Smart Parking

**Choose the appropriate sensors**

There are a variety of IoT sensors that can be used to detect the presence or absence of a car in a parking space. Some common options include:

* Ultrasonic sensors
* Infrared sensors
* Magnetometer sensors
* Pressure sensors

**Install the sensors in the parking spaces**.

The sensors should be installed in a way that allows them to accurately detect whether or not a car is present in the parking space.

The specific installation process will vary depending on the type of sensors being used.

**Connect the sensors to an Arduino board**

The Arduino board will act as the central hub for the system. It will be responsible for collecting data from the sensors and sending it to the online database platform via ESP8266.

**Connect the Arduino board to an ESP8266 module**

The ESP8266 module will allow the Arduino board to connect to the internet and send data to the online database platform.

**Set up an online database platform**

There are a variety of online database platforms that can be used to store the parking availability data. Some popular options include Firebase and MySQL.

**Develop a mobile or web application**

The mobile or web application will be used to display the parking availability data to users. The application will need to be able to connect to the online database platform and retrieve the latest parking availability data.

Once the system is set up, users will be able to use the mobile or web application to see which parking spaces are available in real-time. This will help them to find parking more efficiently and reduce the amount of time they spend driving around looking for a place to park.

**Power supply:**

The Arduino board and ESP8266 module will need to be powered. This can be done using a variety of power sources, such as a battery pack, solar panel, or AC outlet.

**Data security:**

The parking availability data should be encrypted to protect it from unauthorized access.

**System monitoring:**

It is important to monitor the system to ensure that it is functioning properly. This can be done by checking the online database platform to see if the parking availability data is being updated regularly.