

Multi Smart Parking System

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Abstract – The main abstract of Research of our Project is to solving the problem of Metro Cities, Shopping Malls, Large Schools and Colleges in which lots problems we are seeing in our daily life. Now days, making big problem of Parking of any Vehicles is major problem due to less Parking area. Due to less Parking area, normally people face lot of problems for Parking of our Vehicles. Our main motive is to solve this type of problem by our Online Web based Application Software. This Web Application can easily solve these types of problem, and can easily provide Parking areas for Parking of any Vehicles. Our Project will provide value in people's life definitely for solving problem of Vehicles Parking.

Key Words: Multi Smart Parking System, RFID, IR, GSM, IoT

1. INTRODUCTION

The main aim of our Project is to reduce the problem of our Vehicles Parking in any Public or Private places. It helps for finding the Parking Slots and also provides necessary Parking Slots for Vehicle Parking. It eliminates the unnecessary Parking in any filled Parking Slots in any City.

Our main goal is to develop a Multi Smart Parking System Web Application Project for Users, Users can receive complete information about occupied Parking Slots. This Multi Smart Parking System will controlled by the Internet, and this System will access remotely via any Browser based Application Software.

It will helpful for reducing the pollution of Vehicles by the help of this System. It reduce the unnecessary Parking across of any filled Parking slots in any City. This Multi Smart Parking System manages of all the Vehicles in organize manner. It saves fuel of Vehicles because in searching of free Parking much time waste, due to waste of fuel. So, this Project is very helpful for human life.

1.1 Project Overview :

The main characteristics of our Multi Smart Parking System, this is Web based fully responsive and flexible Website. This

Web based application can easily accessed by any Browsers like opera Mini, Google Chrome etc. This project is based on Frontend and Backend, i.e HTML, CSS, JavaScript, Python and MySQL .This Multi Smart Parking System can easily book Parking Slot by the help of Online.

1.2 Hardware Specification

This System can smoothly run in minimum hardware requirements like which are :

RAM – 2GB

1.3 Software Specification

This System can easily run on any Web based Browsers.

Google Chrome, Opera Mini like any other Browsers.

1.4 Programming Languages:

Frontend Languages:

- HTML (Hyper Text Markup Language), this language is used for making structure of this system.
- CSS (Cascading Style Sheet), this language is used for giving style of Web Page. This language is also used for colour providing in fonts and providing attractive look of this Multi Smart Parking System,
- Bootstrap (Framework of CSS and JavaScript). This framework is a free and Open Source CSS framework. It includes of JavaScript for designing the template for making Forms, Buttons, Navigations and other interfaces components.

Backend Languages:

Python:

- The Python is a Web Development (Server Side Programming language) for Software Development and applying mathematics in the System.

- By the help of Python Programming language we can easily develop Web Applications.
- Python can connect Database and read and modify files.
- Python Programming language can easily handle Big Data and calculate complex mathematics problems.
- Python is very useful for rapid prototyping production and Software ready development.

MySQL:

The MySQL database is a free and open Source Database Management System under the GNU (General Public Licence). This Database manages the data by the help of Database Administrator.

Django Framework:

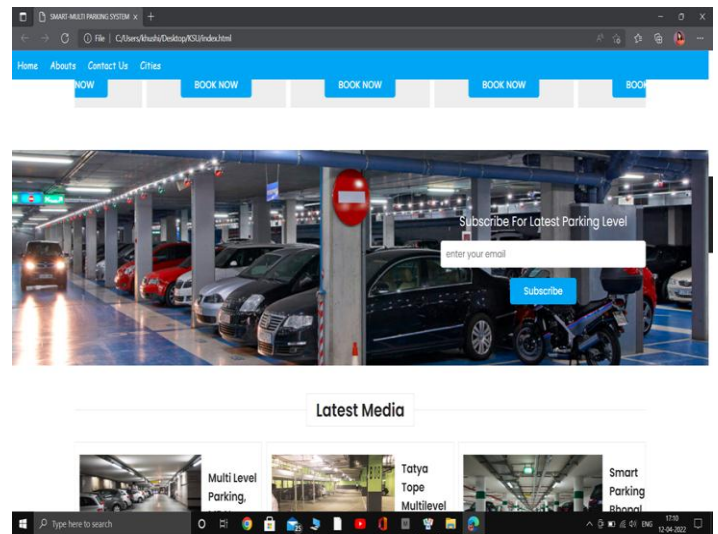
The Django is a python based web Framework which provides rapid development and provide facility of secure and maintainable websites.

