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1.0.   Introduction

1.1.   *Purpose*

The purpose of this document is to give a detailed representation of the business model for a web application called "Locate a Socket." This application is to find charging stations and slots for people. People who use electric vehicles such as cars, bikes, motorcycles, trucks, etc., are not able to find charging slots easily. To tackle this problem, we are introducing this web application.

1.2. *Scope of project*

The scope of the project is to give people who use electric vehicles a better experience and a tension-free ride. This is a web application that provides every charging slot. In this application, users can see which vehicles can be charged in that charging station and how much they need to pay there. Nowadays electric and hybrid vehicles are increasing daily, so it is hard to find a free charging slot. This application also gives the slot occupancy whether it is occupied or not. So, the user can plan the charging according to that. In this application, user can provide their vehicle mileage. So that when they enter the starting and ending points the application will give the route with a charging station. So that they don't have to any diversion from the existing route.

The target audience for this application is EV vehicle and hybrid vehicle users. Also, this application can help others who looking to buy an EV vehicle. This application reduces the major concerns about buying EVs so people can change their vehicles to EVs.

2.0. Purpose

2.1. *Explanation*

This is a web application that gives the charging slots. This application gives you the charging slot occupancy. If the charging slots are occupied by other people, it will show whether it is occupied or not. Also, this application gives when the charging slots become free if it is already occupied. And then we can prebook our charging slots for the charging.

2.2. *Intended Benefits*

- Risk-free Travel for EV users

- Easy Ride and Route planning.

- Easy payment mode. Since it already has an integrated payment gateway they can pay through their phone.

- Real-time information. It will give the information like the charging station is occupied or if it is working or not.

3.0. Audience

3.1. *Audience and Stakeholders*

- Users: they are the end users who use this app.

- EV vehicle manufacturers: they can use this application to promote their vehicles.

- Charging station operators: They can use this application to provide their charging station location and facilities.

- Entrepreneurs: new entrepreneurs can see the location and details of the charging stations and they can start charging stations. Also, they enhance the charging station features.

- Payment Gateway: we are using payment in this application. So, the associated payment gateways will get the benefits.

- EV-related accessories suppliers: they can locate the charging stations and they can market their products near them.

4.0. Overall Description

4.1. Software Functionality and Purpose

- The interface of this application provides a map view with the user can enter the start point and, in that interface, they search for charging stations near them.

- After selecting the charging station, it will give directions to that charging station and also it will give occupancy and upcoming free time. Along with that, it will give the rate for that charging station.

- When the charging stations are displayed it will show which vehicles can be charged, photos of the charging stations, service provided by the charging stations, availability, charging rate, and reviews.

- The user can book the charging slot or after scanning the QR code attached to the service station they can start and stop charging.

- After completing charging they can make the payment from the web application.

- Users and charging station providers can create the account. Users can see their history and station operators can provide their service station details and they can read their reviews.

4.2. System Operation

The software required a user interface, middleware to handle the operations, and a database to store the data. Also, this software requires some external APIs.

- User and service station providers can log in with their accounts. If they don't have an account, they can sign up.

- The user searches their requirement (plan the route or search for a service station)

- The application gives the list of service stations

- Direction to the service station

- Chargin Start and stop

- Do the payment using the payment gateway

5.0. External Interfaces

5.1. *interfaces that the software will interact*

- **Maps:** The software will interact with map API to get a map view and navigation.

- **Payment gateway:** The user needs to the payment the application. For that payment gateway is used.

6.0. System Features

6.1. *Key features and functionalities*

The key features of this application are

- Search for the nearest charging station: this feature allows the user to find the nearest charging station and they can plan the trip according to that.

- Sort based on rating price: this feature allows users to sort based on the rating of the charging station and they can read the reviews. Also, they can sort based on the rate of that charging station. This feature helps the user to find a better and cheaper charging station

- Availability: this helps the user to find whether the charging station is open or not and whether it is working or not. Also, it will show the vehicle type that can be charged over that charging station.

- Prebook: user can book the slot for their time. So that there will be no waiting for the charging.

- Navigation: this application will give navigation to the charging station. Also, this will provide navigation to the destination of their trip.

- Trip planning: in this application, user can provide their vehicle mileage. So that when they enter the starting and ending points the application will give the route with a charging station. So that they don't have to any diversion from the existing route.

7.0. Non-functional Requirements

7.1. *Non-functional Requirements for this application*

- Performance: this application should give fast response for the user.

- Real-time updates: The user should notified if something happens to the charging station.

- Security: the application handles different data. So, the data should be secured. Also, the application deals with external APIs, so the request and response should be handled securely.

- Accuracy: the application should give an accurate response. Users should see the charging station near their location or in the given route by the user.

- User-friendly: the application should be user-friendly and responsive. Most of the users use gadgets with different screen sizes. Then the application should be responsive for every screen size.

8.0. Other Requirements

8.1. *Additional Requirements*

1. All browser support: This application able to be viewed in every browser without any delay.

2. Language and location: The app should provide different languages for different people as per demand.

3. Colour-blind issue: The application should address the issue of colour-blind people.

4. Voice assistance: The app should give results based on voice search or the application should give voice assistance.

5. Mobile application: It will be better if the app provides a mobile application.

9.0 Reference

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