

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE  
PILANI HYDERABAD CAMPUS**

**OBJECT ORIENTED PROGRAMMING LAB PROJECT  
GROUP 44**

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Java framework used - **Spring Boot**

- Spring Boot provides Java developers with a platform to get started with an auto configurable production-grade Spring application.
- It focuses on providing flexibility through its dependency injection feature.

User interface developed using - **HTML, CSS, JS**

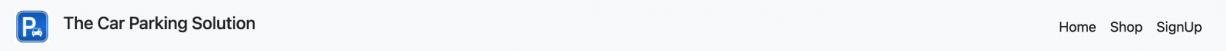
- HTML provides the basic structure of sites, which is enhanced and modified by other technologies like CSS and JavaScript.
- CSS is used to control presentation, formatting, and layout.
- JavaScript is used to control the behavior of different elements.

Data connectivity implementation - **H2, the Java SQL database (JDBC API)**

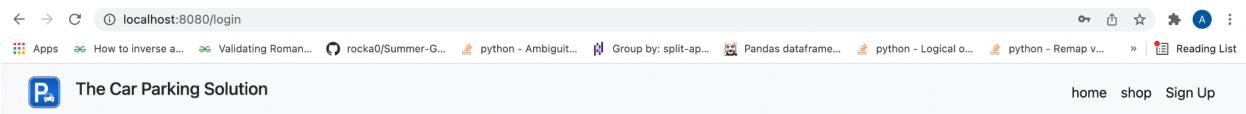
- H2 is an embedded, open-source, and in-memory database.
- It is a relational database management system written in Java.
- It is a client/server application.

Web application hosted locally on - Apache Tomcat Server (<http://localhost:8080/>)

## **1.Module 1 - Login And Signup**



a) Admin User can sign in through his credentials - email and password.



b> A new customer can register himself by providing his details - first name, last name, unique email address and password (or) he can sign in through his google account.

The screenshot shows a registration form titled "Sign Up Now". The form asks for a first name (Animesh), last name (Gupta), email address (animesh.123@gmail.com), and a password (represented by a series of asterisks). Below the password field is a note: "We'll never share your email with anyone else." At the bottom of the form is a blue "Register" button. Below the button, there is a link to "Already have an account? Login here".

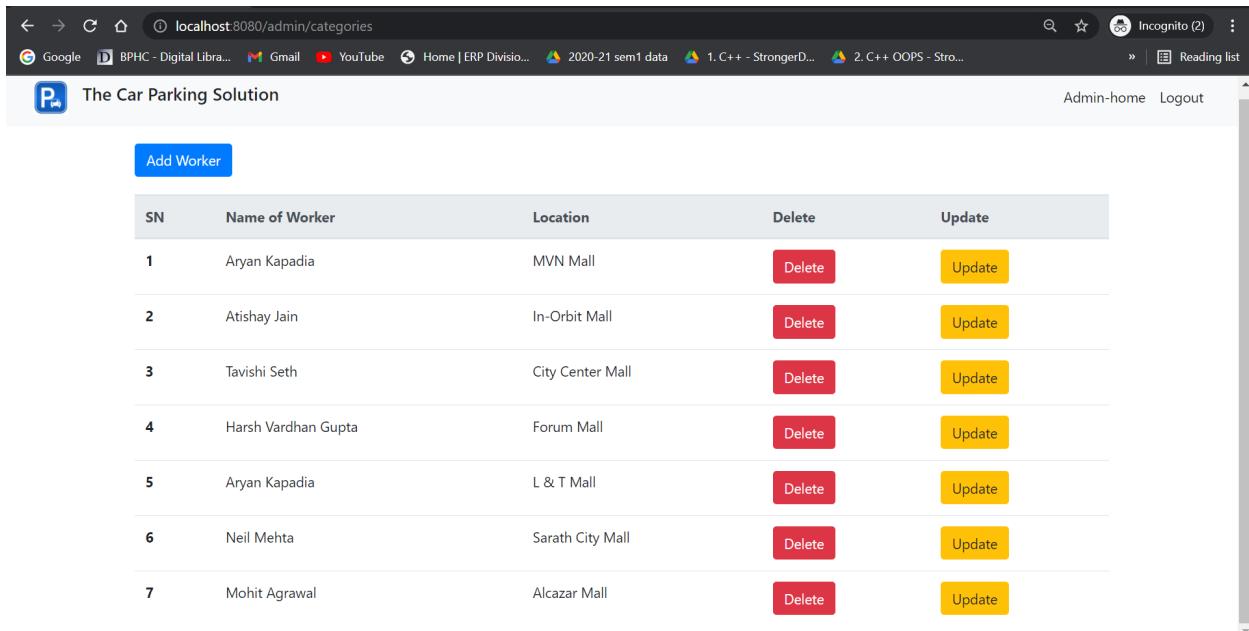
Registering with a new account with the details mentioned above.

