Accademic Year 2016/2017

POWER ENJOY

DD Presentation
Politecnico di Milano
Software Engineering 2

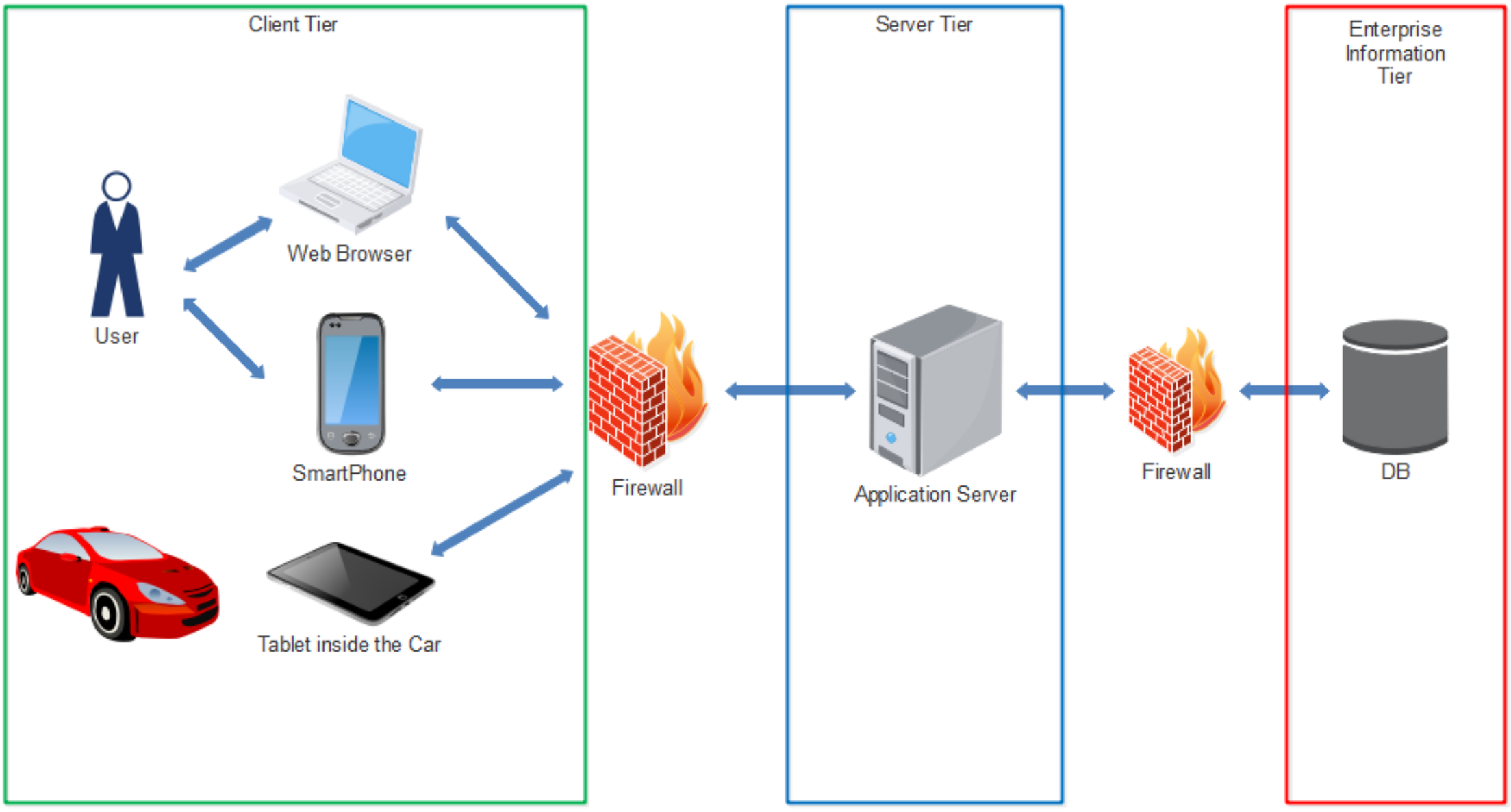
Simone Bruzzechesse

Luca Franceschetti

Gian Giacomo Gatti

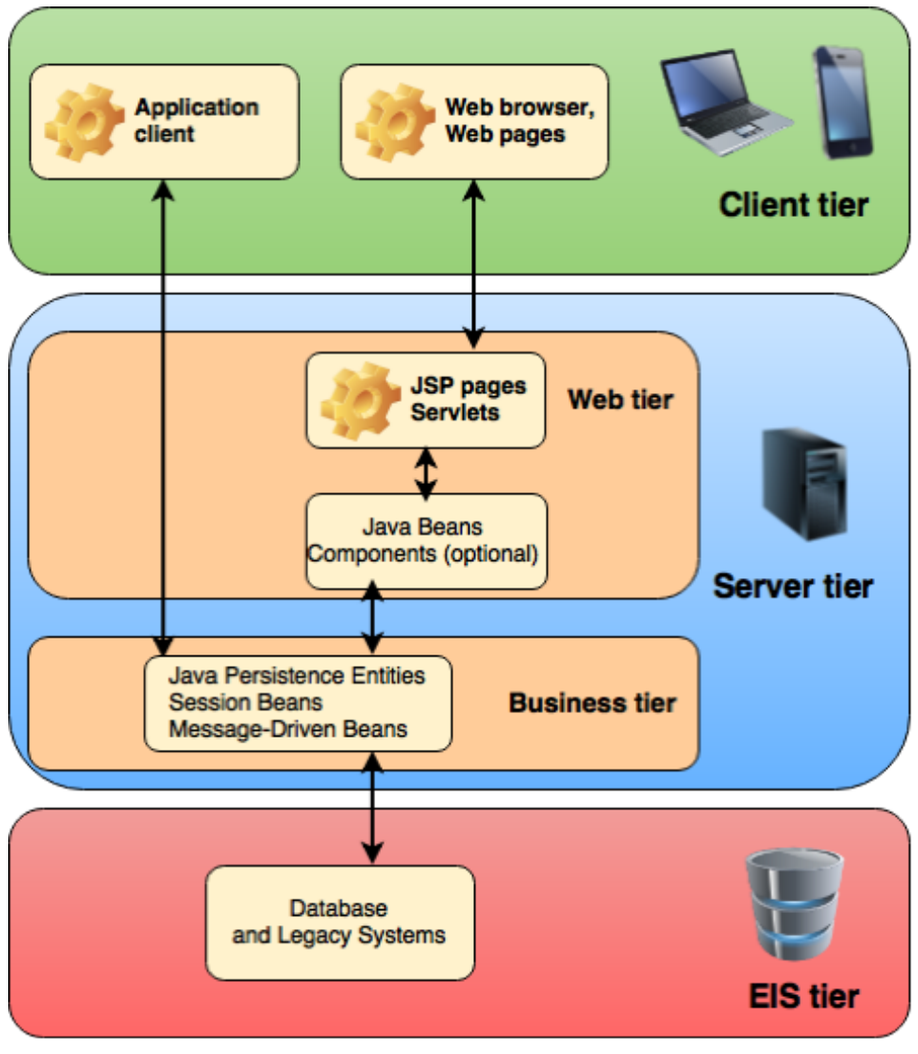
INDEX

HIGH LEVEL INFRASTRUCTURE

