***PowerEnjoy***

*Requirement Analysis and Specifications Document*

Goals:

* User

(da specifica)

* 1. [G1] - Register to the system
  2. [G2] - Log into the system
  3. [G3] - Look for available cars from the current position
  4. [G4] - Look for available cars from a specific address
  5. [G5] - Reserve car
  6. [G6] - Identify car
  7. [G7] - Drive car
  8. [G8] - Monitor current charging
  9. [G9] - Enable money saving mode
  10. [G10] - Park car
  11. [G11] - Pay ride
  12. [G12] - Ask assistance
* Manteinance Guy
  1. [G13] - Take car of cars

ACTORS:

* User:

A User is a potential person who use the application in order to rent an electric car for a limited amount of time and that is in a specific geographical area.

* Manteinance System:

FUNCTIONAL REQUIREMENTS

* User
  1. [G1] - Register to the system
     + The system must receive valid informations of the user (driving license ID, credentials, payment method)
     + The system has to check if the driving license is not registered in the system yet
     + The system must send a password to the user
  2. [G2] - Log into the system
     + The system must check if the password is correct
  3. [G3] - Look for available cars from the current position:
     + The system must be able to determine the user’s position from the GPS of his mobile phone
     + The system must be able to determine which cars are available into a certain distance from the detected position
  4. [G4] - Look for available cars from specific address:
     + The system has to determine if the address provided by user exists
     + The system must be able to determine which cars are available into a certain distance from the specific address
  5. [G5] - Reserve car:
     + The system must show the available cars on the map
     + The system must set the selected car (reserved) as unavailable
  6. [G6] - Identify car
     + The system must receive the plate number of the vehicle to identify it
     + The system must check the identity of the user
  7. [G7] - Drive car
     + If G6 succeeds the system unlocks the identified car
     + The system begins to charge the user as soon as he turns on the engine
  8. [G8] - Monitor current charging
     + The system must show in real time the current charging
  9. [G9] - Enable money saving mode
     + The system must check the correctness of a starting and an ending position
     + The system must calculate the nearest station to the specified ending point where to leave the car
  10. [G10] - Park car
      + The system must stop charging the user
      + The system must lock the car after the user exit from it
  11. [G11] - Pay ride
      + The system must interact with the payment system
  12. [G12] - Ask assistance
* The system must pick up the request of the user and contact the assistance
* Maintenance Guy
  1. [G13] -Take care of cars
     + The system must be able to notify the maintenance guy (low battery, damages)

SCENARIO:

1. Aniel see a car and decides to take it. He opens the application and declares to be near the car. He has to identify it with its license plate and the personal password.
2. Giorgio

Scenari possibili prenotazione:

1. La vedo e la identifico utilizzando il numero di targa. A quel punto posso utilizzarla (se non è già stata prenotata).
2. La prenoto dalla app per poterla utilizzare entro 1h (non posso annullare). La macchina diventa unavailable, impedendo di essere utilizzata o prenotata da altre persone
3. La prenoto e scade l’ora: 1 € di multa

Come può finire un viaggio: (sconti non cumulabili, vince il più grande)

1. Luogo idoneo
   1. Parcheggio normale (strisce bianche, blu) senza ricarica
      1. batteria 50%+: 20% sconto
      2. se 3km+ da zona di ricarica || batteria 20%-: +30% su prezzo viaggio (costi ricarica sul luogo)
   2. Parcheggio normale con ricarica (da effettuare dall’utente)
      1. 30% sconto
2. Luogo non idoneo
   1. Parcheggio non consentito (strisce gialle/garage)
   2. Luogo inadatto (strisce, binari, non parcheggi)
   3. Incidente (chiamata al manteinance, cose..)

Come può andare un viaggio (dal punto di vista di chi prenota):

1. Viaggio da solo (o in 2)
2. Viaggio in compagnia e guido io (2+ -> sconto del 10%)
3. Viaggio in compagnia e guida qualcun altro (come sopra ma se succede qualcosa sono affari miei)

In ogni caso l’autista può attivare la money saving mode, inserendo il punto di arrivo in modo che il sistema suggerisca le stazioni di ricarica più vicine al luogo d’arrivo e distribuisca in modo uniforme le macchine.