## 2. Module 2 - DASHBOARD

a> Admin Dashboard

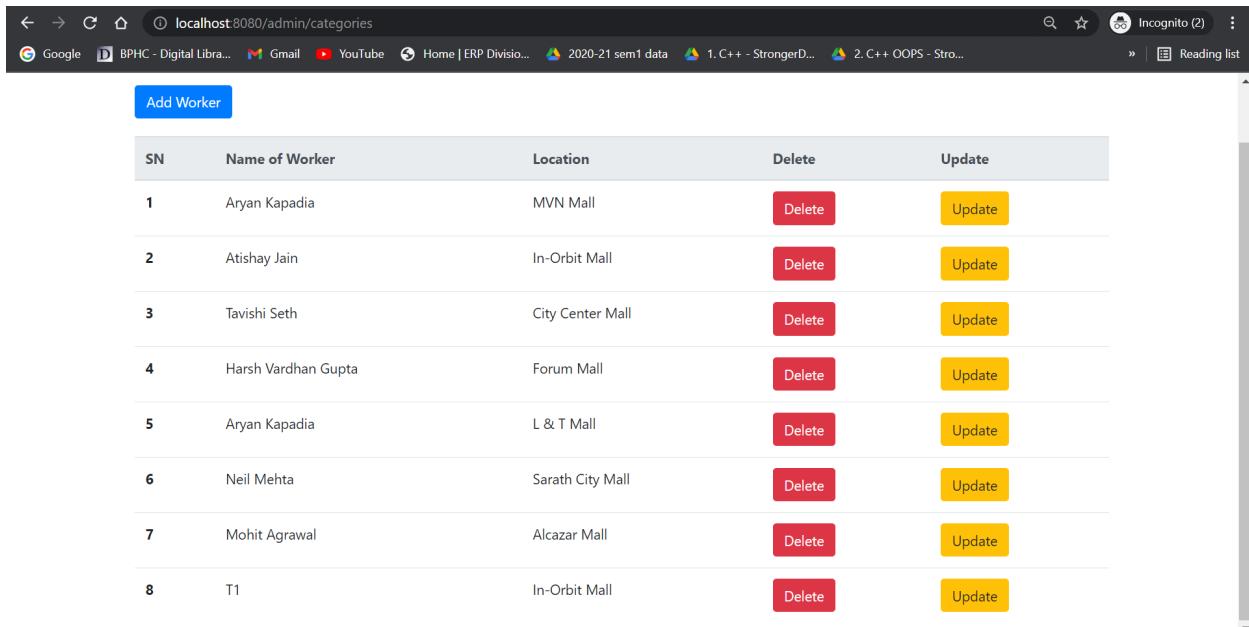
The screenshot shows the Admin Dashboard. At the top, it says "Welcome back, Admin". Below that is a navigation bar with links like "Admin-home" and "Logout". The dashboard is divided into three main sections: "Workers" (Manage workers here), "Parking Spaces" (Manage all parking spaces here), and "Locations" (Manage all the locations here). Each section has a "Manage" button.

i>Managing Workers: Admin can add or remove workers.