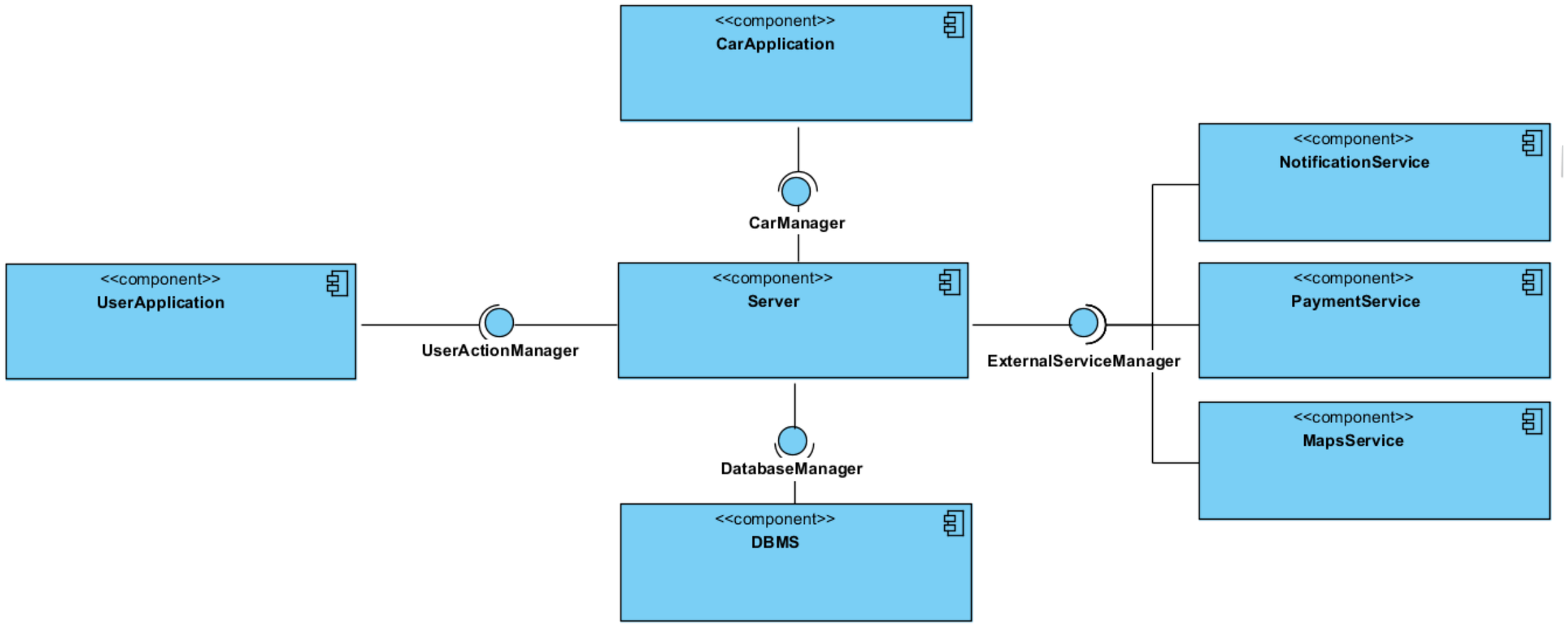


J2EE INFRASTRUCTURE

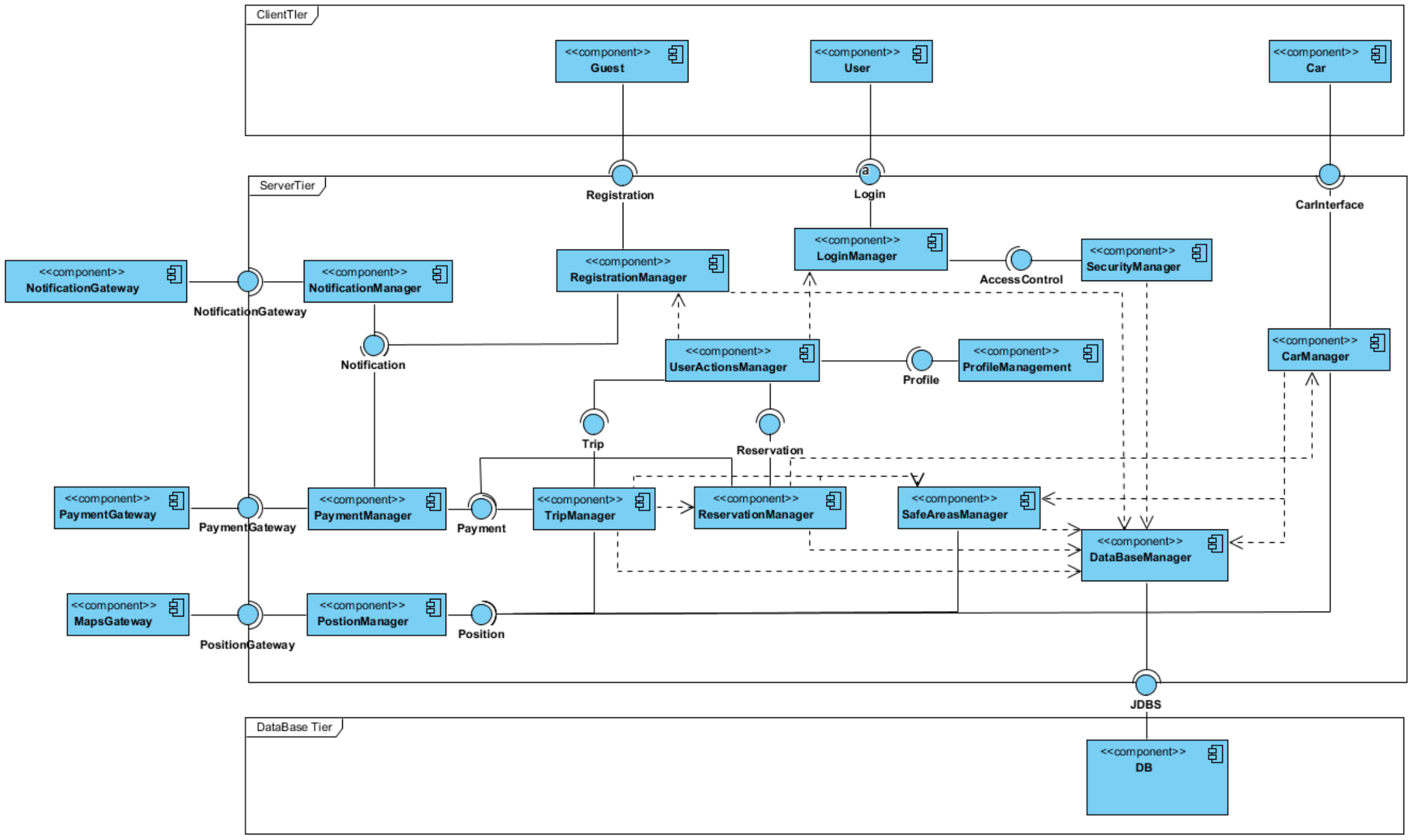
- **Client-tier**: run on the client machine, both on the web browser and mobile application and also on the machine's tablet
- **Server-tier**:
  - **Web-tier:** Servlets and JSP that are used to manage the interaction with the web application
  - **Business-tier**: these components manage the internal logic of the system
- **Enterprise Information System (EIS)-tie**: handle enterprise infrastructure systems, database systems and legacy systems



