



**Siddhant College of Engineering, Sudumbare,
Department of Computer Engineering**

PRESENTATION ON

EV Charging Station Management System

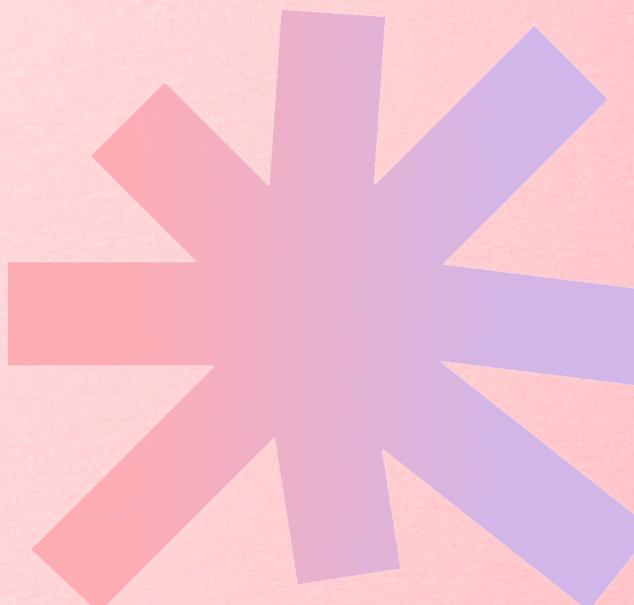
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AGENDA



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2. Literature Survey of Existing System
3. Problem Statement
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5. Hardware and Software Requirement
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INTRODUCTION

As we know EV Automobiles going to be future of the world but these machines need charging stations for charging.

In this project work, system will provide the platform to book charging slots to available charging station according to need of customer.

In this system user will get facilities like chatbot to book station, Maps features for direction sensing, payment option, Notifications of each activity.