SN	Name of Worker	Location	Delete	Update
1	Aryan Kapadia	MVN Mall	<button>Delete</button>	<button>Update</button>
2	Atishay Jain	In-Orbit Mall	<button>Delete</button>	<button>Update</button>
3	Tavishi Seth	City Center Mall	<button>Delete</button>	<button>Update</button>
4	Harsh Vardhan Gupta	Forum Mall	<button>Delete</button>	<button>Update</button>
5	Aryan Kapadia	L & T Mall	<button>Delete</button>	<button>Update</button>
6	Neil Mehta	Sarath City Mall	<button>Delete</button>	<button>Update</button>
7	Mohit Agrawal	Alcazar Mall	<button>Delete</button>	<button>Update</button>

Adding T1 worker



SN	Name of Worker	Location	Delete	Update
1	Aryan Kapadia	MVN Mall	<button>Delete</button>	<button>Update</button>
2	Atishay Jain	In-Orbit Mall	<button>Delete</button>	<button>Update</button>
3	Tavishi Seth	City Center Mall	<button>Delete</button>	<button>Update</button>
4	Harsh Vardhan Gupta	Forum Mall	<button>Delete</button>	<button>Update</button>
5	Aryan Kapadia	L & T Mall	<button>Delete</button>	<button>Update</button>
6	Neil Mehta	Sarath City Mall	<button>Delete</button>	<button>Update</button>
7	Mohit Agrawal	Alcazar Mall	<button>Delete</button>	<button>Update</button>
8	T1	In-Orbit Mall	<button>Delete</button>	<button>Update</button>

Removing worker named Mohit Agrawal

localhost:8080/admin/categories

The Car Parking Solution Admin-home Logout

Add Worker

SN	Name of Worker	Location	Delete	Update
1	Aryan Kapadia	MVN Mall	<a href="#">Delete</a>	<a href="#">Update</a>
2	Atishay Jain	In-Orbit Mall	<a href="#">Delete</a>	<a href="#">Update</a>
3	Tavishi Seth	City Center Mall	<a href="#">Delete</a>	<a href="#">Update</a>
4	Harsh Vardhan Gupta	Forum Mall	<a href="#">Delete</a>	<a href="#">Update</a>
5	Aryan Kapadia	L & T Mall	<a href="#">Delete</a>	<a href="#">Update</a>
6	Neil Mehta	Sarath City Mall	<a href="#">Delete</a>	<a href="#">Update</a>
7	T1	In-Orbit Mall	<a href="#">Delete</a>	<a href="#">Update</a>

localhost:8080/admin/categories/delete/20

ii>Managing Parking Spaces: Admin can edit/view/list all the parking spaces.

localhost:8080/admin/PS

The Car Parking Solution Admin-home Logout

Add Parking Space and Details

SN	Parking Space ID	Location	Vehicle Type	Date	Time Slot	Availability	Delete	Update
1	GKV_P01	GKV- Mall	SMALL	09-12-2021	10:00-11:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
2	GKV_P02	GKV- Mall	SMALL	09-12-2021	11:00-12:00	No	<a href="#">Delete</a>	<a href="#">Update</a>
3	GKV_P03	GKV- Mall	SMALL	09-12-2021	12:00-13:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
4	Inorbit_P01	Inorbit Mall	MEDIUM	09-12-2021	10:00-11:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
5	Inorbit_P02	Inorbit Mall	MEDIUM	09-12-2021	11:00-12:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
6	Inorbit_P03	Inorbit Mall	MEDIUM	09-12-2021	12:00-13:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
7	Sujana_P01	Forum Sujana Mall	LARGE	10-12-2021	10:00-11:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
8	Sujana_P02	Forum Sujana Mall	LARGE	10-12-2021	11:00-12:00	Yes	<a href="#">Delete</a>	<a href="#">Update</a>
9	Sujana_P03	Forum Sujana Mall	LARGE	11-12-2021	18:00-19:00	No	<a href="#">Delete</a>	<a href="#">Update</a>

## Adding L&T\_P01 Parking space

SN	Parking Space ID	Location	Vehicle Type	Date	Time Slot	Availability	Delete	Update
1	GKV_P01	GKV- Mall	SMALL	09-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
2	GKV_P02	GKV- Mall	SMALL	09-12-2021	11:00-12:00	No	<button>Delete</button>	<button>Update</button>
3	GKV_P03	GKV- Mall	SMALL	09-12-2021	12:00-13:00	Yes	<button>Delete</button>	<button>Update</button>
4	Inorbit_P01	Inorbit Mall	MEDIUM	09-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
5	Inorbit_P02	Inorbit Mall	MEDIUM	09-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
6	Inorbit_P03	Inorbit Mall	MEDIUM	09-12-2021	12:00-13:00	Yes	<button>Delete</button>	<button>Update</button>
7	Sujana_P01	Forum Sujana Mall	LARGE	10-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
8	Sujana_P02	Forum Sujana Mall	LARGE	10-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
9	Sujana_P03	Forum Sujana Mall	LARGE	11-12-2021	18:00-19:00	No	<button>Delete</button>	<button>Update</button>
10	Sujana_P04	Forum Sujana Mall	SMALL	10-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
11	GKV_P05	GKV- Mall	MEDIUM	10-12-2021	16:00-17:00	Yes	<button>Delete</button>	<button>Update</button>
12	L&T_P01	L & T Mall	LARGE	17-12-2021	21:00-22:00	Yes	<button>Delete</button>	<button>Update</button>