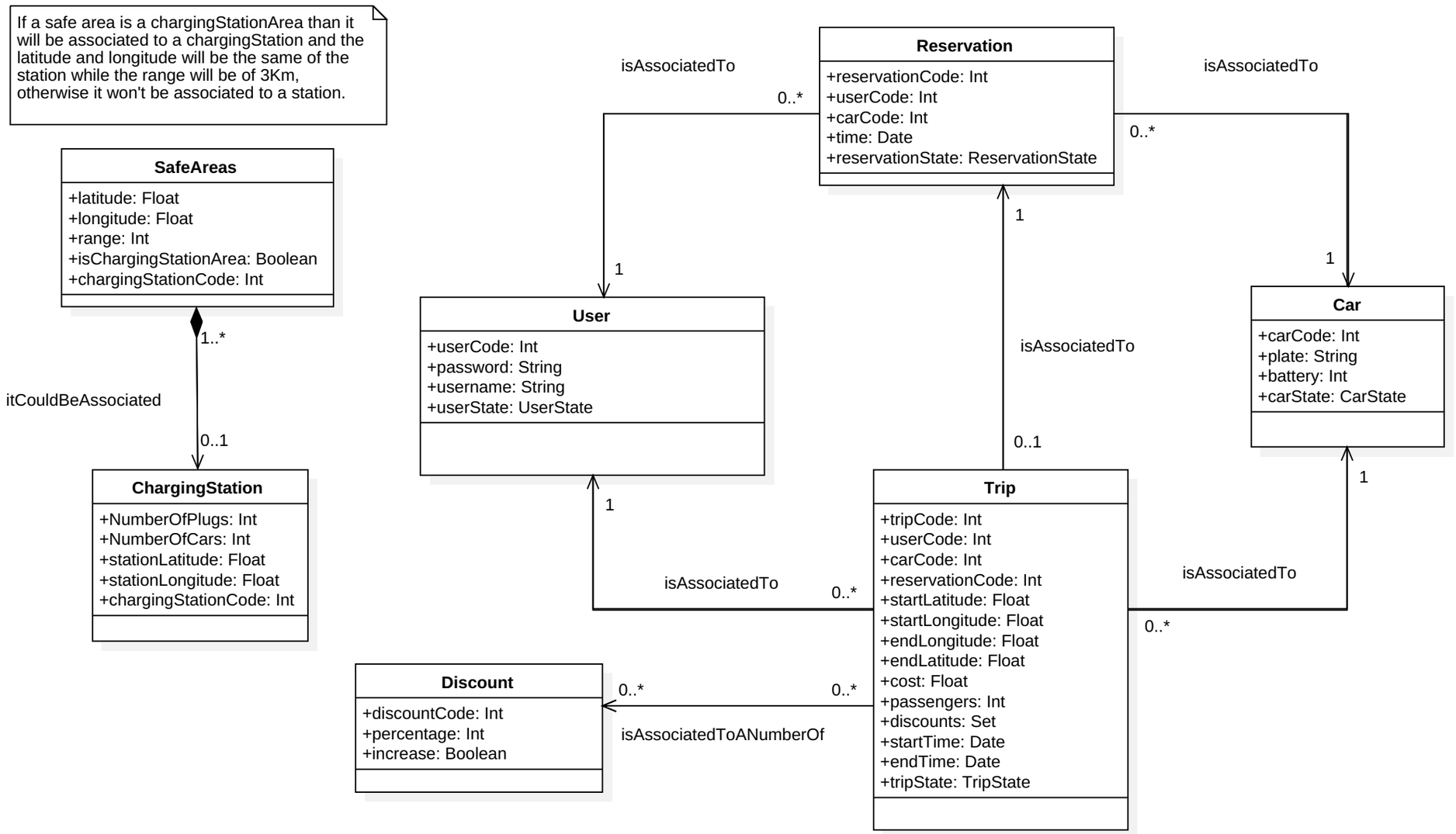
MAIN COMPONENT DIAGRAM



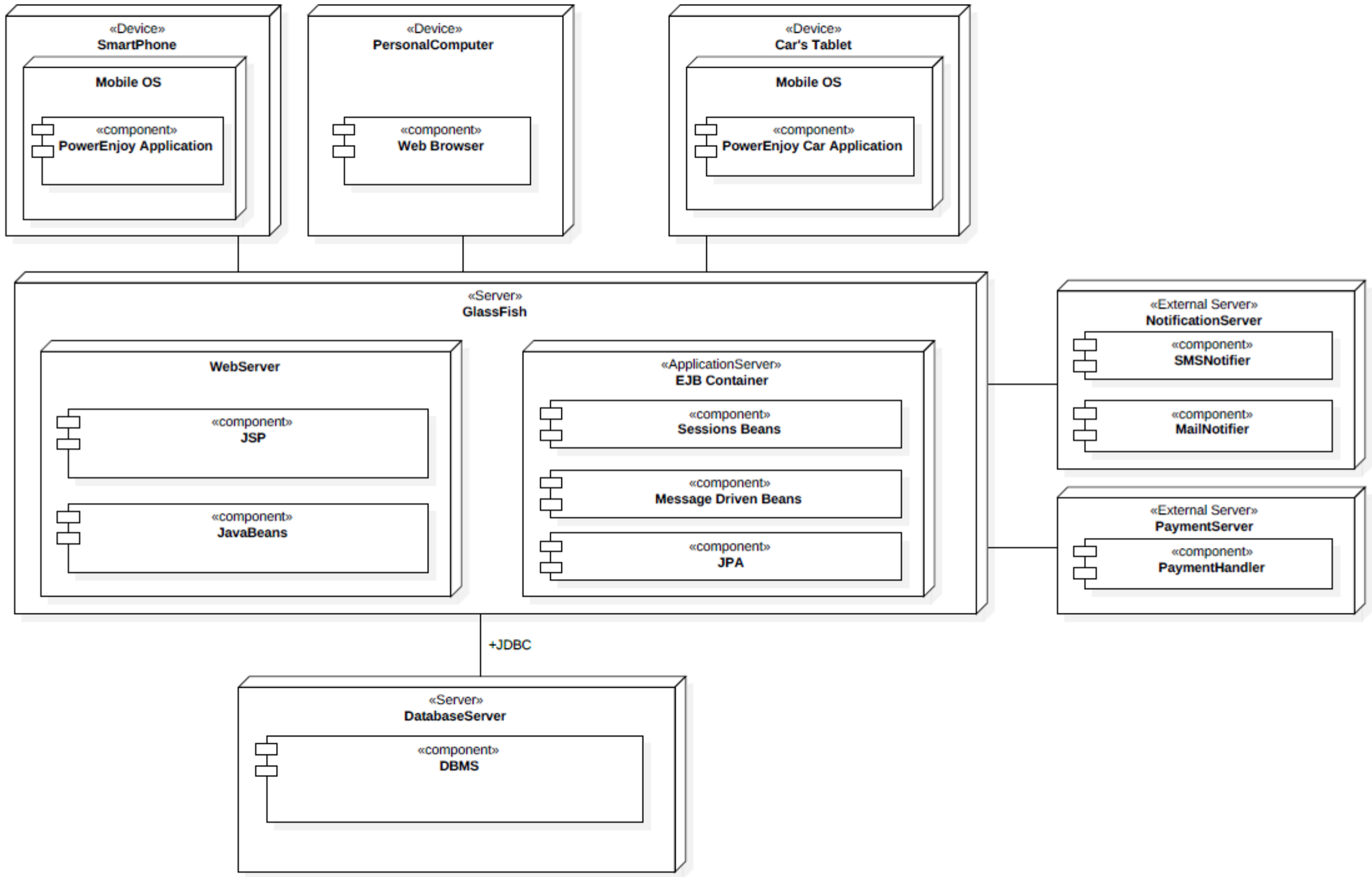
COMPONENT DIAGRAM