Both off-grid and hybrid charging systems contribute to sustainable energy solutions.



LITERATURE SURVEY

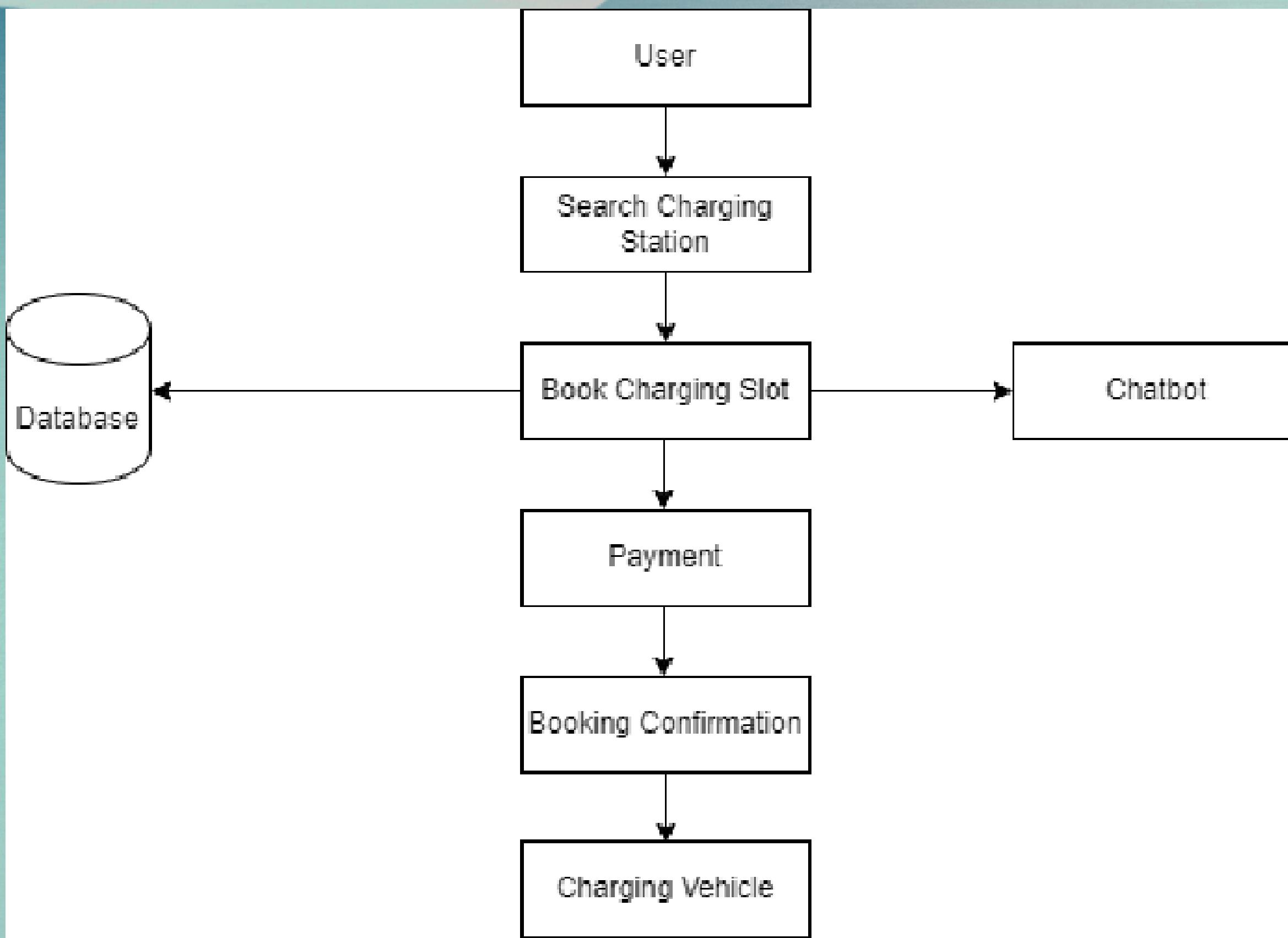
No.	Paper Title	Authors	Description
1	A Comprehensive Review on Off-Grid and Hybrid Charging Systems for Electric Vehicles	Gautam rituraj 1, gautham ram, chandra mouli 1 and pavol bauer 1	Studied and reviewed the various architectures of the offgrid and hybrid charging systems for EVs.
2	Smart Electric Vehicle Charging management for smart cities	Binod Vaidya,Hussein T. Moutah	In this paper, we have learned to design and implement a smart EV charging management system.
3	Shortest route at Dynamic location	Achamad Fitro,Retn Kusum aningram	This has given idea to find shortest route.
4	Online Payment Access to heterogeneous Mobile Networks	Heiko Kospe, Scarlet Grosche	Gave knowledge of payment gateway.