## Removing GKV\_P05

SN	Parking Space ID	Location	Vehicle Type	Date	Time Slot	Availability	Delete	Update
1	GKV_P01	GKV- Mall	SMALL	09-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
2	GKV_P02	GKV- Mall	SMALL	09-12-2021	11:00-12:00	No	<button>Delete</button>	<button>Update</button>
3	GKV_P03	GKV- Mall	SMALL	09-12-2021	12:00-13:00	Yes	<button>Delete</button>	<button>Update</button>
4	Inorbit_P01	Inorbit Mall	MEDIUM	09-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
5	Inorbit_P02	Inorbit Mall	MEDIUM	09-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
6	Inorbit_P03	Inorbit Mall	MEDIUM	09-12-2021	12:00-13:00	Yes	<button>Delete</button>	<button>Update</button>
7	Sujana_P01	Forum Sujana Mall	LARGE	10-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
8	Sujana_P02	Forum Sujana Mall	LARGE	10-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
9	Sujana_P03	Forum Sujana Mall	LARGE	11-12-2021	18:00-19:00	No	<button>Delete</button>	<button>Update</button>
10	Sujana_P04	Forum Sujana Mall	SMALL	10-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
11	L&T_P01	L & T Mall	LARGE	17-12-2021	21:00-22:00	Yes	<button>Delete</button>	<button>Update</button>

Also updating L&T\_P01's vehicle type to "MEDIUM".

localhost:8080/admin/PS

SN	Parking Space ID	Location	Vehicle Type	Date	Time Slot	Availability	Delete	Update
1	GKV_P01	GKV- Mall	SMALL	09-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
2	GKV_P02	GKV- Mall	SMALL	09-12-2021	11:00-12:00	No	<button>Delete</button>	<button>Update</button>
3	GKV_P03	GKV- Mall	SMALL	09-12-2021	12:00-13:00	Yes	<button>Delete</button>	<button>Update</button>
4	Inorbit_P01	Inorbit Mall	MEDIUM	09-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
5	Inorbit_P02	Inorbit Mall	MEDIUM	09-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
6	Inorbit_P03	Inorbit Mall	MEDIUM	09-12-2021	12:00-13:00	Yes	<button>Delete</button>	<button>Update</button>
7	Sujana_P01	Forum Sujana Mall	LARGE	10-12-2021	10:00-11:00	Yes	<button>Delete</button>	<button>Update</button>
8	Sujana_P02	Forum Sujana Mall	LARGE	10-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
9	Sujana_P03	Forum Sujana Mall	LARGE	11-12-2021	18:00-19:00	No	<button>Delete</button>	<button>Update</button>
10	Sujana_P04	Forum Sujana Mall	SMALL	10-12-2021	11:00-12:00	Yes	<button>Delete</button>	<button>Update</button>
11	L&T_P01	L & T Mall	MEDIUM	17-12-2021	21:00-22:00	Yes	<button>Delete</button>	<button>Update</button>

