EV CHARGING STATION AND SLOT BOOKING SYSTEM

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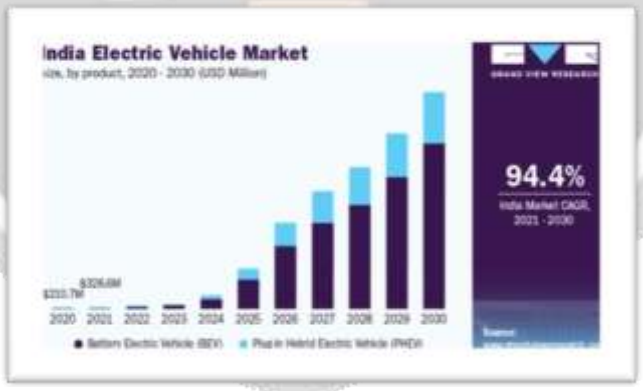
ABSTRACT

The electric vehicle industry is going a long way and the industry is making different types of vehicles like a scooter, cars, rickshaw, transport vehicles, etc. that run on charging. All EV user will go to station get their vehicle charged. Keeping EV charging station finder and slot booking website will help users to find stations and book slots. In the model proposed, user can book charging slot on particular date or time. users can pay according to faster and slow charging. There will be AI Chabot support which will be able to answer the normal question of the user. A user can use the SOS buttons in the case of emergency which can provide them with emergency services. It can be very helpful for admin to manage stations and the booking of all users properly, easily and provide better service to them through website such as confirming the booking of the user and managing the slot through this app. The admin can get a maximum number of regular customers, more profit easily. This website can be helpful for the user and admin.

KEYWORDS *EV Industry, Charging Station, Slot Booking, Payment Options, Tracking location Notification of booking.*

INTRODUCTION

This application will help the user with station information and slot booking. User has to register first, allowing the location. After successful login, the user can book a charging slot viewing the price and service of



station. A rider can fix an advance slot at any available date and time. Here the user notification will get an option of fast and slow charge. Users can choose the slot from available slots shown at the website. Users must visit the station at booked slot time for charging of the vehicle. After charging, the user can pay by Phone or cash. This application will keep the notifications on to update the user time to time to provide some extra features along with booking the charging slot. Here user gets the support of a home tab of login website. If the user have some emergency then he can use an SOS button. The SOS button provides an Emergency contact to the user when the battery of the vehicle is discharge booking the slot. This can be a good t help to the user. User can saver time with the need of this application.

Below figure shows the graph of daily growth in Electric Vehicle Indian market in year 2020-2030. It shows that in the year 2020 the use of electric

vehicles is almost less but now and in recent is almost less but now and in recent years it will grow exponentially and so the market.

LITERATURE SURVEY

The paper [1] describes an application for android mobile, which is developed by the Dr.Omar A. Ibrahim, Khalid J.Mohsen which provides efficient locations of the nearest charging stations to the android mobile users using the Google map. The proposed application also presents the basics navigation system of website operations like viewing directions with the optimal path between source and charging station calculating the less-distance and accepted riding time.

The paper [2] studies and develops the use of Mobile GPS tracker Navigation System Based on Google Maps by H. Li, L. Zhijian. Google Maps API provides a number of utilities for collecting individual product to the Google maps. Google Maps API is a fixed of application programming front interfaces that lets us say to its services. It will allow us to build simple apps to very advanced location-based apps for Web, iOS, and Android.

The paper [3] GPS-based Mobile cross process Cargo Tracking System for user to track location with Web-based Application by A. M. Qadir, P. Cooper. Methodology used in this Web based application by using Global Positioning System. where they are because they currently provide out signals. A GPS tracker receiver in phone for these signals. Once the receiver calculates its distance from different sender GPS.

The paper [4] API Recommendation System for Software Development by F.Thung APIs simplifies how developers can integrate application components into an existing architecture, they help business and IT teams collaborate.

METHODOLOGY

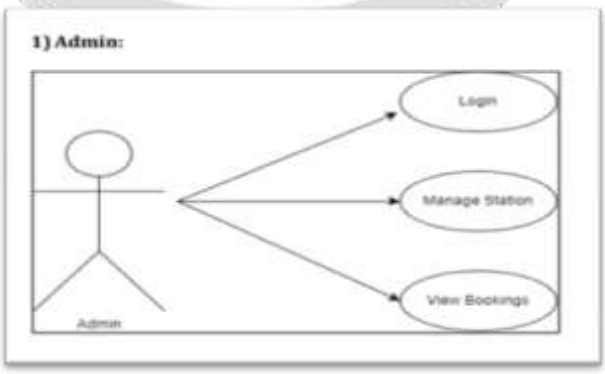
The electric vehicles also have better power delivery and prove to be far more efficient as they can employ regenerative braking to recharge their batteries while on the move. Despite this, many electric vehicles still fall short in time when it comes to points such as charging stations. So, we come up with the idea to design an Electric vehicle charging station finding website which facilitates a pleasing experience for the user with its unique features. In this system, the user can manage all their EVs inside the website plus they can search for or book a slot in advance in the charging station. , this EV Charging Station website has been implemented to help EV drivers locate particular charging stations close by them. After finding a charging station, users can also book a slot at the station to charge their vehicle.

The website uses the Google Maps API to display the location of nearby charging stations and provides detailed information such as the type of connector, availability, and pricing. The website also allows users to filter charging stations based on their preferences and report any inaccuracies or out-of- service station is slot booking system.