PROBLEM STATEMENT

To design and develop a web-based application to book the charging slot to charge the electric vehicle. The system also proposes the slot booking according to charging socket type.



OVERVIEW OF PROPOSED SYSTEM





HARDWARE & SOFTWARE REQUIREMENTS

Hardware Requirements

Operating System - Windows 7/8/10
Application Server - Apache Tomcat 7/8/9
Language - Java.
IDE - Eclipse

Software Requirements

Processor - Intel i3/i5/i7
Speed - 3.1 GHz
RAM - 4 GB(min)
Hard Disk - 40 GB
Key Board - Standard Windows Keyboard
Mouse - Two or Three Button Mouse
Monitor - SVGA

MATHEMATICAL MODEL

Let us consider S as a system

S= INPUT: Identify the inputs

F= f₁, f₂, f₃, F_N– F as set of functions to execute commands.

I= i₁, i₂, i₃– I sets of inputs to the function set

O= o₁, o₂, o₃.– O Set of outputs from the function sets,

S= I, F, O

I = Input

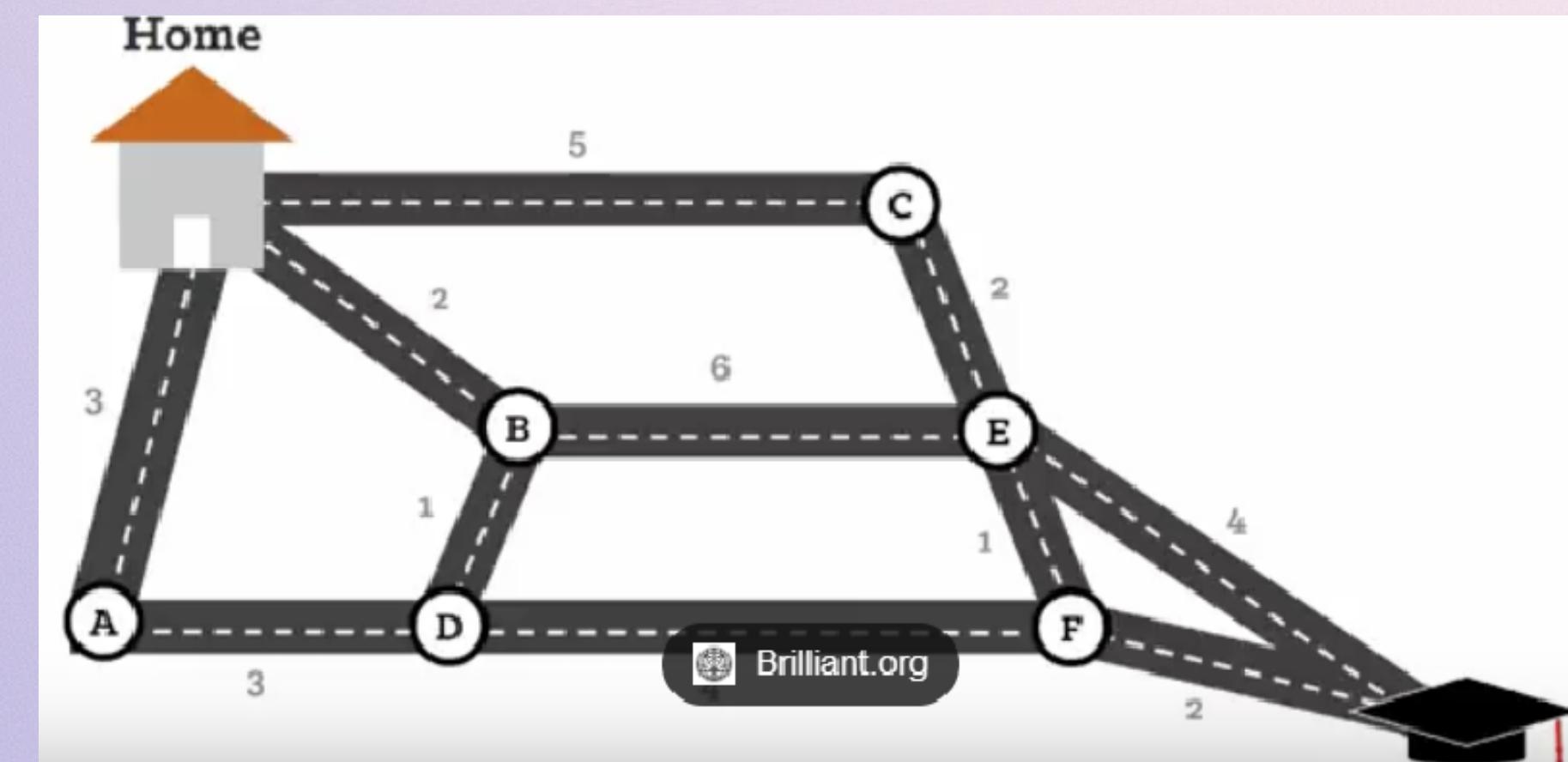
O = Output

F = Functions implemented to get the output