### iii> Managing Locations:

localhost:8080/admin/locations

The Car Parking Solution

Admin-home Logout

Add Location

SN	Location Name	Address	Delete	Update
1	GKV- Mall	CITY CENTER, 8-2-592, Rd Number 1, Banjara Hills, Hyderabad, Telangana 500034	<button>Delete</button>	<button>Update</button>
2	Inorbit Mall	S No, 64, Inorbit Mall Rd, APIIC Software Layout, Mindspace, Madhapur, Hyderabad, Telangana 500081	<button>Delete</button>	<button>Update</button>
3	Forum Sujana Mall	Kukatpally Housing Board Rd	<button>Delete</button>	<button>Update</button>
4	Downtown Mall	#202 Lakdikapool DownTown Mall, Hyderabad, Telangana 500004	<button>Delete</button>	<button>Update</button>
5	PATNY CENTRAL MALL	Patny Circle, Secunderabad, Krishna Complex, Kalasiguda, Hyderabad, Telangana 500003	<button>Delete</button>	<button>Update</button>
6	Alcazar Mall	498, Rd Number 36, Venkatagiri, Jubilee Hills, Hyderabad, Telangana 500033	<button>Delete</button>	<button>Update</button>
7	Sarith City Capital Mall	Gachibowli - Miyapur Rd, Whitefields, HITEC City, Kondapur, Hyderabad, Telangana 500084	<button>Delete</button>	<button>Update</button>
8	L & T Mall	B16, Punjagutta Rd, Nagarjuna Hills, Punjagutta, Hyderabad, Telangana 5000873	<button>Delete</button>	<button>Update</button>

Adding 5-Star Mall

localhost:8080/admin/locations

The Car Parking Solution

Add Location

SN	Location Name	Address	Delete	Update
1	GKV- Mall	CITY CENTER, 8-2-592, Rd Number 1, Banjara Hills, Hyderabad, Telangana 500034	<a href="#">Delete</a>	<a href="#">Update</a>
2	Inorbit Mall	S No, 64, Inorbit Mall Rd, APIIC Software Layout, Mindspace, Madhapur, Telangana 500081	<a href="#">Delete</a>	<a href="#">Update</a>
3	Forum Sujana Mall	Kukatpally Housing Board Rd	<a href="#">Delete</a>	<a href="#">Update</a>
4	Downtown Mall	#202 Lakdikapool DownTown Mall, Hyderabad, Telangana 500004	<a href="#">Delete</a>	<a href="#">Update</a>
5	PATNY CENTRAL MALL	Patny Circle, Secunderabad, Krishna Complex, Kalasiguda, Hyderabad, Telangana 500003	<a href="#">Delete</a>	<a href="#">Update</a>
6	Alcazar Mall	498, Rd Number 36, Venkatagiri, Jubilee Hills, Hyderabad, Telangana 500033	<a href="#">Delete</a>	<a href="#">Update</a>
7	Sarith City Capital Mall	Gachibowli - Miyapur Rd, Whitefields, HITEC City, Kondapur, Telangana 500084	<a href="#">Delete</a>	<a href="#">Update</a>
8	L & T Mall	B16, Punjagutta Rd, Nagarjuna Hills, Punjagutta, Hyderabad, Telangana 500083	<a href="#">Delete</a>	<a href="#">Update</a>
9	5 Star Mall	232- Begumpet, Hyderabad, Telangana 500078	<a href="#">Delete</a>	<a href="#">Update</a>

