Problem statement -Smart parking

Free parking space is hard to find for public . It increases traffic and more usage of fuel. It also gives bad experience for drivers and time consuming. In this project,sensors are used to find free spaces and this information is given to users .We can also help users book parking space in advance using mobile.

Design thinking

Project objective:

To help public find free parking space with help of sensors and avoid stress,traffic and time consumption.

Iot sensors:

1) ultrasonic sensor: It is used to detect whether the parking slot is free or not. A ultrasonic sensor is placed on parking slot and it emits high frequency pulse from trigger pin . In the presence of any vehicles ,the ultrasonic pulse is bounced back and detected using echo pin. Thus we can find out occupied spaces .distance=time*speed/2 formula it used to calculate distance of parked vehicle and sensor.

2)Servo motor: It can be used to control the entry and exit of vehicles.

Real-Time Transit Information Platform: An application which helps drivers to find free and occupied parking space,with the help of data collected from sensors . In case of paid parking zone,it helps drivers to book free parking space in advance . Duration of parking can be calculated and drivers can chargers accordingly.

Integration Approach:

Ultrasonic sensor is connected with raspberry pi and the information coming from ultrasonic sensor are stored in it.Then , raspberry pi is connected with the mobile app using Bluetooth or network.