Modules of booking slot

The EV Charging Station and Slot Booking system have two modules Admin, and User

The list of all Stations is created to the Admin in Manage station on the created home page are username and password then the register to the slot

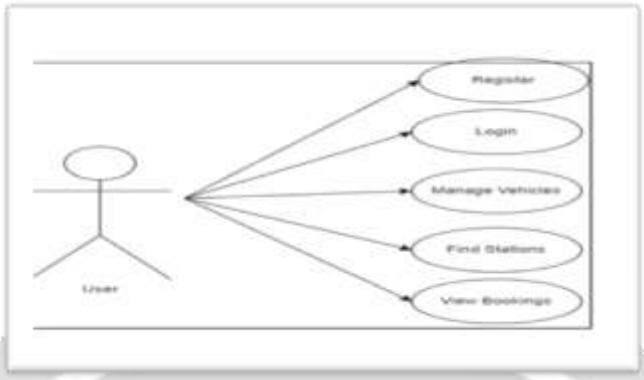


- Login the admin slot
- Managed station of slot booking

- Displayed admin view booking information

User:

Fig: Use Cases of Uses



- Register website.
- Login page.
- Manages the vehicles.
- Find station Google map
- View the booking slot.

REQUIRMQNT

SOFTWARE REQUIREMENT

- Database- MySQL8.0
- Front end-html , css ,javascript
- Application server-Apache tomacat7/8/9
- IDE: Eclipse, Android Studio

HARDWARE REQUIREMENT

- Laptop/pc
- Hard disk
- Ram

ALGORITHM

Step 1**:** Start.

Step 2: Main Window Open. Step 3: Register Admin Details. Step 4: Login in the Website.

Step 5: Successful Login Page.

Step 6: Try Again the Fail Process. (Go to step 5)

Step7: Managed the Client.

Step8: Reserved Charging Slot.

Step9: View the Charging Slot Booking Time and Date.

Step10: Logout

TECHNOLOGY

We are using MySQL, as a database and backend scripting. We used java for implementation this Application. MySQL is the open source relational database management system (RDBMS). It is use the MySQL (structured query language) query for data accessing. It is language for accessing and managing the data in the relational database.
Programming language used for web application. HTML,CSS,JS. Html Provides the Basic Structure of sides, which is enhanced and modified by other technologies like CSS, JavaScript

PROPOSED SYSTEM

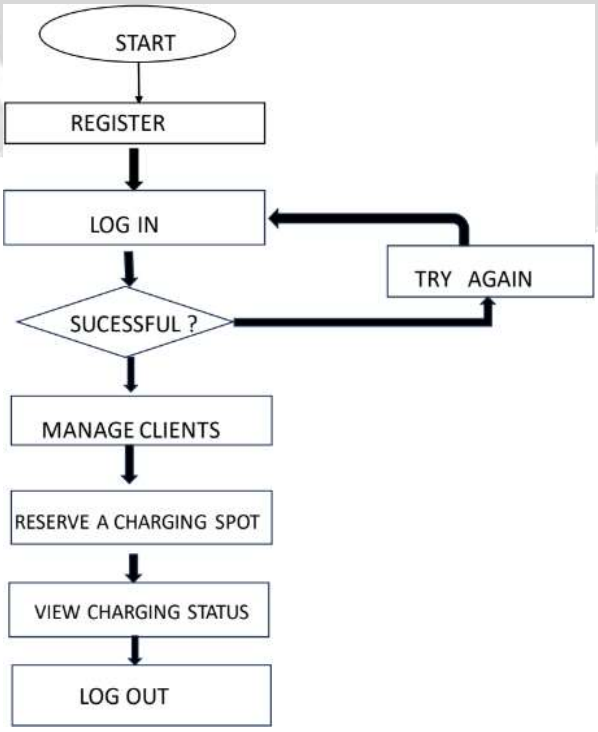
An EV charging station slot booking system is software that can be easily booking slot. This system displays the slot of time and date.

EV charging station and slot booking system has created using the html, css, and javascript in login page to created username and password. The new admin created the account name, email-id, username, password, mobile number.

This Process of Slot Booking System Following Steps:

1. **User Registration**: User should be creating account with personal information and EV detail.
2. **Charging station registration:** Charging station owner should register their station, providing location and charging slot detail.
3. **Station list**: Display a list of available charging station with location, available slot, charging speed, and pricing.
4. **Slot booking**: User can select a charging station choose a time slot and make reservation.
5. **Payment Integration**: Integrate payment gateway for user to pay for reservation

FLOWCHART OF THE BOOKING SYSTEM



APLICATIONS

- **Optimizing charging access**: Booking system easily access optimize charging station slots.
- **Managing top demand**: Booking system owner distributed slot efficiently.
- **Public charging network**: Implemented booking system to experience promote EV

.

- **Data collection analysis**: Collect the data and analysis of the electric vehicle

ADVANTAGE*:*

- Find out the charging stations are easily available with slots.
- Roadmap has provided by the system
- Charging stations are used for booking electric vehicle slots in advance

CONCLUSION

We concluded that, EV Charging station Slot booking system (EVcsss). It's a very beneficial for all electric vehicles; we can provide a user to big advantage from this project. This project through first we create a one website using multiple languages to create front-end with backend.
Firstly user can register the all needed information. And book their slot as per user time so it's a very big advantage for user. The website are 24 hours available for user, So we Converts This system are useful for All needed people. The project store any previous booking transactions and reservation .This system prevent power loss and user can earn money due to access charging

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