Now Removing Alcazar Mall

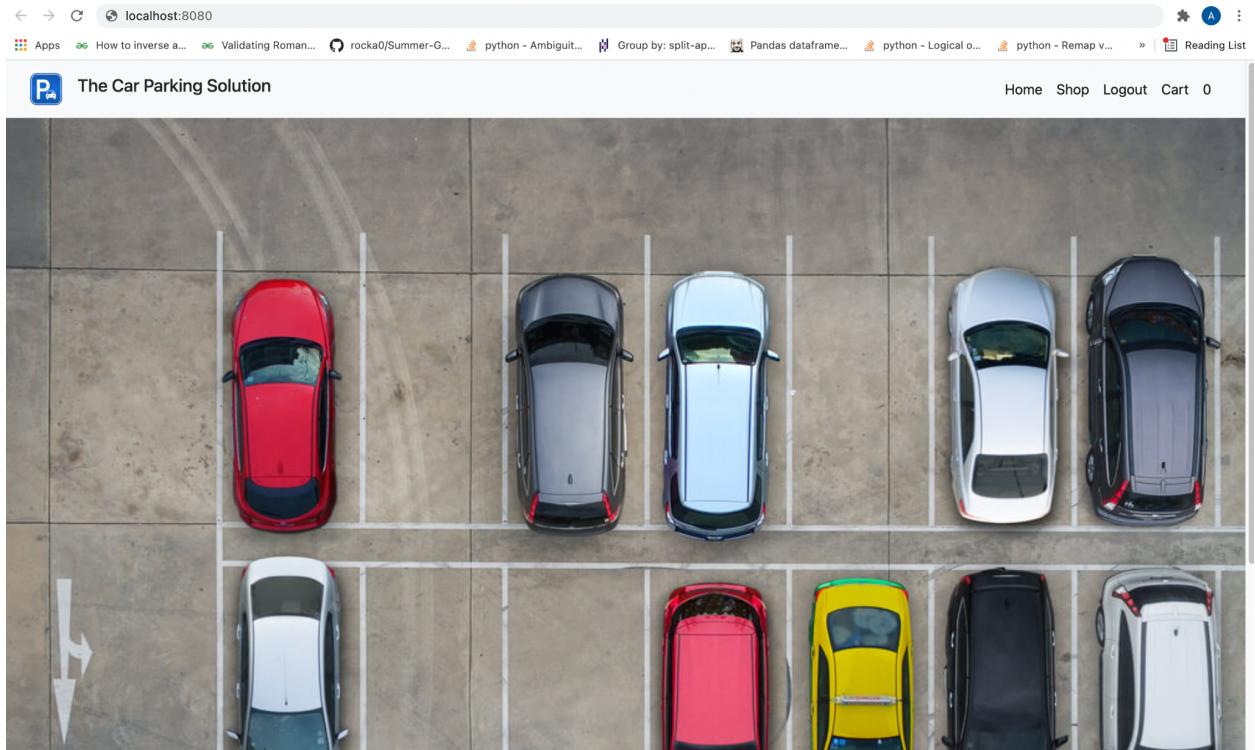
localhost:8080/admin/locations

The Car Parking Solution

Add Location

SN	Location Name	Address	Delete	Update
1	GKV- Mall	CITY CENTER, 8-2-592, Rd Number 1, Banjara Hills, Hyderabad, Telangana 500034	<a href="#">Delete</a>	<a href="#">Update</a>
2	Inorbit Mall	S No, 64, Inorbit Mall Rd, APIIC Software Layout, Mindspace, Madhapur, Telangana 500081	<a href="#">Delete</a>	<a href="#">Update</a>
3	Forum Sujana Mall	Kukatpally Housing Board Rd	<a href="#">Delete</a>	<a href="#">Update</a>
4	Downtown Mall	#202 Lakdikapool DownTown Mall, Hyderabad, Telangana 500004	<a href="#">Delete</a>	<a href="#">Update</a>
5	PATNY CENTRAL MALL	Patny Circle, Secunderabad, Krishna Complex, Kalasiguda, Hyderabad, Telangana 500003	<a href="#">Delete</a>	<a href="#">Update</a>
6	Sarith City Capital Mall	Gachibowli - Miyapur Rd, Whitefields, HITEC City, Kondapur, Telangana 500084	<a href="#">Delete</a>	<a href="#">Update</a>
7	L & T Mall	B16, Punjagutta Rd, Nagarjuna Hills, Punjagutta, Hyderabad, Telangana 500083	<a href="#">Delete</a>	<a href="#">Update</a>
8	5 Star Mall	232- Begumpet, Hyderabad, Telangana 500078	<a href="#">Delete</a>	<a href="#">Update</a>

b> [User Dashboard](#)



