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Smart Parking Spots by using the Proximity Sensor in IOT

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ABSTRACT: Internet of Things (IoT) is an interpolated computing and mechanical devices. Its combine with the unique identifiers. IOT applications are covered with AutomaticTraffic Signals, Smart Retailing, WearableSensors, SmartTrafficSignals and Smart Irrigation process in agriculture.In many places the parking spots are not available. In upcoming days the vehicles are generate more so some issues are also generate. Where the parking space is available. It's the major problem in upcoming days. In this paper implementing the smart parking system by using the proximity sensor.This sensor handling the free spaces in that parking spot. Incase the space is free, send the data to the cloud storage through WiFi. The cloud storage the data are stored and intimate to the drivers through message.The cameras are fitted inside the parking spot.Its capture the vehicle number and vehicle. It's also stored in the cloud by using the sensors.In this paper; we can avoiding the traffic inside the parking spots and avoid the crowd.

KEYWORDS: Proximity Sensors, WiFi, Arduinio, Cameras, Cloud Storage

I. INTRODUCTION

In this proposed system, the parking spots are stored in the cloud storage. The IoT is used to some recent techniques like smart watches, smart vehicle, smart agriculture etc. In this paper used in the smart parking system. In this parking system, now a days we are in busy schedule so we cannot place the vehicle is particular parking spots. In case we are going to the new places but we are know about the parking spots or rules for that. In this problem is avoided through this paper.IoT is used to store the data in cloud and intimate to the drivers through messages. First authentication person store the details in cloud. Then the proximity sensors are monitoring the parking places. It does also convey the message, if the place is available or not.In this process sends the cloud through WiFi. WiFi connection is used to store and transfer data to the cloud. The cameras are used to capture motions of vehicle and their number plates. Proximity sensors devicehandling this databaseabout the vehicle information in the cloud storage.Arduinio is connected with the WiFi and proximity sensors. In cloud storage, create a new webpage and Store the entire details into the cloud.The cloud storage is used to intimate the message to the drivers.

In case all the parking spot, place is available or not, then the vehicle details are stored in the database.In this proposed system, avoid the traffics in parking spots, easily identify the parking spots, the vehicle will be monitoring , so the no issues or no problems. Vehicle is safe other persons cannot theft ourvehicles.

HARDWARE REQUIREMENT

- Arduinio
- Internet
- Sensors
- Camera
- Proximity sensors

II. LITERATURE SURVEY

IoT based Smart Parking System “Abhirup Khanna, Rishi Anand”

In this research work, these three are considered traffic, road safety and parking system .Its IOT based paper. In this system they are monitoring and signalized the vehicles. Onsite deployment is monitor by the IOT module. It’s one of the mobile applications. Download the application and we can search the parking slot and then park the vehicles.

A Cloud-Based Smart-Parking System Based on Internet-of-Things Technologies “Thanhnampham, Ming-fongtsai, Ducbinhnguyen, Chyi-rendow& Der-jiundeng”

In this research work, they are implementing the least cost based on performance metrics. In which place free parking is available checking and the novel algorithm is used in this entire process.

Smart parking system for Internet of Things “Author:Chungsan Lee, Youngtak Han, SoobinJeon, DongmahnSeo, Inbum Jung”

In this research work, they are using the ultrasonic sensor and magnetic sensor. Detecting and finding the parking place. Using these sensor find the location of the parking system.

An IoT-based E-Parking System for Smart Cities “Pampa Sadhukhan”

In this research work, they are using the Parking Meter (PM) to detect the correct issues in parking system management .some of the people would not know the parking place. So the location is correctly managed in PM.

A Smart Parking System based on IoT protocols and emerging enabling technologies

“Luca Mainetti , Luigi Patrono , Maria Laura Stefanizzi , Roberto Vergallo”

In this research work, they are using the RFID, WSN. In this paper some android application is used to control the traffics and RFID and WSN is used in this application. These technologies and some protocols are used in this entire paper.

NB-IOT based smart car parking system. “M. Praveen , V. Harini”

In this research work, they are used the NB- IOT .its connected to the raspberry pi board. It’s easy to handle the traffics. In the software application they are used the NB-IOT. It’s reduced the traffic and avoids the parking system accidents.

Low cost smart parking system for smart cities “D. Vakula, Yeshwanth Krishna Kolli”

In this research work, they are using the low cost and provide the booking of parking system. We are booking the hotel rooms likewise the parking space is also booking. It’s easy to parking and that parking place is booked already.

