**ASSUMPTION: sconti applicati tutti insieme, (MAX= 10+20+30=60%)**

**ASSUMPTION: car with less than 20% battery life remaining are considered not available**

ASSUMPTION: auto non si spegne se non è in una safe area (o continua a addebitare anche se spenta, se fuori da safe area?)

**ASSUMPTION: Special parkin areas with power grid are a subset of the predefined set of the safe areas**

**ASSUMPTION: casi C (macchina messa in carica dopo uso) e D (macchina lasciata con meno del 20% di batteria) si compensano, no charges né discount di 30%**

ASSUMPTION: The car lock occours after 60 seconds the car was parked in a safe area (this include that the users exit the car and closed the car doors). After this time, the system calculate the total amount to pay. To obtain the 30% discount, the user has to plug the car into the power grid within this time

DOMAIN PROPERTIES: There is a CAR HUB CONTROLLER which monitor the battery life of every car and dispatch the “in place recharge” if a car is with less than 20% battery life remaining and it isn’t connected to a power grid

ASSUMPTION: Come far capire al sistema che sei vicino? Geolocalizzazione smartphone, simil lettore QR ?

INCIDENTI? PROBLEMI PAGAMENTI? CANCELLAZIONE RESERVATION?

Scenario 1 da modificare, Luca torna da lezione, non sta andando

Aggiungere scenario in cui si specifica una posizione diversa da quella attuale dell’utente, è dove viene specificata operazione di unlock

Scenario 1

Title: Deal with the strike

Luca should go to class this afternoon, but unfortunately, today there is a strike of transport. His university is on the opposite part of the city, so he decides to try the new car-sharing service “PowerEnJoy”. Since it’s the first time he tries the service, first he should download the app and register to the system; after filling in his own personal data, including the payment information, he clicks on the submit button and, after a few seconds, he receives a message with his password. Now he can start looking for a car near to him.

Scenario 2

Title: Friends in saving

Marco, an expert user of “PowerEnJoy”, has gone to see a concert with his roommates Mario and Matteo, and now they want to come back home. Due to the late hour, the public transportation is no more available and, as the evening was rather expensive, they aim to spend as little as possible. Marco decides to use the “PowerEnJoy” service and, after he found and reserved a car near to them, he checks the “Money saving” option. When they get into the car, they set up their destination and the system calculates the most convenient place to leave the car. When they arrive at their destination, they will have to walk a bit, but they will have saved a lot.

Scenario 3

Title: A busy businessman

William is a businessman always in a hurry; he has just arrived to his office, but he already knows that, as soon as he will finish the morning’s meeting, he will have to go to the opposite part of the city for urgent commitments. William saw a “PowerEnJoy” car parked at a few meters from his office, so he thinks that he can save time using the car-sharing service instead of wait for a taxi after the meeting. William then register quickly to the service without paying much attention to all warnings and book the car.

Unfortunately the meeting dwells and William’s reservation expires and the system charges him 1€; when he leaves the office, he cannot get in the car because it was booked by another user, forcing William to call a taxi.

Scenario 4

Title: Desperate housewife

Laura went to the grocery store on foot, but when she exits the supermarket she realizes that it starts raining; she notices a “PowerEnJoy” car parked and, since his son has already registered her to the service to encourage her to use it, she decides to book the car to come back home without getting wet.

Once she arrives at destination, the car is low, but Laura’s first problem is to not get wet, so she looks for a park as close as possible to her house, and she doesn’t mind the warning concerning the fact she will pay more if she won’t leave the car in a recharge park.

GOALS

GUEST:

G1: Ensure system’s accessibility

* Allow new user’s registration
* Allow user’s login
* Check data correctness
* Recognize already registered user
* If user is new and data are correct, system must provide a password to the user

CARS HUB CONTROLLER:

G2: Status of each car is always checkable

* Each car must be able to check its remaining power
* Each car must be able to check its position
* Each car must to be always able to communicate with the cars hub controller

G3: Know which cars need “in place recharge”

* Each car left with less than 20% of the battery and that is not plug into the power grid must notify the cars hub controller with a specified message and its position

USER:

G4: Provides locations of available cars within a certain distance from a specified area

* The system must be able to detect the user’s location according to the user’s device’s GPS.
* The system must be able to detect cars’ location according to the cars’ GPS.
* The system must be able to detect a specific location according to the address provided by the user
* The system must be able to distinguish available cars and reserved cars
* The system must be able to determinate the distance between available cars and the indicated position
* The system show to the user the position of the cars which respect each criteria on the app’s map