SRS Document for "ChargeSpot Finder":

1. Introduction:
ChargeSpot Finder is a web and mobile application designed to address the growing need for easily accessible electric vehicle (EV) charging stations. As the EV market expands, this platform aims to simplify the process of locating, reserving, and paying for charging services, enhancing the overall EV ownership experience.

2. Objectives:
- Streamline the process of finding and using EV charging stations
- Provide real-time information on charging station availability and compatibility
- Offer a user-friendly interface for route planning and reservation management
- Integrate secure payment solutions for a seamless charging experience
- Foster a community of EV users through features like user reviews and ratings

3. Target Audience:
- EV owners and drivers
- Fleet managers overseeing electric vehicles
- Charging station operators
- Potential EV buyers researching infrastructure availability

4. Key Features:
a) Station Locator:
  - GPS-based search for nearby charging stations
  - Filters for charging speed, connector type, and amenities
b) Reservation System:
  - Ability to book charging slots in advance
  - Reminders and notifications for upcoming reservations
c) Route Planner:
  - Integration with mapping services to plan trips with charging stops
  - Estimated charging times and costs for journey planning
d) Real-time Updates:
  - Live status of charging station availability
  - Notifications for station maintenance or outages
e) Payment Integration:
  - Multiple payment options (credit card, mobile wallet, etc.)
  - Subscription models for frequent users
f) User Profiles:
  - Personalised dashboard with charging history and preferences
  - Favourite stations and routes
g) Community Features:
  - User reviews and ratings for charging stations
  - Forum for EV owners to share tips and experiences

5. Technical Requirements:
- Cross-platform compatibility (web, iOS, Android)
- Integration with major mapping APIs (Google Maps, Apple Maps)
- Real-time data synchronisation with charging station networks
- Secure payment gateway integration
- Scalable cloud-based infrastructure to handle user growth
- Compliance with data protection regulations (GDPR, CCPA)

6. Non-functional Requirements:
- High availability (99.9% uptime)
- Fast response times (< 2 seconds for search queries)
- User-friendly interface with intuitive navigation
- Accessibility features for users with disabilities
- Multi-language support for international markets

7. Future Enhancements:
- Integration with in-car infotainment systems
- AI-powered predictive analytics for charging behaviour
- Gamification elements to encourage eco-friendly driving habits
- Partnerships with EV manufacturers for seamless onboarding

8. Security Considerations:
- End-to-end encryption for user data and payment information
- Two-factor authentication for account access
- Regular security audits and penetration testing

9. Regulatory Compliance:
- Adherence to local regulations regarding EV charging infrastructure
- Compliance with payment industry standards (PCI DSS)

References:
1. International Energy Agency. (2023). Global EV Outlook 2023. LINK
2. Deloitte. (2023). Electric vehicles: Setting a course for 2030. LINK