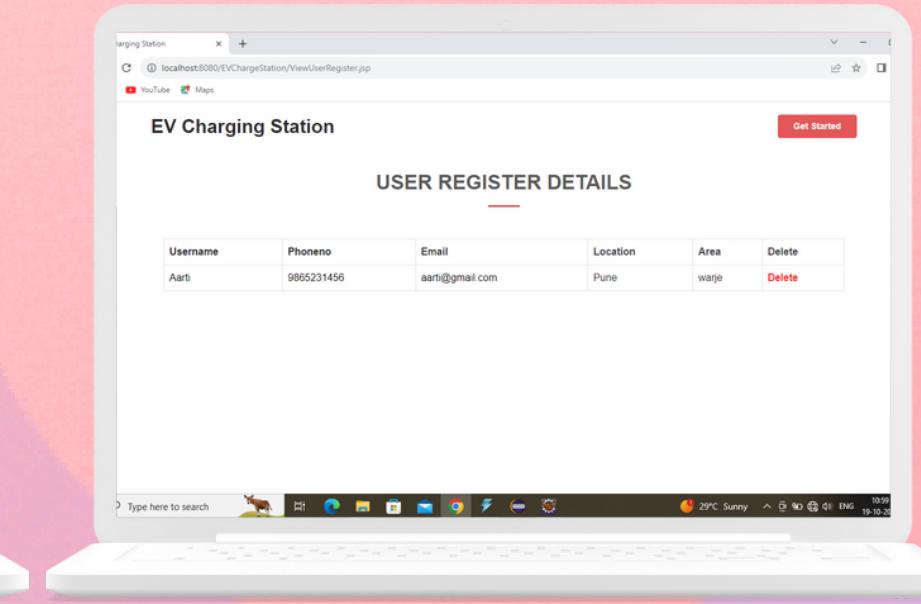
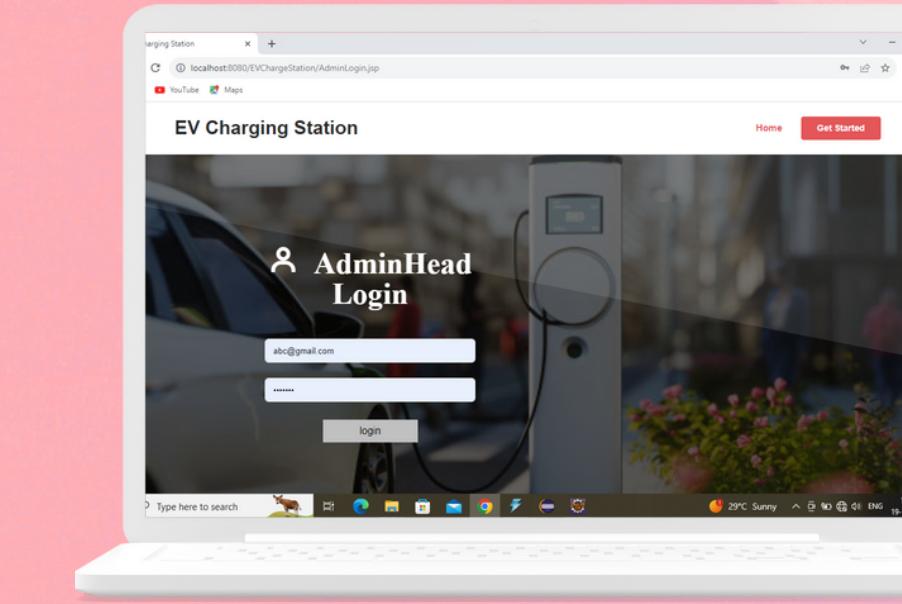
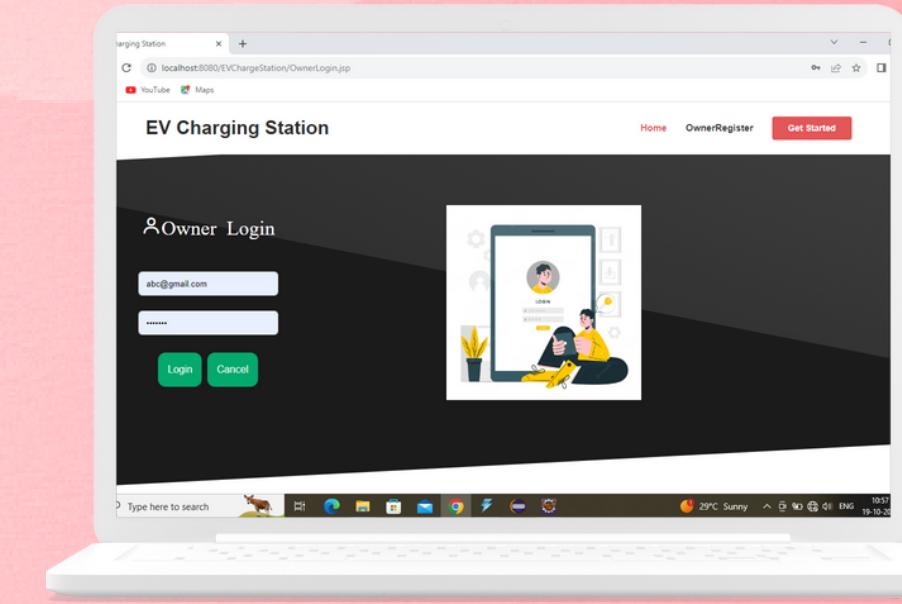
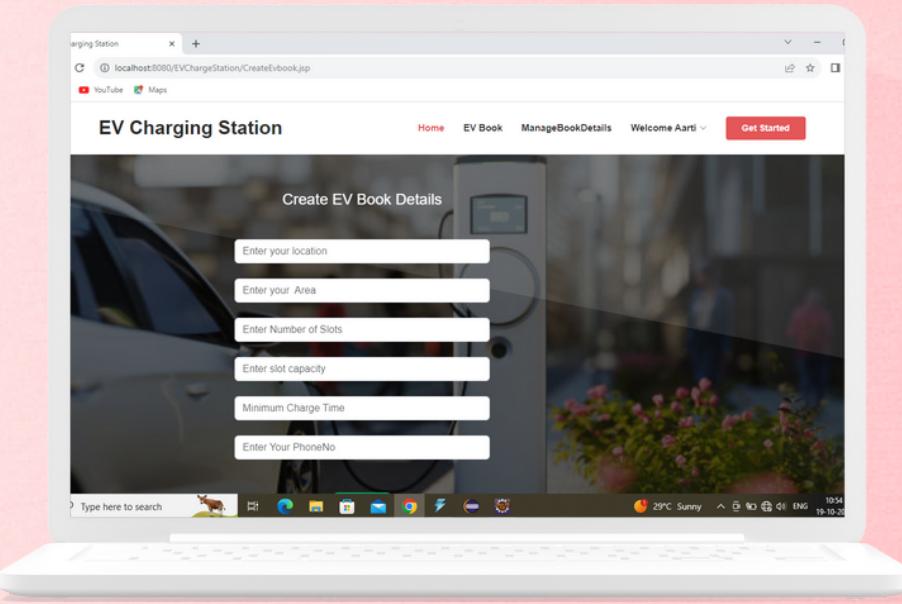
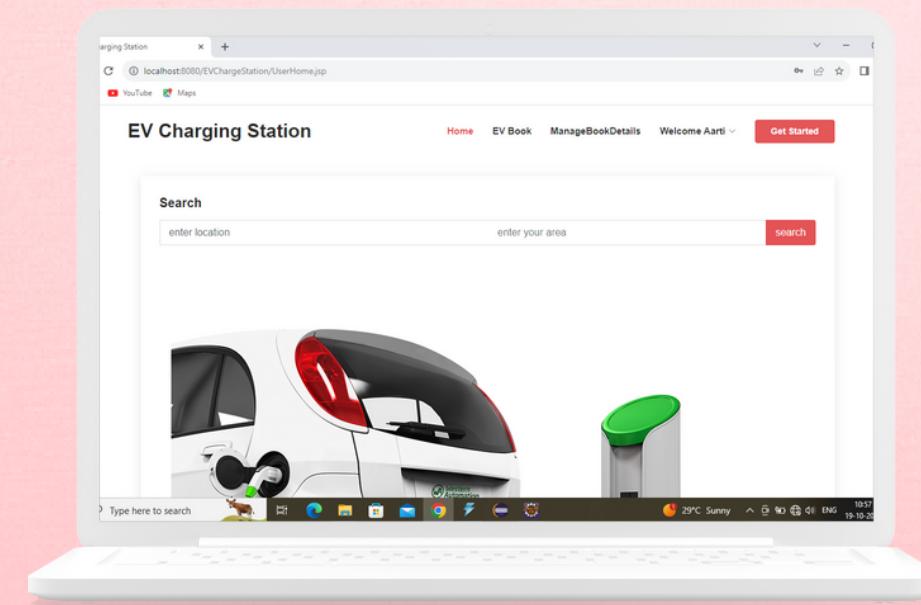
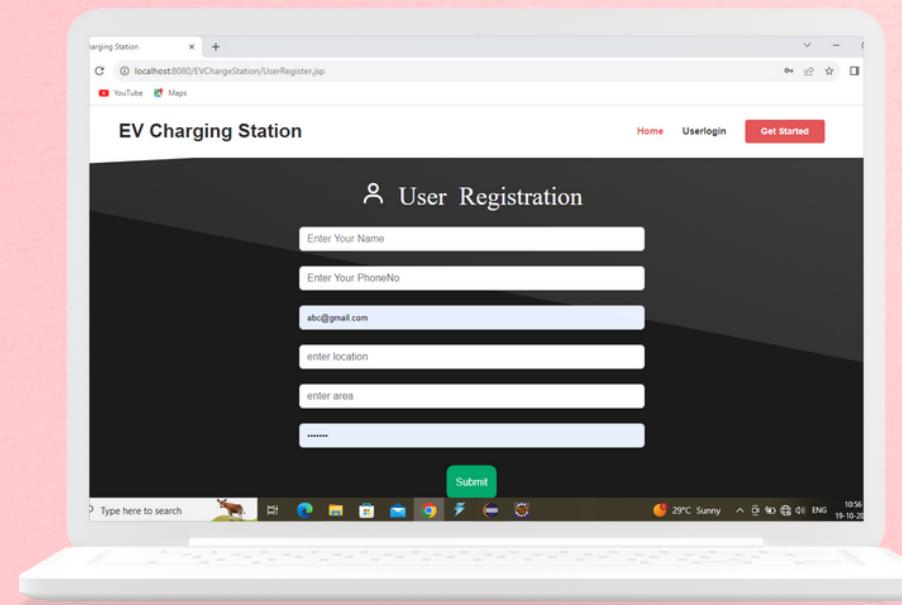
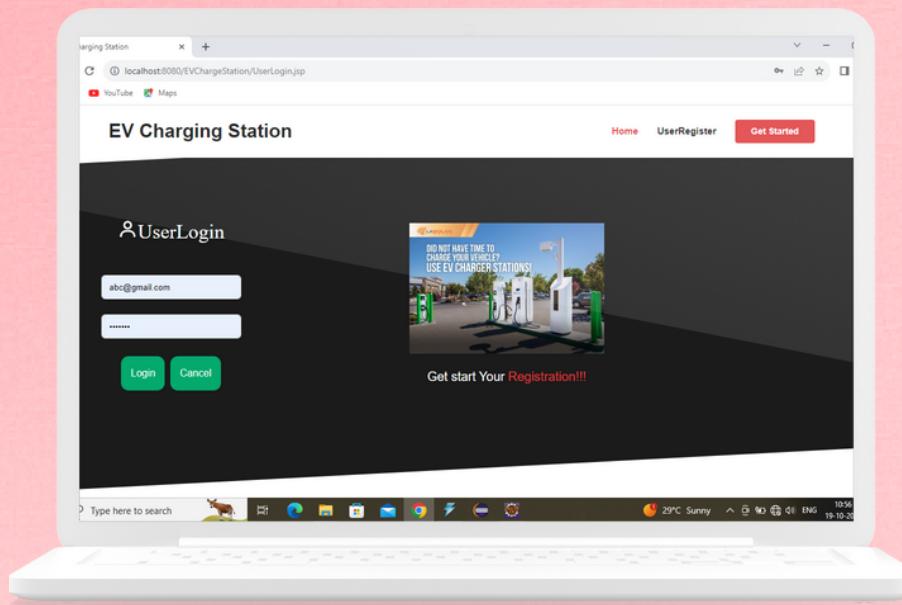
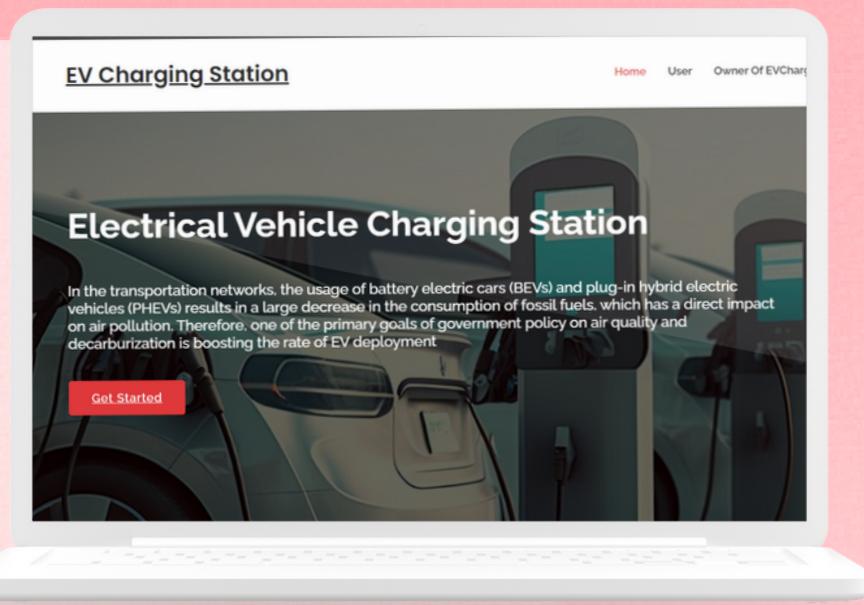


