WELCOME

INTERNET OF THINGS(IOT)

INTRODUCTION OF IOT

- The Internet of Things (IoT) describes the network of physical objects – "things" – that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet

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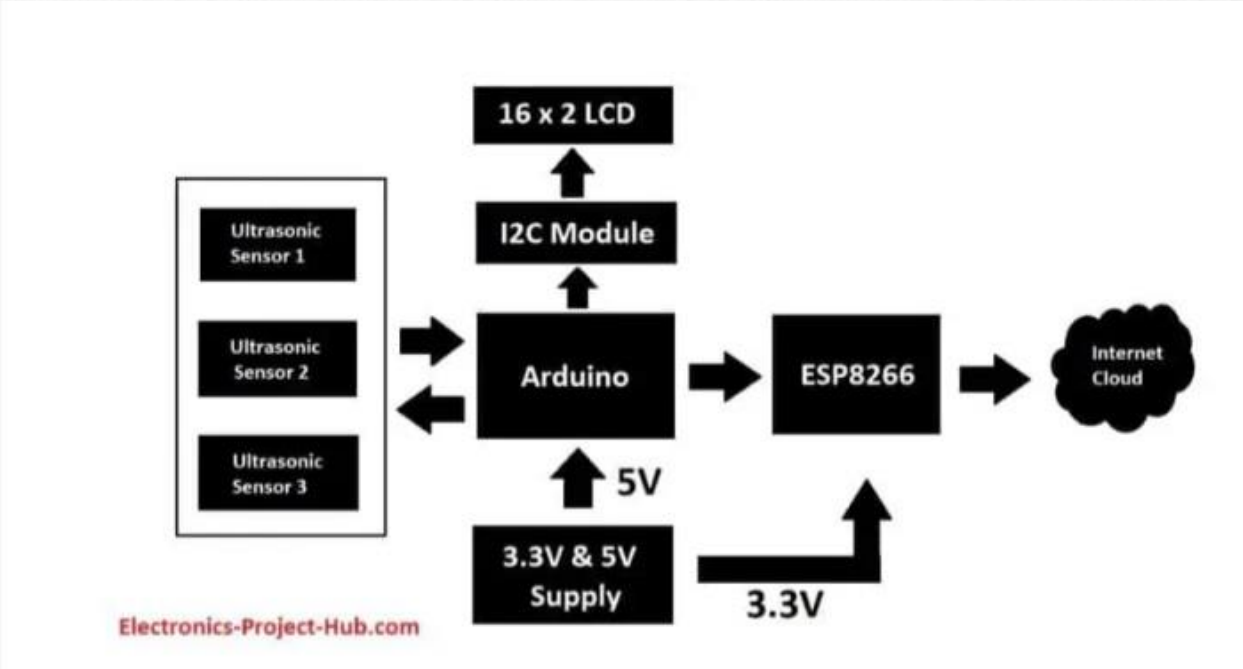
SMART PARKING SYSTEM PROBLEM DEFINITION

By using ultrasonic sensors be able to keep a record of the number of cars parked inside of a parking garage followed by the parking space, a ping ultrasonic sensor will then be able to determine if a car is parked in the space or not. Finding a parking space in most metropolitan areas, especially during the rush hours is. difficult for drivers. Difficulty arises from not knowing where the available spaces may be at that time traffic congestion may occur.

DESIGN THINKING

1. Project Objectives: The aim of implementing Parking Management System is to reduce time and increase efficiency of the current Parking Management system.
2. IoT Sensor Design: IoT-based smart parking system deployment requires integrating various devices, sensors, and microcontrollers.The IoT device consists of an ESP8266 microcontroller and an HC-SR04 distance measurement sensor. The sensor periodically measures the distance and transmits this data to the microcontroller, which is connected to AWS IoT service via the MQTT protocol.
3. Real-Time Transit Information Platform: Design a web-based platform and mobile apps to display real-time traffic information to the public.
4. Integration Approach: The parking process is common attempt to eliminate traffic in the road by providing certain spot for vehicle to stay for certain time.

BLOCK DIAGRAM



HARDWARE/SOFTWARETOOLS/SPECIFICATION

- ESP8266 MICROCONTROLLER
- HC-SR04 DISTANCE MEASUREMENT SENSOR
- ARDUINO UNO
- AT MEGA 338p MICROCONTROLLER
- 16×2 LCD DISPLAY
- ULTRASONIC SENSOR
- 5V AND 3.3 V ADAPTER
- WIRES

REFERENCES

- Iot based smart parking system - Electronics-project-hub.com was first indexed by Google in May 2018 https://electronics-project-hub.com/iot-based-car-parking-system-using-arduino/.
- https://www.researchgate.net/publication/327415695_Analysis_of_Project_Integration_on_Smart_Parking_System_in_Telkom_University

THANK YOU