ONLINE CAR PARKING SYSTEM

"Car Park"

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A PROJECT REPORT ON ONLINE CAR PARKING SYSTEM.

DECLARATION

We hereby, declare that the project is made solely by us and it is our original work except for the references used.

DEDICATION

The Online Car Parking System is implemented by us for the betterment of the society and we dedicate our project for the service of mankind. This project will help to revolutionise the world by implementing major changes on the grounds of the vehicle parking, by providing small scale parking solutions.

INTRO TO ONLINE CAR PARKING SYSTEM

Have you ever felt exasperated while trying to have a good day out and you never got a space to park your vehicle! If so, you are part of many people facing this problem. With growing population, also vast improvements in technology, a large amount of people now have the ability to afford vehicles. Naturally, this creates an impact on the space needed for these vehicles, especially while we visit public places. This has cause increased frustration among the drivers in our country.

Our project tries to handle this problem by creating a website that allows users to book parking spaces in advance without the hassle of trying to get one after reaching the place. By this we also aim to generate the further advantage of them providing base necessary services to them during parked hours such as, dry cleaning, car washing etc.

INTRO TO OUR WEBSITE "Car Park"

Our project webapp *Carpark,* provides a way for socially on high demand places such as malls, theatres restaurants etc., to better manage the incoming traffic and increase customer *satisfaction* by giving them the opportunity to "pre-book" parking slots.

Our website uses a simple to understand user-interface with a clear dashboard showing the users all the available options to exercise. We hope to increase order by reducing unnecessary traffic with this app.

Also, the parking managers, or admins, are given the right to choose their own workers to provide any type of the aforementioned services.

FEATURES OF THE ONLINE PARKING SYSTEM

- Product and Component based
- Creating and changing issues at ease
- Query list to any depth
- Reporting and Charting in a more comprehensive way
- User Accounts to control the access and maintain security
- Simple Status and resolution
- Attachments and additional comments for more information
- Robust database backend
- It contains better storage capacity
- Accuracy in work
- Easy & fast retrieval of information
- Well-designed report
- Decrease the load of the person involved in existing manual system
- Access of any information individually
- Work becomes very speedy
- Easy to update information

OBJECTIVE

The main objective of the online parking system is to manage the details of the car, parking, parking-slots and parking-fees. The major objective was to implement the scheme introduced by our Honourable Prime Minister Shri Narendra Modi, that is, the vision of the "Digital India". It further adds to the benefit, of "Cash-less India". The project is made for the smooth functioning of the vehicle management across the globe. It is multi-functioning website, which provides additional features and access to different entities like Admin, User and Worker.

INPUT DETAILS AND VALIDATION OF PROJECT

- All the fields such as Car, parking space, Parking Fees are validated and does not take invalid ones.
- Each form for Car Parking, Car Number cannot accept blank values
- Avoiding errors in data
- Integration of all modules/forms in the system
- Functionality of all modules/forms
- Validations for user input
- Testing the module with all possible test data
- Modifications done for errors found during testing
- Checking of the Coding Standards to be maintained during coding

FUNCTIONALITIES PROVIDED BY THE WEBSITE

Various functionalities are provided by our website of which some are listed below –

From User's End

1. User can login on the basis of the username and the password provided by the website. New costumers can register through the platform and can update their details at any point of time.
2. The website can manage various user details like car registration number details, parking slot details, parking fees and additional service charges.
3. It tracks all the information relevant to parking.
4. It tracks all the transactions and services provided by the website.
5. The user can also provide rating to the service provided.
6. The user can receive the receipt of the work done and also the amount to be paid.
7. There is a separate provision for the user to reset his/her password. It also provides the user a facility to retrieve his/her password, in case they have forgotten it, that is the user can access forgot password depending upon the registered mobile number.

From Admin's End

1. There is a provision for the admin to register to his/her account as per the login credentials set up the admin.
2. The admin has the authority to access the user and the worker dashboard.

3. The admin can edit, add and update the records of the users and workers.
4. The admin can update the number of the parking slots at any point of time.
5. There is also a provision with the admin to change and reset the password.
6. Admin can access the details of the user and the worker and depending upon the need he/she can add the workforce.
7. Providing search facilities on the basis of random parking numbers provided at the time of user registration.

