Product Requirement Document
for
Find Green

Introduction

1.1 Purpose

The purpose of the document is to record the requirements of the Find Green project.
In addition to discussing functional and non-functional requirements, this document also offers high-level user workflows. Mobile and Web application requirements will both be part of the functional requirements.

1.2 Scope

This document simply describes requirement items in terms of its functionality.
Any hardware features and their development should be regarded as being outside the scope of this specification.

1.3 Objective

The objective of the project is to build a solution that helps EV drivers to locate an electric vehicle charging station .Its features should help users to find stations, make advance booking and pay for it.

1.4 Definitions, acronyms and abbreviation

Terms	Expansion
EV	Electric Vehicle
GPS	Global Positioning System
API	Application Programming Interface
UPI	Unified Payment Interface

2. Overview

Electric Vehicles are the future of the automobile industry. The companies manufacturing EVs have also set up charging stations across the country. Electric vehicle charging stations are places where you can plug in your electric vehicle (EV) to recharge its batteries. These stations are typically found at public locations such as shopping centers, parking garages, and major highways. Some EV charging stations are free to use, while others may require a fee.
There comes a need for an application or a solution that helps in locating these charging stations to the owners of such vehicles. With the help of an EV charging station finder app people can find nearby charging points, book their slots and make the payments.

2.1 About Find Green

Find Green Project is a cross platform system that will be used by EV owners. The solution is expected to display the nearby charging stations , their details such as available slots, type of connectors/plugs, charging types available, payment details.
Find Green application can be accessed through both mobile (Android and IOS) and Web application interface.

2.2 Important Features of Find Green Solution

1. Built in Navigation: With the help of GPS (APIs) users will be able to find and locate the Charging Stations on the Map and then navigate through it.

2. Filters: The users can search for the Charging stations based on their needs and preferences such as type of charges, connectors, payment options available, amenities nearby

3. Charging Station Details: This detail will help the users in selecting the correct stations for them.
Details like name, address, operational hours, and charges can be displayed.

4. Notifications: Users can get notified about the available slots, reminders for the booked slots and offers/discounts available.

5. Slot booking: Users should be able to book their slots to charge the vehicle using the application.
Users can also see their upcoming booking and canceled bookings.

6. User Profile: Userscan register themselves and view their profile or update their details and can see their booking history using this feature.

7. Payment Options: Users can have options to make payment via app using different payment options like
debit/credit card, wallets and others.

3. API Integrations

Third Party API Services Integrations to be used for following modules:

1. Navigation: The system will integrate with Google Maps in order to find and locate EV charging stations.
2. Payments: The solution will integrate with Stripe for payments processing through Find Green application.

4. Specific Requirements

This section describes the Functional requirements of the proposed solution

Description: Mobile Application Feature

Requirement Id	Requirement	Description
Req_Mobile_001	Sign Up	Users should be able to register themselves and users have to fill in the sign up details.
Req_Mobile_002	Sign In	Users need to enter login details to access the application
Req_Mobile_003	Forgot Password	Users should be able to reset their password
Req_Mobile_004	Navigation	In-app Navigation through GPS tracking to find stations nearby. Users can also get directions to the CS. Google Maps can be used to navigate across the location
Req_Mobile_005	Notification	Users will receive notifications for charging stations available, reminders for the booking made. Alerts can be sent when there is a Charging Station nearby.
Req_Mobile_006	Search	Search for the Charging Station
Req_Mobile_007	Filter	Various filters can be used to sort the best available station
Req_Mobile_008	User Profile	Users can edit their Personal Info
Req_Mobile_009	Charging Stations	List and Details of available Charging Stations. Should be able to book slots in advance.
Req_Mobile_010	Charging History	Users charging history
Req_Mobile_011	Bookings	Upcoming and canceled booking details to be displayed
Req_Mobile_012	Payments	Payment methods like