i> User can raise request for car parking space, parking slots of his/her choice

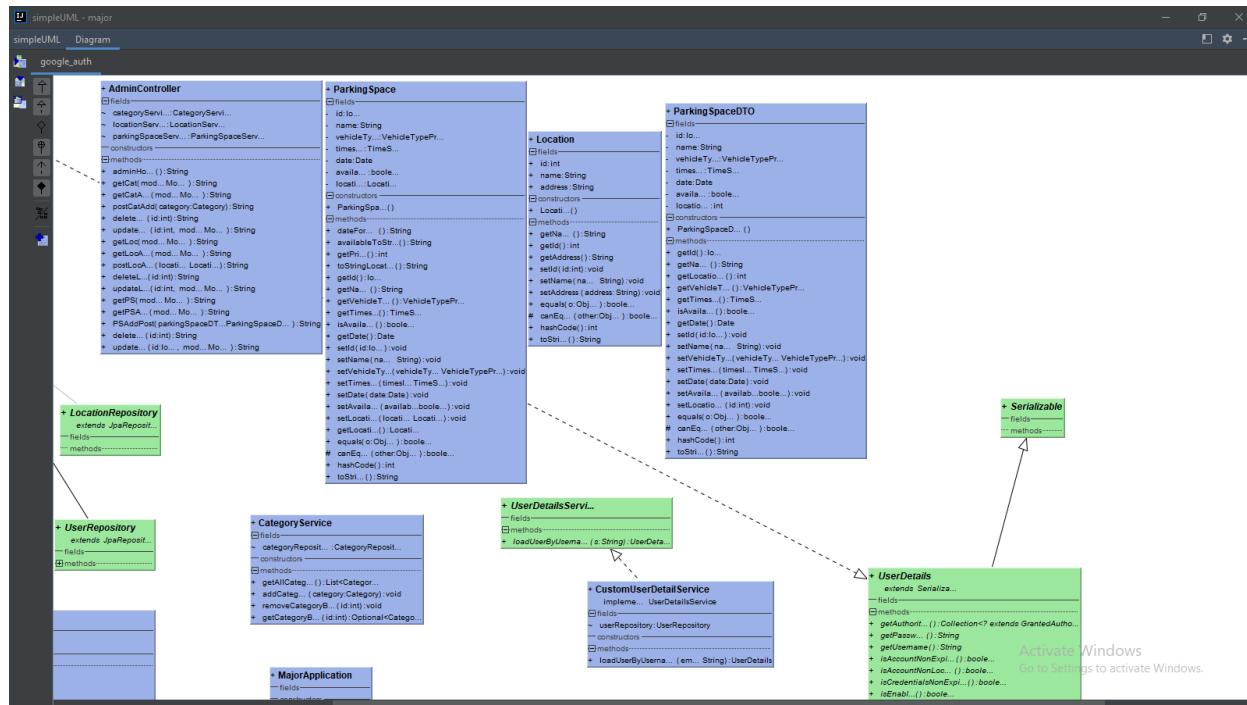
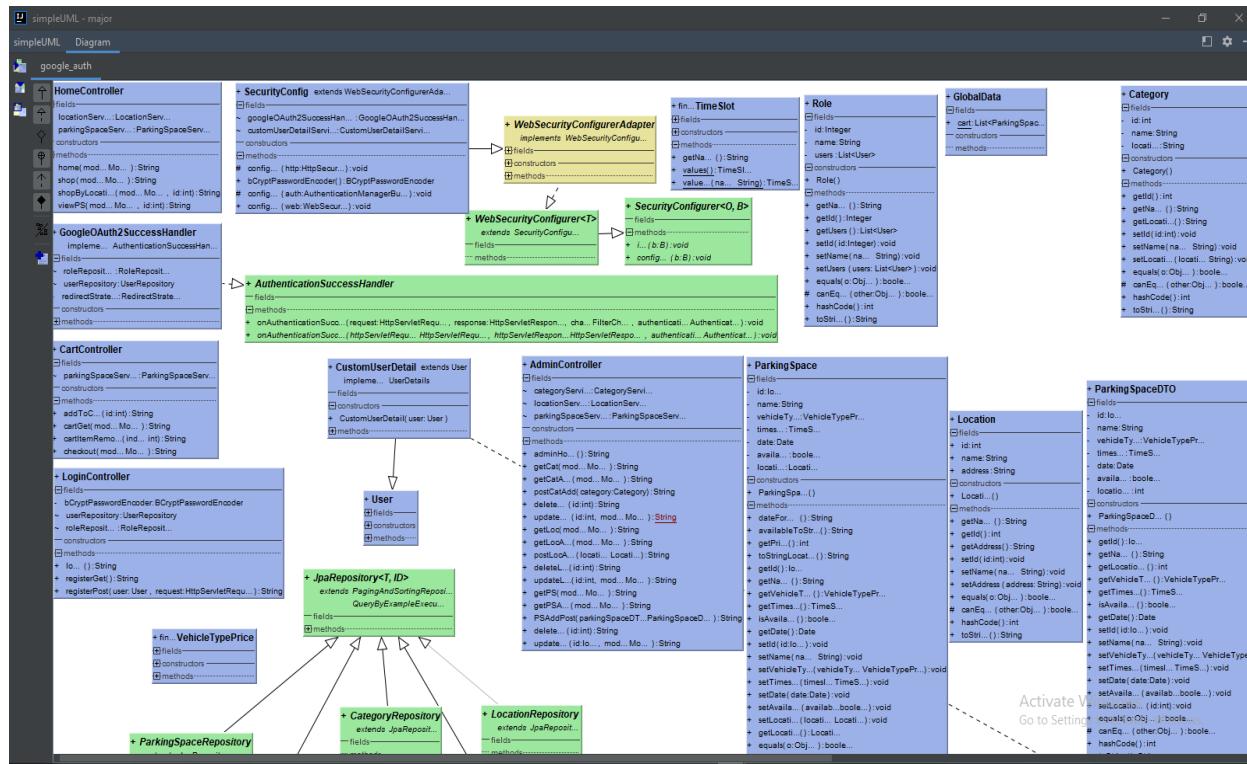
ii> User can view his assigned parking spaces, parking slots

