

# DEAKIN UNIVERSITY

## APPLIED SOFTWARE ENGINEERING

### ONTRACK SUBMISSION

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# Write a SRS Document

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| Outcome | Weight |
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| ULO2    | ◆◆◆◆   |
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| ULO4    | ◆◆◆◆   |

Good task for initial understanding

March 16, 2025



# Software Requirements Specification (SRS) for Locate a Socket

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## 1. Introduction

### 1.1 Document Purpose

This document explains the requirements for building the **Locate a Socket** web application. It is for anyone involved in creating, testing, and managing the app, like developers, testers, project managers, and stakeholders.

### 1.2 Product Scope

**Locate a Socket** is a web app that helps electric vehicle (EV) drivers find charging stations along their journey. The app shows nearby stations, lets users book a spot, and pay safely. It makes it easier for EV drivers to charge their vehicles when and where they need to.

### 1.3 Document Overview

This document includes:

- Section 2: A general description of the app and how it works.
- Section 3: Specific details about what the app should do.
- Section 4: Extra information and references.

### 1.4 Definitions, Acronyms, and Abbreviations

- EV: Electric Vehicle
- UI: User Interface
- API: Application Programming Interface
- GPS: Global Positioning System
- HTTPS: Secure website connection
- OTP: One-Time Password

## 2. Overall Description

### 2.1 Product Perspective

Locate a Socket is a stand-alone web app. It uses map services like Google Maps to show charging stations on a map. It works on both mobile and desktop browsers and connects with payment services like PayPal or Stripe for easy payments.

### 2.2 Product Function

The main things the app will do:

- Let users create an account and log in
- Show nearby EV charging stations on a map
- Filter stations by price, type of charger, and availability
- Pay securely through the app
- Send notifications and reminders

### 2.3 User Characteristics

- **EV Drivers:** People driving electric cars who use the app to find and book charging stations. They should be able to use basic web apps.
- **Station Operators:** People who manage charging stations and keep their station information updated in the app.
- **Administrators:** People who manage the whole system, handle issues, and keep everything running smoothly.

### 2.4 Constrains

- The app must work on popular browsers (Chrome, Firefox, Safari, Edge).
- It should work well on both phones and computers.

### 2.5 Assumptions and Dependencies

- Users will need internet access to use the app.
- The app depends on map services and payment services working properly.
- Station operators will keep their station data updated.

### 3. Specific Requirements

#### 3.1 External Requirements

- **User Interface (UI):** The app works on phones, tablets, and computers.
- **Hardware Interfaces:** No special hardware is needed, just a device with a browser.
- **Software Interfaces:**
  - Uses Google Maps API to show station locations
  - Uses PayPal or Stripe for payments
  - Sends data through REST APIs
- **Communication Interfaces:**
  - Uses HTTPS for secure communication
  - Sends emails and SMS for alerts and notifications

#### 3.2 Functional Requirements.

- **Sign Up and Login:** Users can create an account with their email or use social accounts like Google. Users can log in safely with OTP or two-factor authentication.
- **Search and Filter Stations:** Search for stations near your location. Filter by charger type, price, and station availability.
- **Route Planning:** Plan your trip and get charging suggestions along the way.
- **Payments:** Pay using cards or digital wallets. Secure payment process with instant confirmation.
- **Notifications:** Get reminders for bookings. Receive updates on payments or offers.

#### 3.3 Non-Functional Requirements.

- **Performance:** The app should support up to 10,000 users at the same time.
- **Scalability:** The app should easily handle more users and stations as it grows.
- **Security:** User data should be encrypted (AES-256). All connections should be secure (HTTPS). Follow privacy and payment rules (GDPR, PCI-DSS).
- **Availability:** The app should work 99.9% of the time.

- **Usability:** The app should be easy to use and follow accessibility guidelines. Users should be able to find key features in three clicks or less.
- **Maintainability:** The app should be easy to update and improve over time.

## 4. Supporting Information:

### 4.1 References

#### 1. Google Maps API Documentation

<https://developers.google.com/maps/documentation>

#### 2. Stripe API Documentation

<https://stripe.com/docs/api>

#### 3. PayPal API Documentation

<https://developer.paypal.com/docs/api/overview/>

#### 4. GDPR Overview and Compliance

<https://gdpr-info.eu/>

#### 5. WCAG 2.1 Accessibility Guidelines

<https://www.w3.org/WAI/WCAG21/quickref/>