ALGORITHM

- It's a graph search algorithm that solves the single-source shortest path problem for a graph with nonnegative edge path costs, producing a shortest path tree.
- This algorithm is often used in routing and as a subroutine in other graph algorithms.
- In this interconnected 'Vertex' we'll use 'Dijkstra's Algorithm'.
- To use this algorithm in this network we have to start from a decided vertex and then continue to others.



GUI IMPLEMENTATION SCREENSHOTS



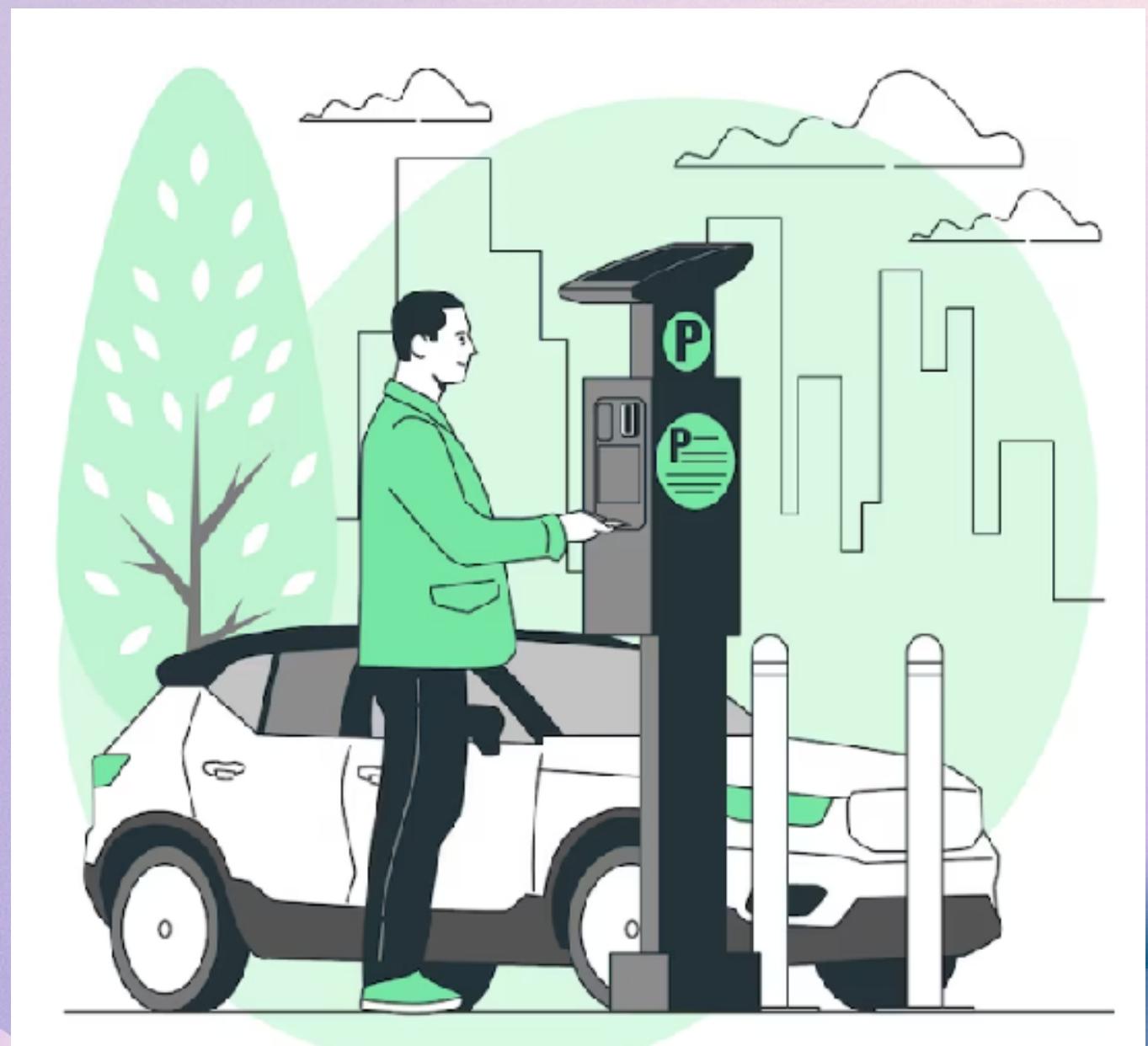
ADVANTAGES

- Efficient Resource Allocation
- Load Balancing
- Cost Savings
- Remote Monitoring and Control
- User Convenience
- Data Collection and Analysis
- Scalability



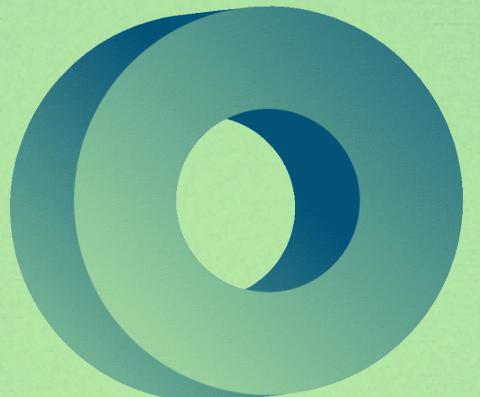
APPLICATIONS

- Online Booking System
- Slot Allocation System
- Efficient Charging
- Billing and Payments
- Load Management
- Public Charging Networks