<p style="text-align:center"><u>From Worker's End</u></p>

1. The worker can login on the basis of the login credentials fixed at the time of registration.
2. The worker also has the access to the worker dashboard and access the ratings as provided by the user and the admin.
3. The worker has a particular schedule to follow and provide the service he/she is assigned/recruited for.

IMPLEMENTATION DETAILS OF THE WEBSITE

The implementation details of the project mainly consist of the languages and the framework employed for the creation and better functioning of the website.

The details of which are given below –

Front-End –

Language – HTML, CSS, Java, JavaScript

Server-Side –

Interface – Servlets and Java Server Packages (JSP).

Back-End –

Database – MySQL.

Connection – JDBC (Java Database Connection).

The languages primarily include Java for the designing of the website. All the major features are implemented by importing specific libraries and dependencies of Java. HTML and CSS are primarily used to enhance the graphics and GUI of the website. We took reference from various CSS libraries to create a very rich library which will beautify the website and make it user-friendly. The additional feature of printing the receipt is implemented by the use of JavaScript.

Servlets and Java Server Packages (JSP) play a very important role in our website. The whole task of engaging and connecting the website to our Java Console is solely dependent on it. They control the task of insertion, retrieval and selection of data from the database. It basically performs the task of connection.

We have used MySQL, which is a language widely used for performing the tasks pertaining to RDBMS. It is basically a language to implement our database. It is a structured query language which performs functions like CRUD (Create, Read, Update and Delete).

We have used a connector named JDBC (Java Database Connection), which extends the tasks of joining the end-points. It basically joins the Java-Console to Database through a series of steps. It simply joins Back-end to the Java-console.

MODULE WISE DESCRIPTION

The module-wise description mainly covers the detailed information regarding each module or to be specific about each detail pertaining to our tables and database.

The details are described below –

1. Table Admin (tbladmin)

It consists of the login and the registration details of the Admin. It also consists of the sensitive details of the user and the worker. It also consists fields which provides access to the authority of the admin upon the user and worker details. It also has the provision to edit, update and add particular fields of concern. It also has the facility to reset his/her password. The admin also has total access to the vehicle entering/leaving the parking premises. The admin has the total acknowledgement of the transactions. Admin also controls the additional services provided by the firm and controls the transactions governed by them. The admin can also search for any particular car based upon the randomly generated parking number.

2. Table User (tbluser)

The table user contains all the information and details pertaining to the user's point of view. It basically contains fields that a user can access and have authority upon. The user can login to their specific details and can access the dashboard. For the new costumers they can easily register to the website and have complete access to the website and its exclusive services. They have full control over the transactions involved during their time at the parking premises. They also have the privilege to give legitimate feedback rating on the basis of the quality of the services provided to them. They can also have access to the particular parking slots depending upon the availability of the parking-slots.

3. Table Worker (tblworker)

The table worker is the exclusive module, made for the workers. It basically consists of the details pertaining to workers. It provides workers, access to their dashboard and know about their schedule (work for which they are assigned). They also have access to their profiles, which consists rating as provided by the admin, solely based upon the quality of the work provided and satisfaction of the customers.

4. Table Vehicle (tblvehicle)

Table vehicle is the most functional table, which consists of the all the details of the parking system. It has control and access over all the details of the car registered. It has an additional feature of showing the previous entries of the cars registered a day before, this provides a ground of improvement, if records are not conserved or are misplaced. It also has the facility to manage the incoming and outgoing vehicles. It also controls the services and the transactions involved with it. It also has the information regarding the ratings provided as per the costumers. The table consists of an important field that is, parking fee and additional service, the website a certain formula for the calculation of the cost, we have implemented the cost system, for the parking slots being engaged for small interval of time like for time less than 1 hour and then charging the cars on the basis of the difference in time (in hours) at a constant rate.

5. Table ParkingSeatCapacity (tblparkingseatcapacity)

It's the most basic form of table which just consists of the total parking capacity of the system. The admin has access over this table to update the parking slots depending upon the needs and circumstances.

6. Table schedule (tblschedule)

The table schedule contains all the details relevant to both the targeted areas, that is, it contains information regarding both user and the worker or to be more specific it contains fields concerning both the entities.