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| **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  **Domain Name: Internet of Things (IoT)**  **Project Title: Smart Car Parking System** | | | |
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**PROBLEM DEFINITION :**

The project involves integrating IoT sensors into public transportation vehicles to monitor ridership, track locations, and predict arrival times. The goal is to provide real-time transit information to the public through a public platform, enhancing the efficiency and quality of public transportation services. This project includes defining objectives, designing the IoT sensor system, developing the real-time transit information platform, and integrating them using IoT technology and Python.

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**DESIGN THINKING :**

**Smart car parking:**

The proposed smart parking lot circuit will be equipped with several sensors, inexpensive microcontrollers, and Wi-Fi modules using which a car / any vehicle owner can check if there is a vacant space in a parking lot using his / her phone or tablet or even on a computer.

The number of vacant spaces in the smart parking lot can be viewed from anywhere in the world using a URL link or the user can scan a QR code. The scanned/shared URL can be browsed on any web browser to know how many empty parking spots exist in real-time.

O**bjective**

Project Objectives: Define specific objectives such as real-time parking space monitoring, mobile app integration, web browser and efficient parking guidance Sensor Design: Plan the design and deployment of IoT sensors in parking spaces to detect occupancy and availability. Real-Time Transit Information Platform: Design a mobile app interface that displays real-time parking availability to users. Integration Approach: Determine how Arduino uno will collect data from sensors and update the mobile app.

**Benefits of smart car parking system :**

An IoT-based car parking system using Arduino can help drivers find available parking spots. The system uses an infrared sensor to detect the presence or absence of a car. It can also display the status of parking slots, including how many are filled and how many are empty**.**

**Some benefits of an IoT-based car parking system using Arduino include:**

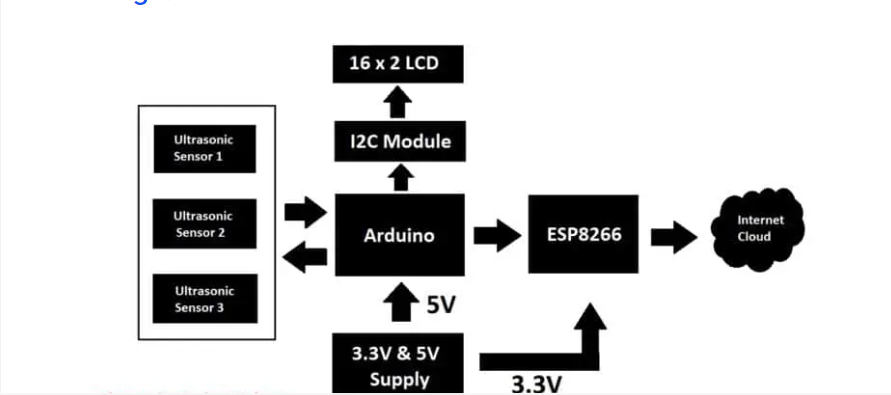
Saving time and reducing hassle for drivers.

Helping drivers avoid traffic congestion.

Allowing drivers to search for and reserve parking spots remotely through their smartphones.

Informing drivers of parking availability in advance.

**FLOW DIAGRAM :**

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