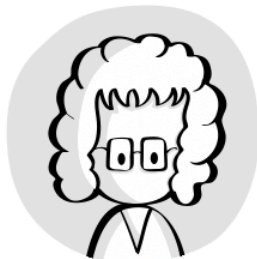


Use Case Description

Electric Vehicle Charging

Background

The share of electric vehicles (EV) being sold is expected to grow significantly in the coming years. Currently, the vast majority of the users charge at home, but as the EV reaches the masses this becomes less significant as many people lack the options to setup home charging. Charge GmbH is managing several charging stations in the Rhein Neckar area. As a new company they have invested heavily in building up their charging infrastructure and now they are figuring out ways how to increase the usage rate of the individual charging stations and increase customer retention among growing number of charging service providers. The company needs analyze the pain points of existing users and build a strong connection to them in order to bring them into the charging stations. To achieve that the company plans to launch an EV charging station app.



Elena

Electric Vehicle Owner

Devices



Story

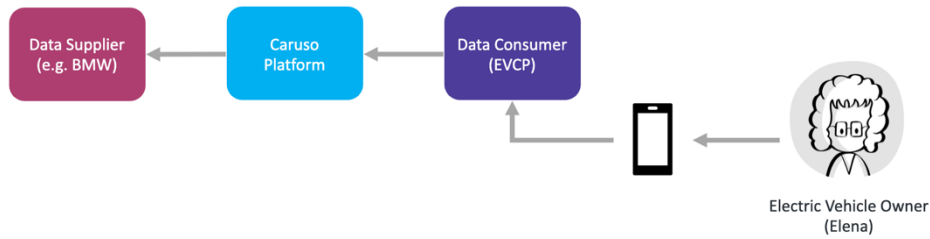
Elena is an office worker and is increasing becoming more environmentally conscious. She recently replaced her diesel car with an electric model. Unfortunately, she has no charging options available at home and EV refueling differs significantly from the ICE cars. It takes longer, it is more frequent, there are far less stations available. Through google she found a local EV Charging Provider, Charge GmbH. In addition to being able to use the charging stations, Charge GmbH can now also access the location and charging status on Elena's EV. This is offered to her in order to provide convenience features.

One day Elena is driving to work and her EV range drops below 20%. Elena gets a notification on her smartphone from the Charge GmbH, that the charging spot near work that is always busy is free today. She briefly reviews the location, price and expected duration. Elena accepts the offer and books the charging spot for herself. 15 minutes later she arrives at the charging station and as promised there is an empty spot. She leaves the car charging and goes to the office.

2 hours later, Elena gets a notification that her EV is fully charged. The payment is charged automatically from her account. She goes to pick up the EV and parks it at the office. Elena is happy that everything was organized for her, she did not need to fight over parking spot and that there were no unexpected costs that would arise from fluctuating power prices or extra charges for not vacating the spot.

Charge GmbH is happy as they can contact their members as soon as they need the charging services, potentially beating the competition and providing a more thoughtful service. Additionally, having contact to their customers allows them to better manage the charging station spots that they own. By inviting users to station that have many free spots, and by sending them a notification to free up the spot when the battery is charged.

Information Flow



Functionalities

As Charge GmbH we want to build up the driver app in order to be in contact with our members.

Driver App

- View charging status (Current level, Time to full)
- Useful notifications for charging stations, based on
 - Low remaining range
 - Close to work, home, shopping etc.
 - Or where the charging service would like to send the user
 - Notification when charging is completed
- Vehicle information
- POI setup
- Map to manually find stations
- Visualizing payment
- ...

As Caruso we want to be able to present how we enable the innovation for the charging stations managers. The focus should be on the features where the data is used that is provided through the Caruso connected car API. The presentation flow should be realistic and highlight connected car data value. Ofc any other features can be built if they support the use case.

System Landscape

- Driver App

Data Items

Electric Power Level (e.g. 12%), Charging Status (charging, not charging), Charging Power (10kwh), Range Remaining (120km), Geolocation, Vehicle information