		card/wallets/cash/UPI
Req_Mobile_013	Log Out	To terminate the active session

Description: Web Application Feature

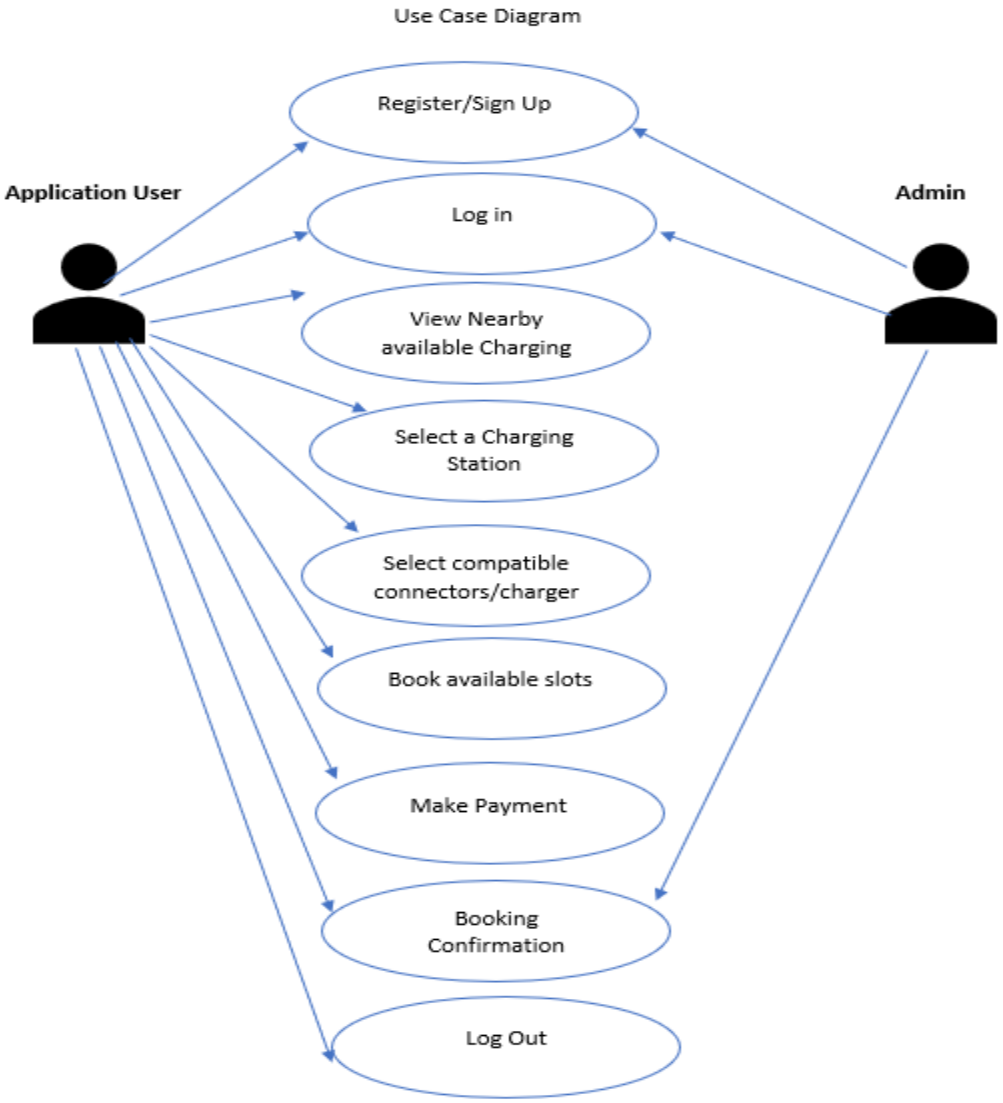
Requirement Id	**Requirement**	**Description**
Req_Web_001	Sign Up	Users should be able to register themselves and users have to fill in the sign up details.
Req_Web_002	Sign In	Users need to enter login details to access the application
Req_Web_003	Forgot Password	Users should be able to reset their password
Req_Web_004	Navigation	Google Maps can be used to navigate across the location
Req_Web_005	Notification	Users will receive notifications for charging stations available, reminders for the booking made
Req_Web_006	Search	Search for the Charging Station

Req_Web_007	Filter	Various filters can be used to sort the best available station
Req_Web_008	User Profile	Users can edit their Personal Info
Req_Web_009	Charging Stations	List and Details of available Charging Stations. Ability to book slots in advance.
Req_Web_010	Charging History	Users charging history
Req_Web_011	Bookings	Upcoming and canceled booking details to be displayed
Req_Web_012	Payments	Payment methods like card/wallets
Req_Web_013	Log Out	To terminate the active session. Redirected to Sign In screen

