The project is the contract with a car share company named Reca to design and implement an automatic Car Share System based on IoT applications. The design system can be used by user to book, find, search the car and for staff to lock and unlock the car. To improve the effectiveness and reduce the staff cost, user can get involve to report issues of the car to help company to maintain. The application covers all required functionalities for four types of users. customer, company manager, engineers and system administrator.

# Application features:

## For customer: The customer can register, logging in, search and book a car

For first-time user, user can registration on MP; or in the website home page user can choose options:

* Login in the website homepage
* The registration of user will be stored in the Firebase database

After logging in on the website, the website UI presents these information and options:

* show a list of cars available with detail information: Make, Body Type, Color, Seats, Location, Cost per hour
* search for a car based on body type or other features
* book a car based on car identity, the user will be asked to input booking details
* cancel a booking
* logout

After successfully book the car, user come to the car and choose following options to unlock the car:

* console-based system which allows them to type in the user credentials
* Facial recognition

## For system admin: website login, maintain data of users and cars.

The functionalities of an admin are:

* View car rental history
* Search users and cars
* Add, remove, and modify information of users and cars
* Report car with issue

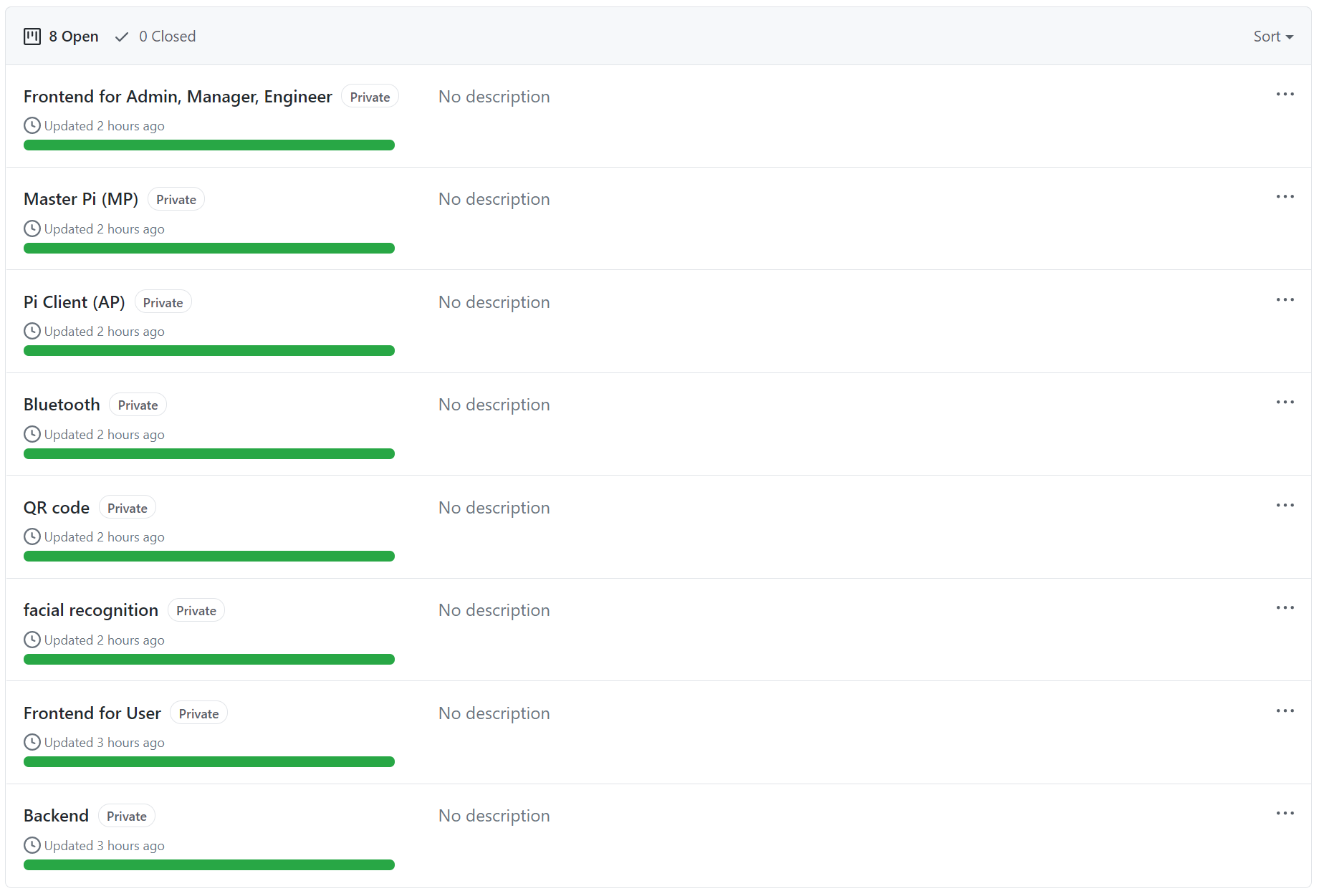
## For company manager

## For Engineering: repair reported car and update car’s availability

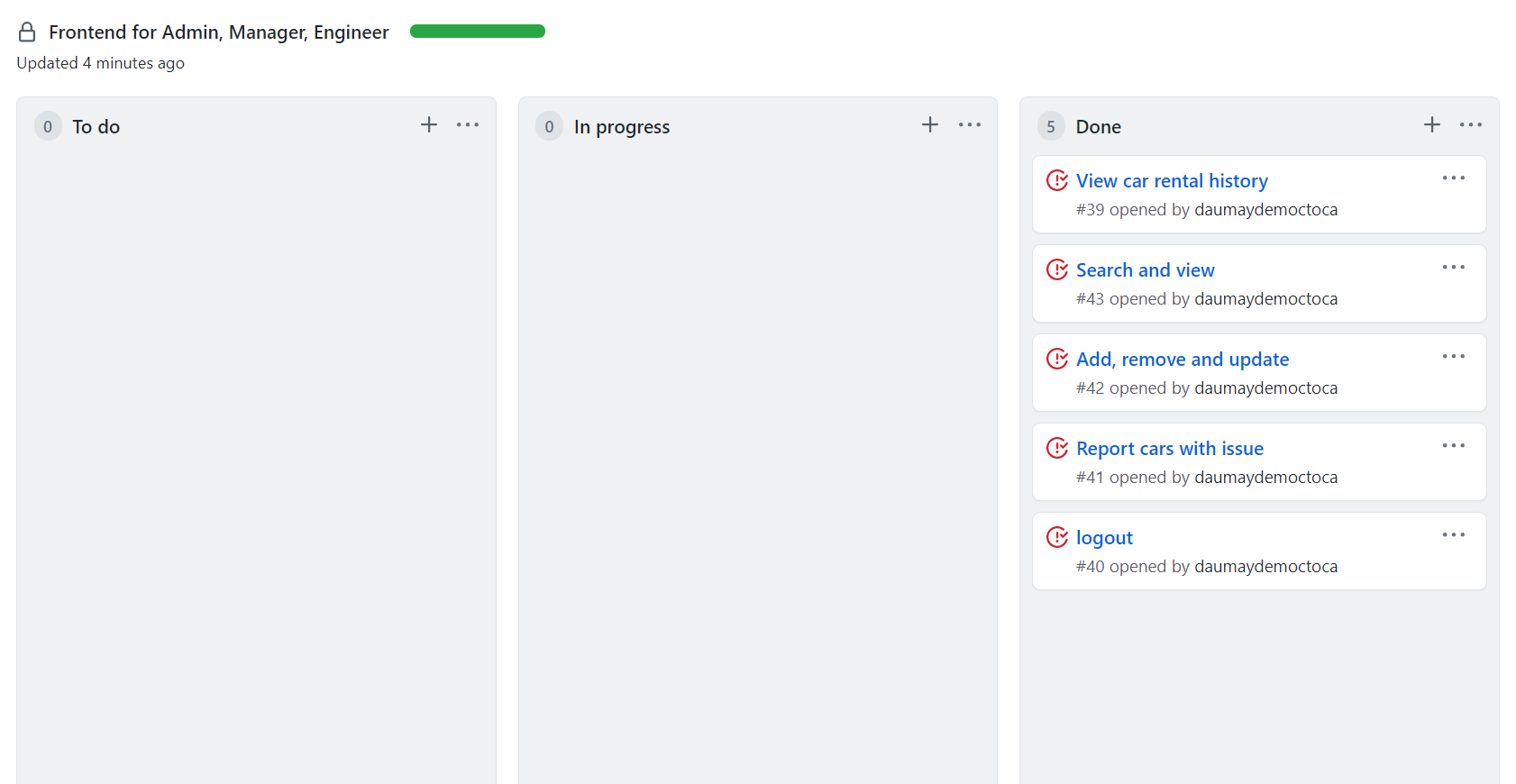
Required Features needed for engineering:

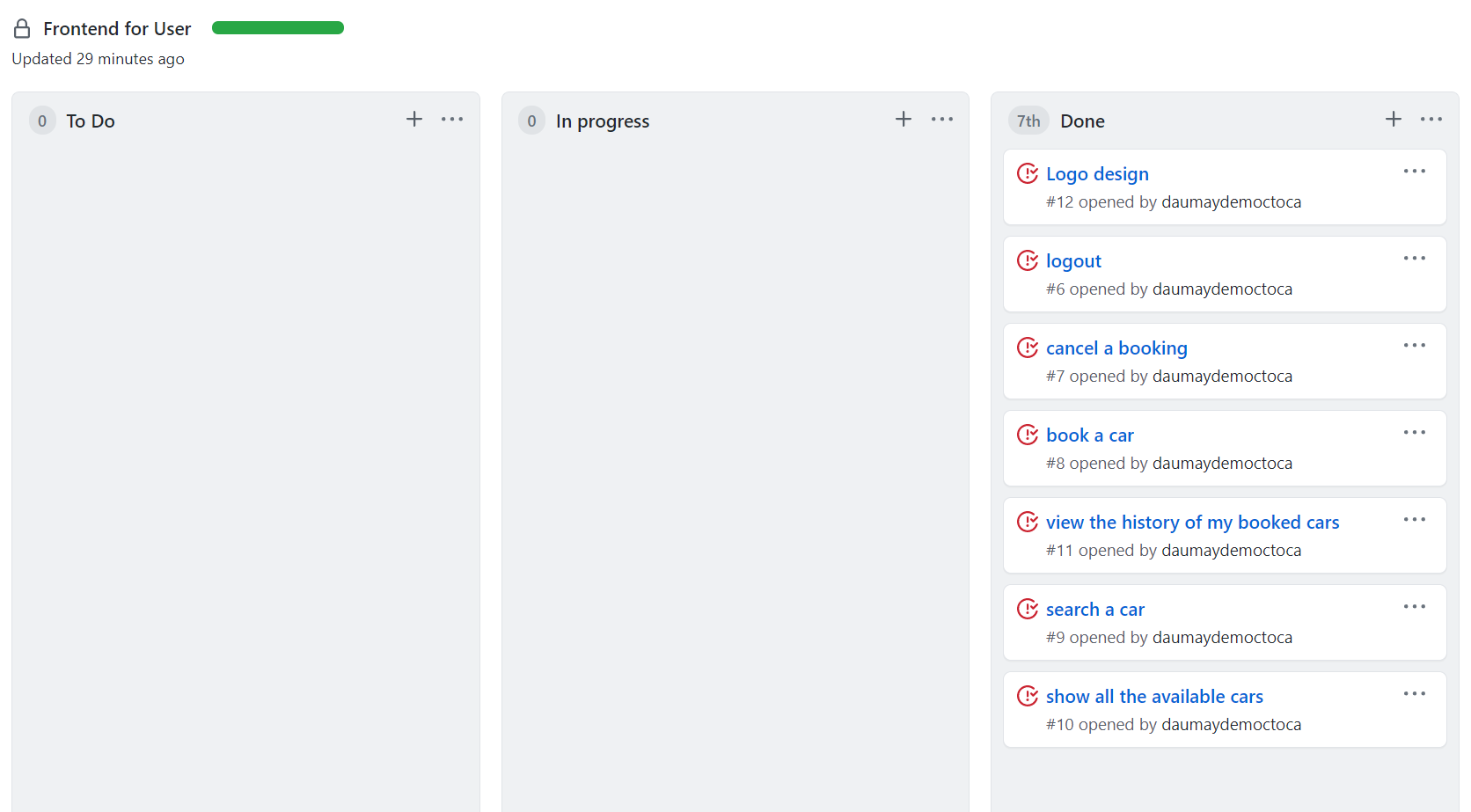
* Login
* Check reported car on high
* Receive notification on website to repair car
* Integration map on web to see the location of the car

After defining all the requirement and the functions of the project, a Dashboard can be created on Trello.



Inside each board, smaller tasks then defined. The smaller tasks are then assign to each of the appropriate team member.





* Required installation for the raspberry pi to run:
  + OpenCV
  + PyBluez
  + Pyzbar
  + Getpass
  + Face\_recognition
  + Pyrebase
  + Threading
  + Firebase\_admin