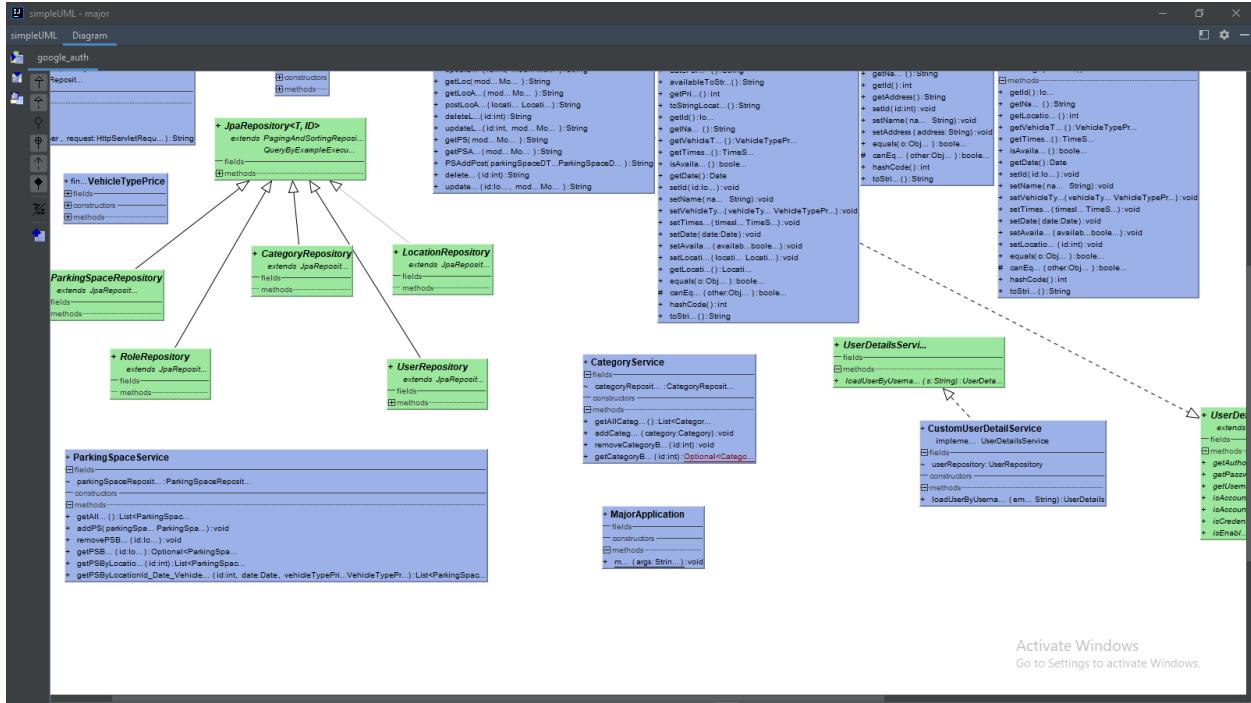
### 3. BILL PAYMENT

The customer can pay through the wallet or he/she can make a payment through paypal.



## **CLASS DIAGRAMS**





## Project Overview:

Car Parking Solutions is a webapp that solves the problem of parking four wheelers in crowded places, safely by booking parking slots beforehand.