Silwana Infotech
Investing into Innovation

Electric Vehicle Charging Application

Country

UAE

Domain

IT Services

THE CLIENT

Our client is a recognized United Kingdom-based engineering company with longstanding experience in varying business streams of engineering from electrical and energy service industries to the electric vehicle industry and public utilities. They are progressive and are aiming to become the largest owner-operator of rapid DC charging stations in the UK.

The client approached Silwana team with the prospect of developing ane-mobile service provider. This will allow them to take ownership of the driver experience. They can also then target the customer. They intend to build their brand awareness and bring in more customers to use electric charging docks

THE VISION

With more and more nations stepping forward to become carbon neutral in near future, electricity driven cars has a vital role to play in this journey. With growing market share of Electronic Vehicles (EVs), the need of its fuel – the charging stations – is also growing in demand. The availability of charging stations and efficiently functioning charging networks are key elements that can significantly boost EV adoption among users.

Our client approached us with an idea of building a robust software solution that can provide real time information about the available charging stations and their stats to the users in their mobile phones, so that they can efficiently plan their routes and stopovers. Also, the solution would be able to provide control to user for managing charging operations & do monetary transactions from within the app in hassle free manner.

We have been successful in providing a solution named "Electric Vehicle Charging Application" that serves as centralized platform controlling the entire EV charging operations having countless features and workflows, as well as a fully featured suite of mobile applications for different platforms that facilitate their customers' day-to-day charging needs at low costs while improving efficiency of the overall vehicle charging process, realizing the management's idea of digital transformation in true sense.

Client wished to develop state of the art EV Charging solution to serve needs of their customers in best possible manner so the users are in control of their charging needs and the solution can serve as a easily accessible tool that can be used as per their needs.

Prior to the development of "Electric Vehicle Charging Application", business had following prime challenges and objectives:

- Integration with the ChargePoint Inc charge point operator (CPO) based on the open standard OCPI interface.
- Working with large scale hardware like charging station is a complex engineering task to understand as there are many moving parts involved that can affect to overall system dynamics, hence thoroughly understanding the hardware internals and utilizing them to make compatible software was the biggest challenge.
- Simplification of the user interface to make sure working employee is focusing on the right information every time.
- Provision for multi-user access with varying security & access levels.
- Software should support seamless payment processing mechanism within the user facing apps.

After thoughtful planning and research, our expert software development team outlined a plan to develop a platform considering all the prerequisites of the Client. We developed a solution with all-inclusive functionalities required for an e-Mobility Service Provider.

Customer Mobile Application:

- Allow user to authenticate with Federated access via their social media account.
- Ability to view different available charge stations on maps, with ability to filter and search among the results. Ability to switch between map and list views.
- Control charge operations from within the application with ability to view real-time charging progress within the application.
- Stop the charge and ability to make payment for the energy consumed from app.
- View transactions history and notifications management.
- Multiple payment options configurations for faster checkouts with discounts & promotions.

Platform Administrator:

- Provision to configure access rights for different user groups and manage permissions.
- Ability to configure organizations and associate users to the organization.
- Ability to issue RFID cards based on requests from drivers or organizations.
- Configurations related to payment services to provide required settings on the platform.
- Manage charging stations lists and group them as necessary.
- Manage tariffs for charging stations along with ability to manage promotions.
- Configure site amenities available besides charging stations.

Fleet Management Portal:

- Fleet user is responsible to define their driver and vehicle accounts.
- See payment history on the account and download VAT receipts.
- Configure the payment settings for their accounts.
- Fleet Management APIs to allow organization to manage their accounts in their own systems by API integrations.
- Ability to import/configure RFID cards to their vehicle or driver accounts.

Other Notable Features:

- Payment scheduler – it's a scheduler that runs every mid-night to perform payment transactions for an outstanding balance of credit accounts.
- Integration with ChargePoint OCPI protocol to perform synchronization and real-time data, charging progress, authorization with charge stations.

TOOLS AND TECHNOLOGIES

- Development Platform
  Visual Studio Code

- Server
  AWS

- Database
  MySQL

- Tools & Technology
  ReactJS, Node.js, Kotlin (Android), Swift (iOS)

The Outcomes & Business Benefits

With this software solution, the client was able to increase the use of charge stations with easy signup and subscribe to facilities. The client was advantageous to benefits such as Easy to use the highly rated mobile application, Functionality that charges their electric vehicle, financial transactions can be easily performed via a payment service provider relationship owned by the Client & improved brand awareness.

Our client experienced many benefits like:

- User-friendly mobile application

- Functionality that lets users charge the car themselves

- Safe and secure payment portals are enabled by payment service provider owned by the client

- Better brand awareness

- Better brand loyalty

- Effective in creating more retaining customers

Get in touch with us today!

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About Silwana Infotech

Silwana Infotech is a market-leading name in global IT services. With headquarters in Dubai, UAE, development centre in India, and presence across 7+ locations, we are spearheaded by a leadership team comprising industry expert, business-technical analysts, and subject matter experts with far reaching experience of more than 2 decades.

Our comprehensive IT services range from software development, product engineering, infrastructure services, and solutions based on emerging technologies like AI, BI, IoT, Blockchain, AR-VR etc. to digital marketing, content creation and resource augmentation. Our technology products include ERP, HRMS, CRMS, and various industry-specific solutions.

As a complete IT partner for enterprises and businesses, we harness advanced technologies to conceptualize, develop, and implement innovative products and solutions that make lives easier. We are proud to be your partner in success!

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