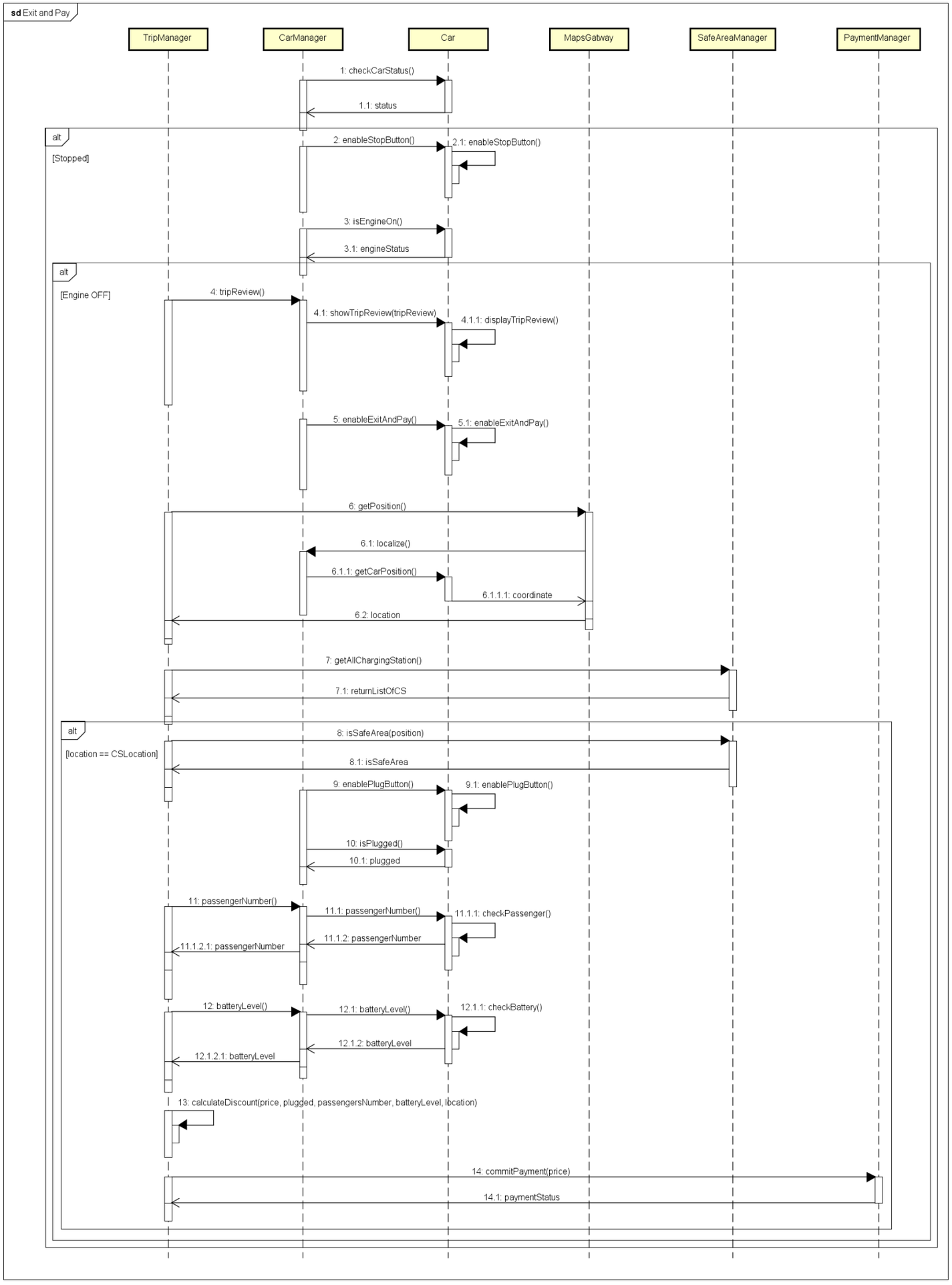
DATA STRUCTURE



DEPLOYMENT VIEW



SEQUENCE DIAGRAM

