

# Smart Parking System

Anjana GR 1AP21CS007

Pradeep N 1AP21IS021

Pradeep J Kumar 1AP21IS022

## **Software Installations :**

### **1. Update your Raspberry Pi**

sudo apt-get update

sudo apt-get upgrade

### **2. Install Python and pip if not already installed**

sudo apt-get install python3 python3-pip

### **# 3. Install required Python packages**

pip3 install RPi.GPIO

pip3 install pad4pi

pip3 install flask

pip3 install flask-cors

pip3 install requests

### **# 4. Create a project directory**

mkdir smart\_parking

cd smart\_parking

### **# 5. Create a static directory for web files**

mkdir static

## **Project Setup :**

### **1. Create the main Python file:**

nano smart\_parking.py

### **2. Copy the code into this file.**

### **3. Make the script executable:**

```
mod +x smart_parking.py
```

## Running the Project :

### 1. Start the system:

```
python3 smart_parking.py
```

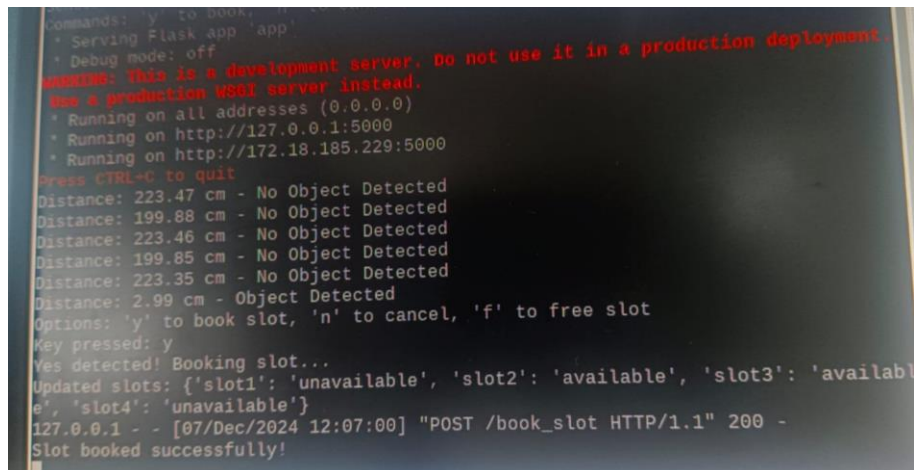
### 2. Access the web interface:

### 3. From the same Raspberry Pi: <http://localhost:5000>

### 4. From other devices on the network: [http://\[raspberrypi\\_ip\]:5000](http://[raspberrypi_ip]:5000)

To find your Raspberry Pi IP: `hostname -I`

## Screenshots :



```
Commands: y to book, n to cancel, f to free slot
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.18.185.229:5000
Press CTRL-C to quit
Distance: 223.47 cm - No Object Detected
Distance: 199.88 cm - No Object Detected
Distance: 223.46 cm - No Object Detected
Distance: 199.85 cm - No Object Detected
Distance: 223.35 cm - No Object Detected
Distance: 2.99 cm - Object Detected
Options: 'y' to book slot, 'n' to cancel, 'f' to free slot
Key pressed: y
Yes detected! Booking slot...
Updated slots: {'slot1': 'unavailable', 'slot2': 'available', 'slot3': 'available', 'slot4': 'unavailable'}
127.0.0.1 - - [07/Dec/2024 12:07:00] "POST /book_slot HTTP/1.1" 200 -
Slot booked successfully!
```

Fig. The slot booking Terminal

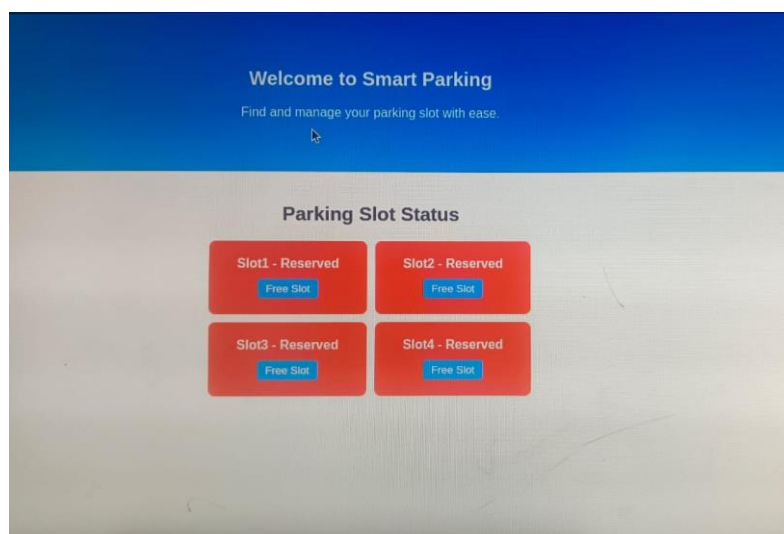


Fig. The webpage of the project