2. SYSTEM ARCHITECTURE:

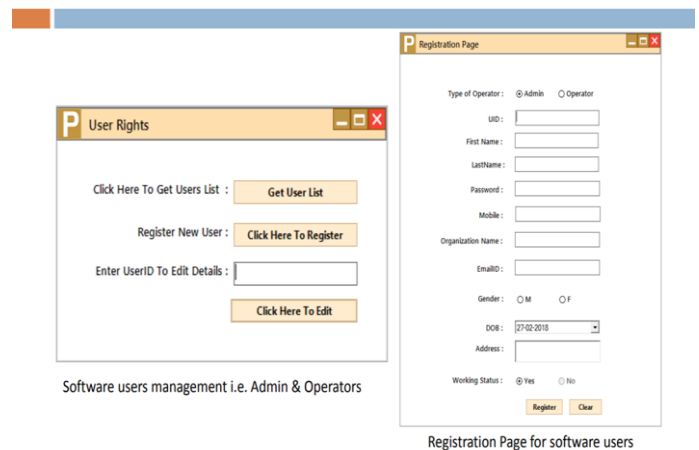
The System Architecture contents the following modules are :

- In User module manages activities of the system.
- In User Login module, User can login in the System.
- In Check Role module, User can check the Parking Slot by the help of this Module.
- In User Login or Logout module User can Login or Logout by this System.
- By the help of manage Profile module, User can manage their Profile by the System.
- By the help of Book Slot module, this module helps for booking the Parking Slot in a System.
- User can make Payment by the help of Payment module.
- User can change Password in the System.

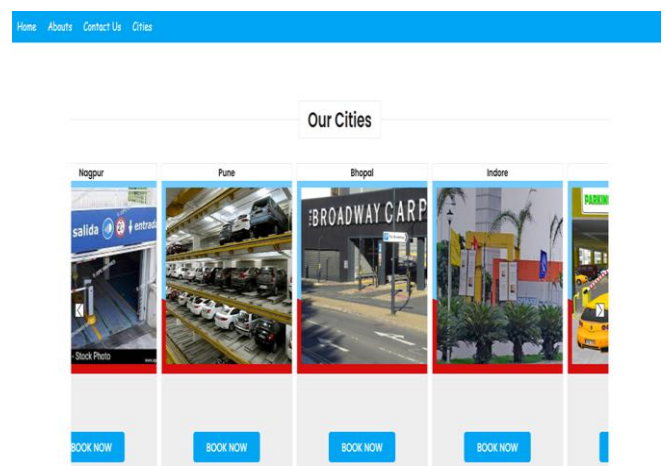
This is Home Page of Multi Smart Parking System:



This is Login Page:



Add, View and Choose your City :



3. LITERATURE SURVEY

Our proposed Multi Smart Parking System using Short Messages Services (SMS) for uses Global System for Mobile (GSM) with Microcontroller to enhance securities.

3.1 Existing System

The System uses Infrared (IR) Sensors to detect Parking Slot occupancy . Data obtained from the IR Sensors are sent to the Cloud Platform. Using a Smartphone Application, the User can access the data. Besides, SPS enables the User to get to the nearest available Parking Slot location based on the size of the vehicle.

3.2 Limitations

- The Multi Smart Parking System is complex and the speed of operation is also slow.
- Elevated Tower :

A Tower based automatic Smart Multi Parking System is a system with a Cylindrical appearance. A component in the design i.e , a Tower can simultaneously perform two types of movements up and down motion in the Y- axis direction and Anti – Clockwise rotation and Clockwise rotation. The shuttle can move along the diameter of the tower to the opposite Parking space.

3.3 Advantages

- Due to this System takes shorter waiting time at Parking place.
- It saves Fuel, Money, Space and Time by using this Smart System.
- This Multi Smart Parking System reduces the Smoke Pollution.
- It also helpful for controlling in large quantities of Carbon Emission which produces by the Vehicle Smoke.
- This System increases efficiency

3.4 Applications

- This System is very helpful for Shopping Malls.
- Also helpful for Restaurants.
- In Theatres, this System is very helpful for Parking Space.
- This System works better for Parking Vehicles in large quantities in efficient manner in Colleges.

- It is very useful for Hospitals.
- It is very useful for all Public Places.
- This System is best for Government and Private Organizations for Parking Vehicles.

4. CONCLUSIONS

Our Project focuses on implementation of Multi Smart Parking place detection by the help of Internet of Things (IoT). Our Multi Smart Parking System advantages of Smart Parking go well beyond avoiding time wasting. Development a Multi Smart Parking Solutions with in a city solves the Pollution problems.

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