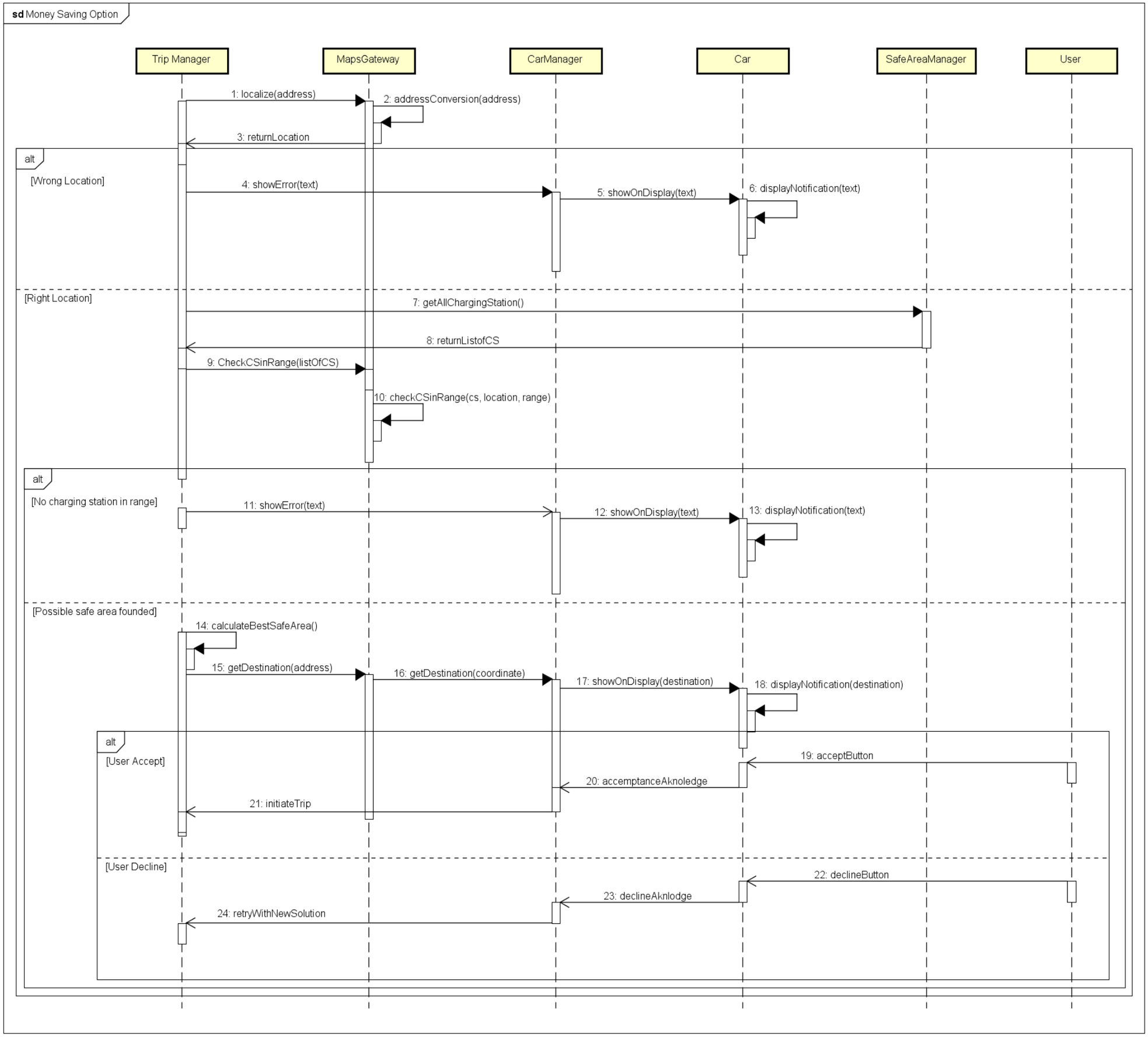


ALGORITHM DESIGN – EXIT AND PAY

This algorithm has the aim to explain the conclusion of the rent:

- ✓ There are a lot of possible **alternatives** at the end of the rent
- ✓ We should check more details in order to guarantee coherence between the **trip** and the **payment**
- ✓ The algorithm have to check the **status** of the car (if it stopped or not)
- ✓ The algorithm have to check if the user asks to **stop** its trip
- ✓ As soon as the engine is **stopped**, the system stops **charging** the user
- ✓ Car's tablet shows the **review** and the details of the trip
- ✓ The user can now touch the "**Exit and Pay**" button on the display
- ✓ The algorithm saves **current location** of the car thanks to an interaction between CarManager and MapsGateway
- ✓ The system **downloads** all the charging station (justified as update)
- ✓ **CarManager** enables the possibility to plug the car as well as enables "plug" button only if the users stops near a charging station
- ✓ **TripManager** calculates right discount of the trip
- ✓ **PaymentManager** tries to commit the payment, and the system must check if it successful

SEQUENCE DIAGRAM

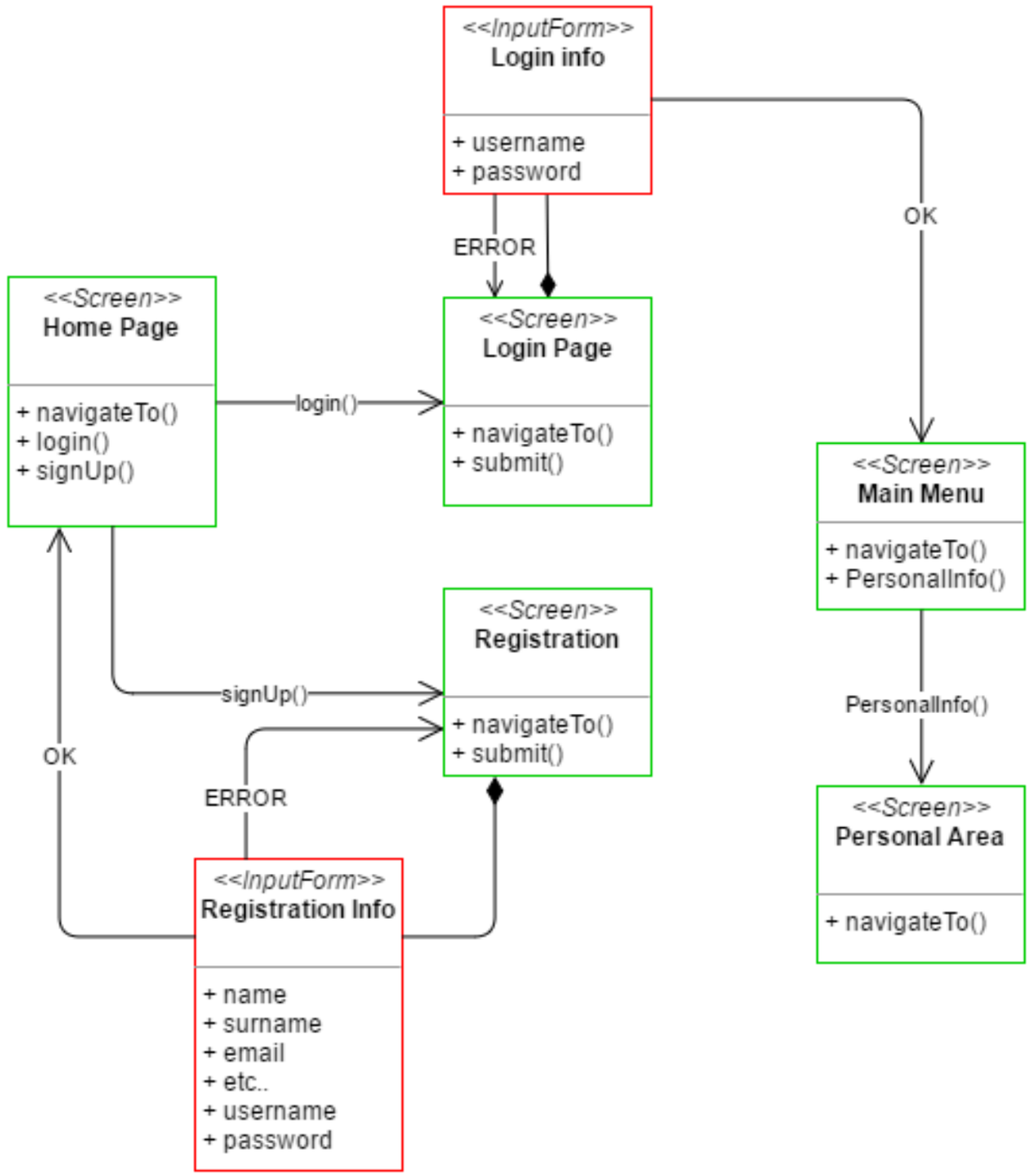


ALGORITHM DESIGN – MONEY SAVING OPTION

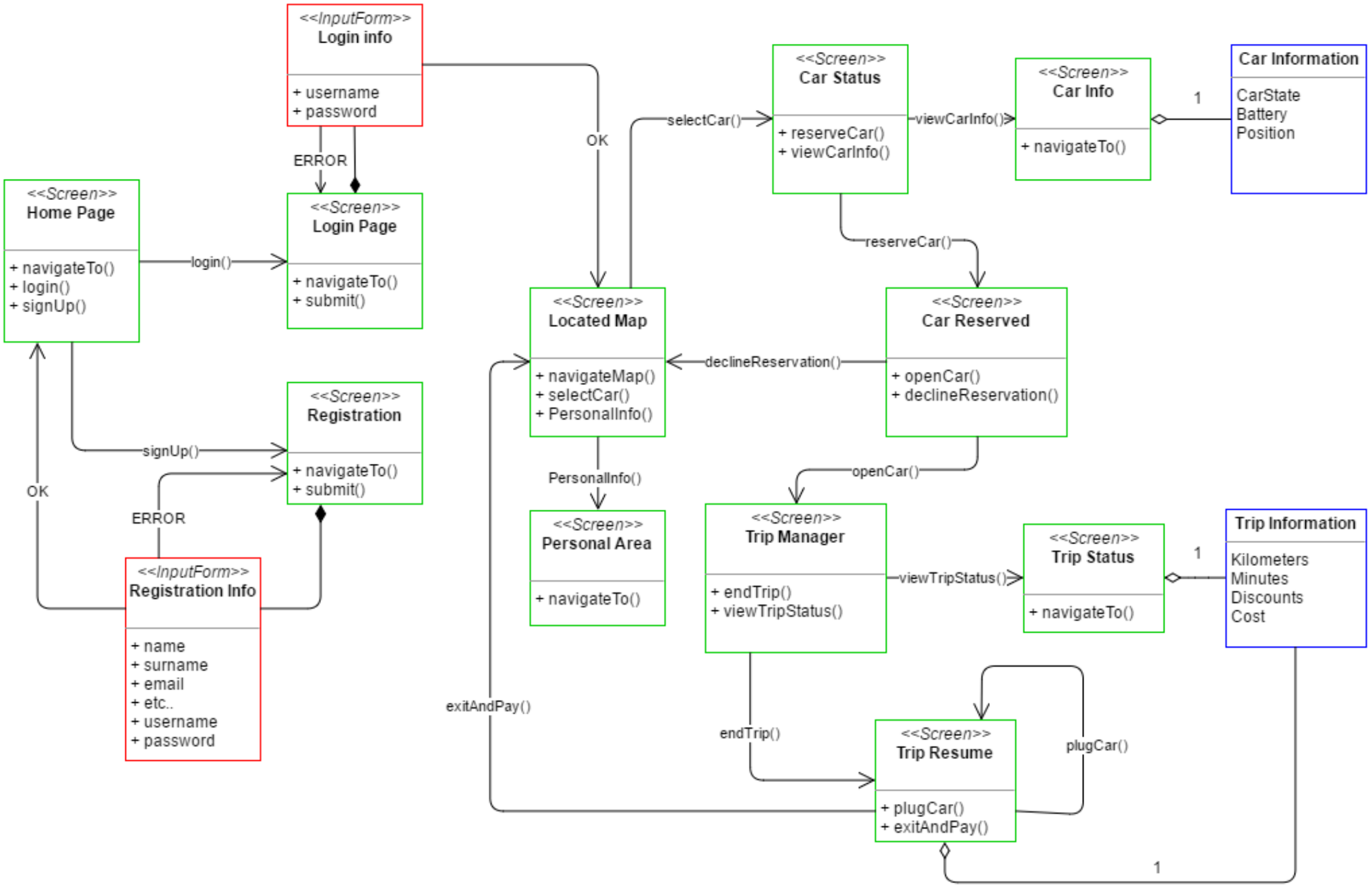
This algorithm manages the “Money Saving” option:

- ✓ We created a **specific class** for the **location**, to provide coherent and consistent information about car’s and charging station’s position.
- ✓ This function receives an **address**, the one that user has typed on the car’s display, and a range, also typed on display.
- ✓ **CarManager** permits to interact with the display and consequentially with the user in the car.
- ✓ We created a specific class for the charging station, which are provided by **SafeAreaManager** during the computation.
- ✓ **MapsGateway** is a third part service and can calculate if a specific charging station is or not in range, from the location desired by the user.
- ✓ Before the user can see the result on display, the system **checks** which charging station **has less car** and advices its position to the user.

USER INTERFACE DESIGN



USER INTERFACE DESIGN



THANKS FOR YOUR ATTENTION