III. PROPOSED SYSTEM

PROCESS

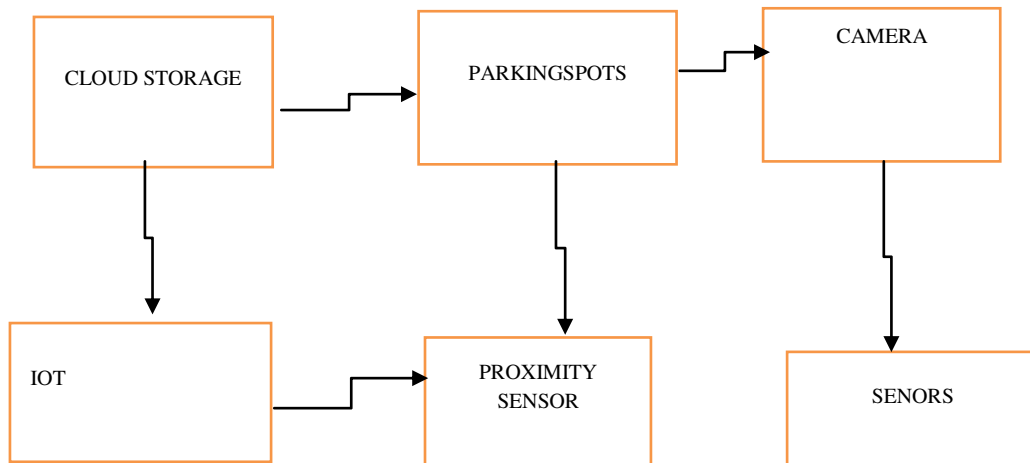


Fig 3.1 Process of Parking

HARDWARE PROCESS

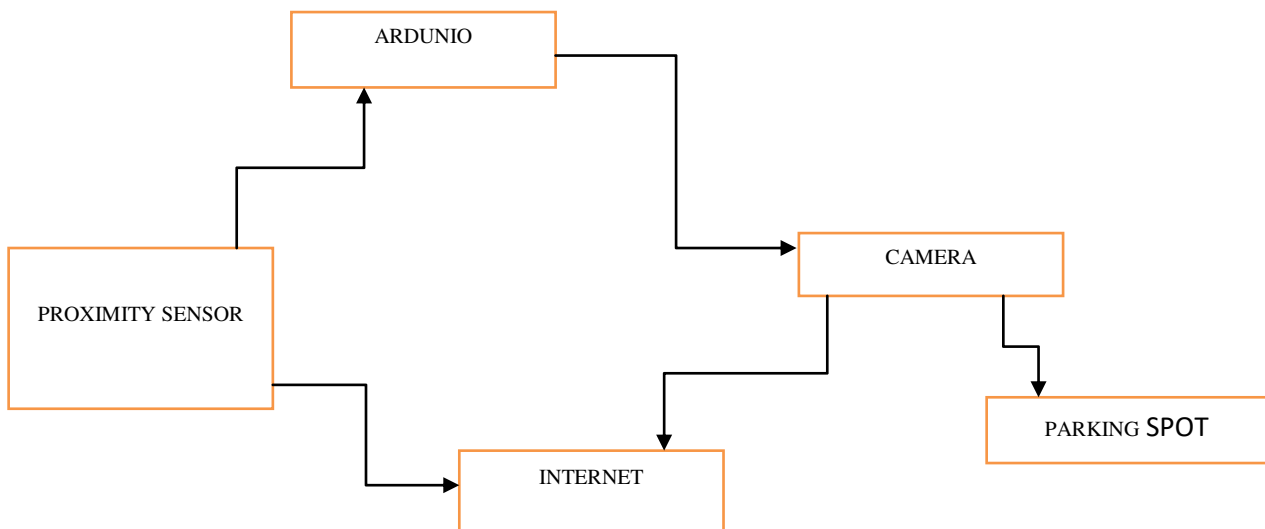


Fig 3.2 Hardware Part Connectivity

HARDWARE PARTS

1. EZVIZ CAMERA



EZVIZ C6N camera is used to capture the vehicles and number plate. WiFi Indoor parking system Security Pan & Tilt Camera with 2 Way Talk 1080p It is used to Full HD 360° Coverage Its activate in Night Vision capture the data and stored the data Sleep Mode Motion Detection Supports MicroSD Card Upto 256GB.

2. PROXIMITY SENSOR



Proximity sensors are the high reliability and long functional life due to the absence of mechanical parts and lack of physical contact between the sensor and therefore the sensed object. Proximity sensors also are utilized in machine vibration monitoring to live the variation in distance between a shaft and its support bearing.

3. ARDUNIO



Arduinio is employed to attach the camera. Then the sensors are connected to sense monitoring. Data is stored within the cloud storage.

IV. CONCLUSION

This paper is expressed to examine the place of parking by IoT, GPS and other sensors devices usability to enhance the work. Incase the parking slot is free immediately intimate to the drivers to access that free area and its reduced seeking

time to parking the vehicle. By using this proposed project work we can able to avoid traffic congestion, accidents and identify & give theft alarm to the owner of the vehicle in an around parking spot.

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