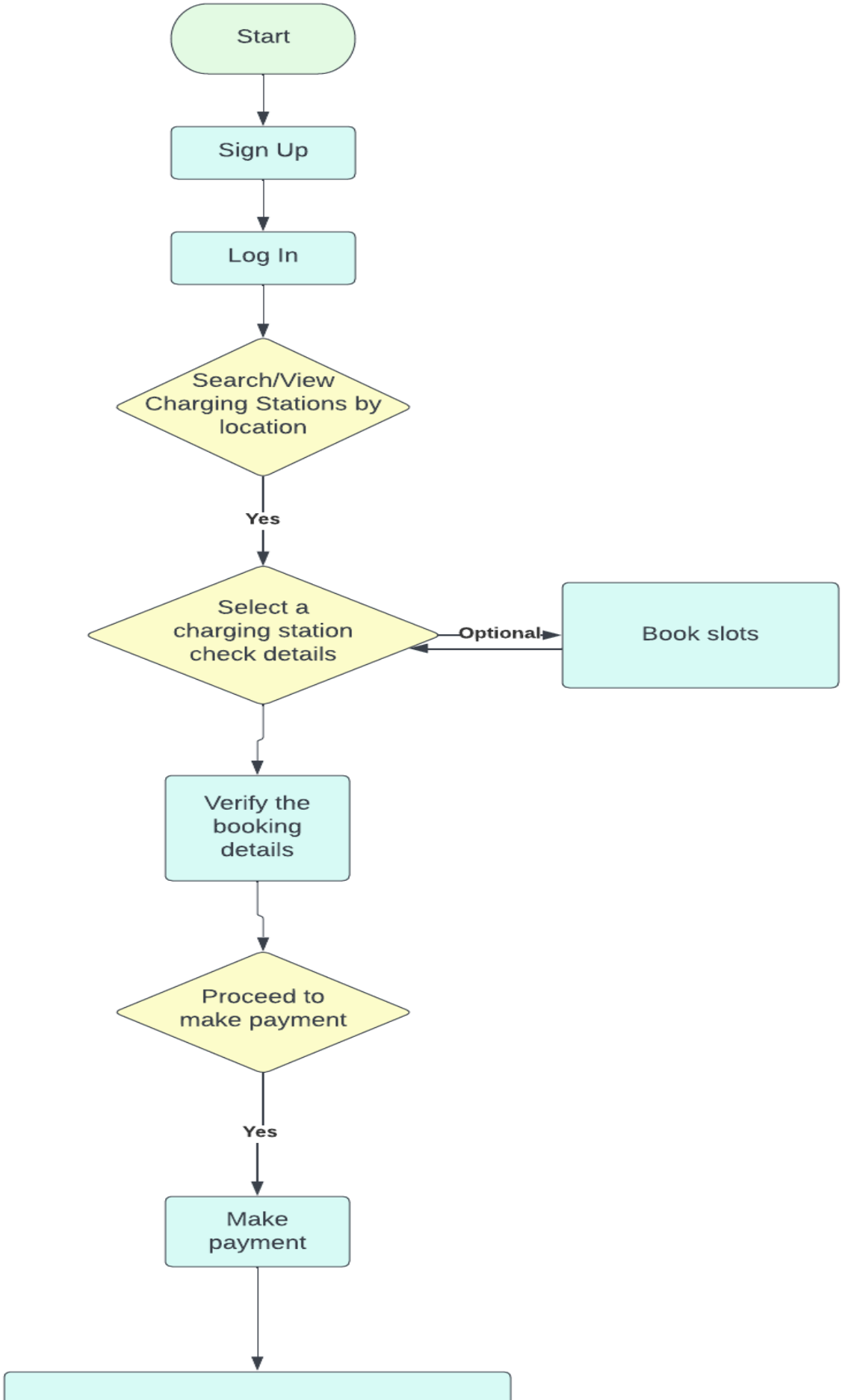
5. Use Case

Use Case for App users

The actors involved in the Use case application users, Admin and Charging Stations.
Users need to Sign Up or Register themselves. Only users who have created their account will be able to log in into the application. Once the user logs in, nearby charging stations (depending on location permission) will be shown on the Navigation screen or maps.
Users can also search for a Charging station using the Search option and filter depending on their needs.
Users should be able to select any charging station from the list and view details of the stations.
If the user finds a suitable charging station, he should be able to book a slot to charge their vehicle.
To make a booking, users can select a slot and make the payment. Once the booking is made , confirmation message/email should be sent to the registered email id or mobile number.
There should also be a provision to view the bookings and cancel it, if required.
The application will be able to notify the users of the nearby available stations and bookings made.



6. Process Flow


Start
Sign Up
Log In
Search/View Charging Stations by location
Yes
Select a charging station check details
Optional
Book slots
Verify the booking details
Proceed to make payment
Yes
Make payment

7. Technology Stack

Function	**Technology**
Frontend	ReactJS / React Native
Backend	NodeJS
API Interface	REST API
Automation	CodeceptJS
Containerisation	Kubernetes
Database	Postgres
Code Repository	Github
Static Code Analysis Tool	ESLint
Mock API Framework	MWS
Search Engine	Elastic Search
Unit Test Automation	Istanbul, Jest & SuperTest
Logging Library	Winston
Node Process Management	PM2
Operating System	Ubuntu
Cloud Service	Azure

8. Non Functional Requirement

1. Security: The data collected and stored should have provision to encrypt them. The system will use SSL (secure socket layer) in all transactions that include any customer information. The system must log out users after a period of inactivity.

2. Compatibility: The solution should be compatible with Android devices and Windows operating systems.

3. Scalability: This solution can be used by a large number of users. All the modules should be developed in such a way that adding/replacing/removing any module should not impact the functioning of the platform.