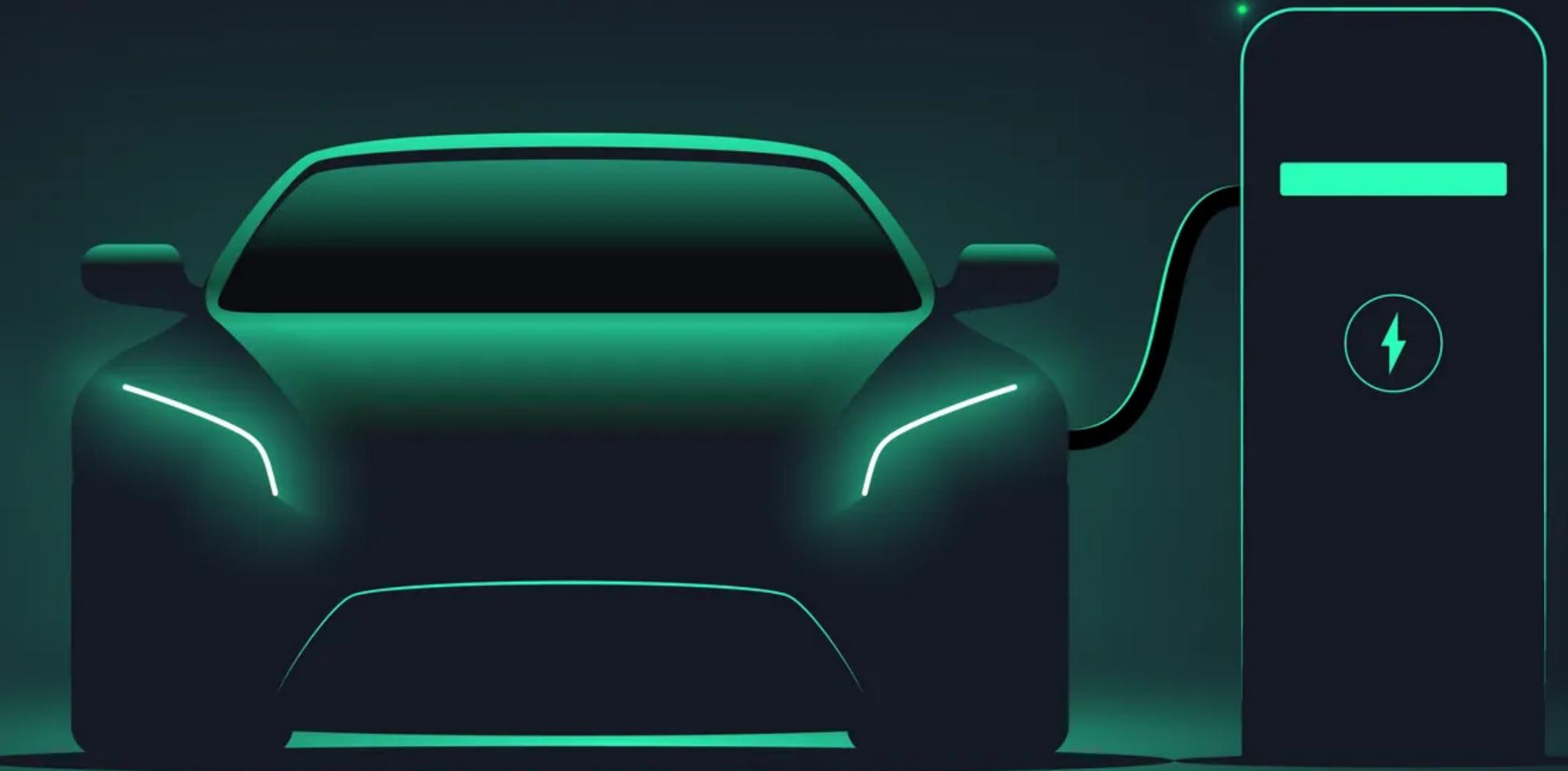
CONCLUSION

The System is developed as a “booking Charging Stations for Electric Vehicle” with approach of web application development. The system also proposes the booking of charging slot according to the type of charging socket to car. This system is also contains the chatbot for query solving as well as GMAPS API for direction sensing.



REFERENCES

- Binod Vaidya1, Hussein T. Mouftah:Smart Electric Vehicle Charging Managementfor Smart cities: IET Research Journals, The Institution of Engineering and Technology
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- Achmadfitro: Shortest Route at Dynamic Location with Node Combination-Dijkstra Algorithm:
- A Comprehensive Review on Off-Grid and Hybrid Charging Systems for Electric Vehicles GAUTAM RITURAJ 1 (Member, IEEE), GAUTHAM RAM CHANDRA MOULI 1 (Member, IEEE), AND PAVOL BAUER 1 (Senior Member, IEEE) accepted 13 April 2022



THANK YOU !!!