe the standing of the devices through server (Wi-Fi).The dominant device of the full system could be a Micro controller. Wi-Fi module, IR sensors ar interfaced to the Micro controller. IR sensors ar fed as input to the Micro controller. The Micro controller processes this knowledge and transmits over Wi-Fi, which can be received from mobile. In achieving the task the controller is loaded with a program written mistreatment Embedded C language. The user UN agency desires to park the vehicle is connected to the Wi-Fi network of

that exact car parking zone through the arcane. The IR sensors send the standing to the micro controller wherever the info process is completed. The micro controller sends data to the net page concerning the standing of the slot to the user mistreatment IOT. this fashion the user will simply realize a parking slot with none congestion and in less time.

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V RESULTS

The project "Automatic Parking system using Internet of Things" was designed such that the status of parking slots can be known from anywhere in the users webpage. This is achieved using Wi-Fi communication.
In this system, the user has to be connected to the Wi-Fi network of that particular parking area through which he is given access to the webpage and can know about the status of the parking slot.

Fig.2. Search available slots in parking area

VI CONCLUSION

The objectives of this mission had been done. The problem in attempting to find available parking plenty has been completely removed through booking the masses through IOT machine. it's far well managed to access and map the popularity of parking slots from any remote area through web browser. Therefore it reduces the threat of finding the parking slots in any parking vicinity and additionally it removes useless traveling of automobiles across the filled parking slots in a metropolis. The designed device will be implemented everywhere due to its ease of usage and effectiveness.

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