PoweEnJoy

Marco Festa, 03/02/2017

1.

Design Decisions

How did i make my **design** decisions ?

- Market analysis: competitors (car2go, enjoy, drivenow).
- Key is accessibility and simplicity.
- Differences with competitors: no parking mode, no physical key needed.

User requirements

- Valid driving license document.
- Relatively recent smartphone device: to definitely replace the physical key (through the use of localization services).

What did I **externalize** ?

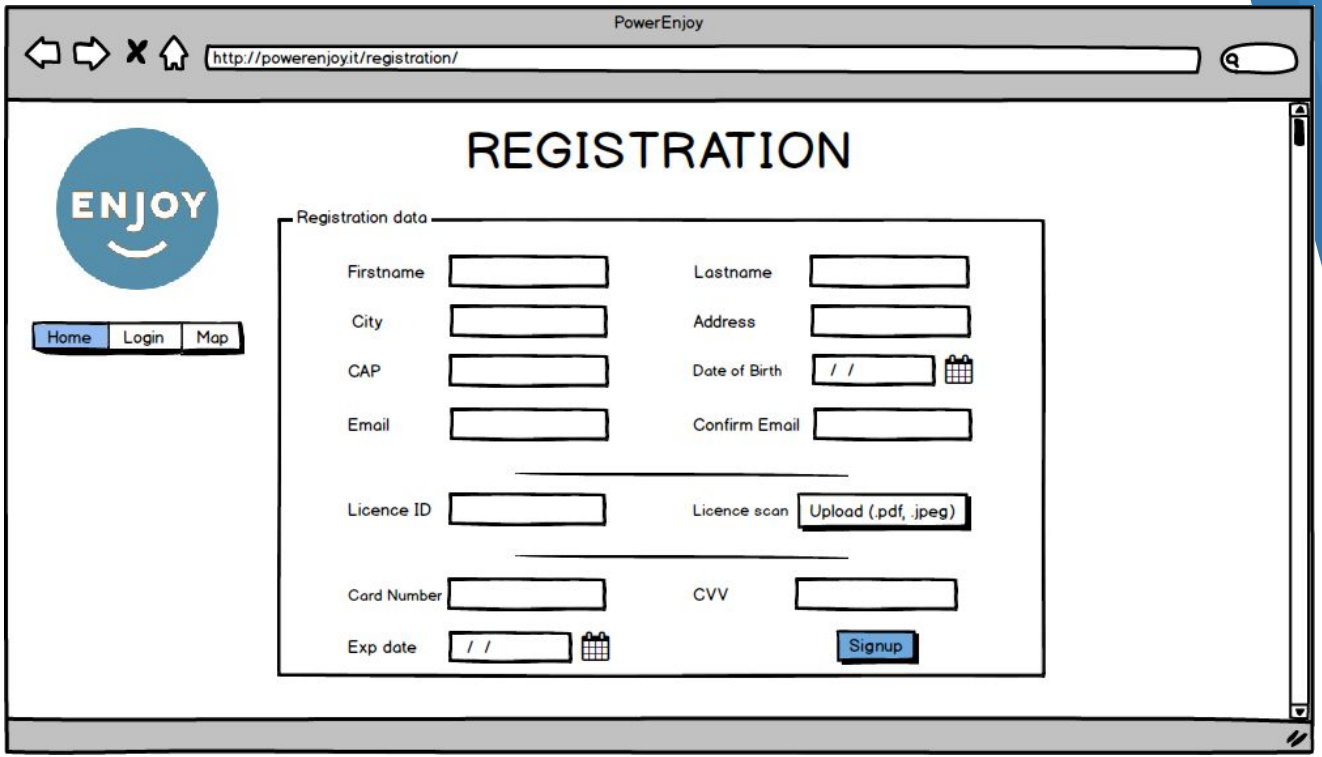
- Maintenance service: reports are sent to an external company in charge to verify possible damages and responsibilities. They also provide cleaning and repairing services.

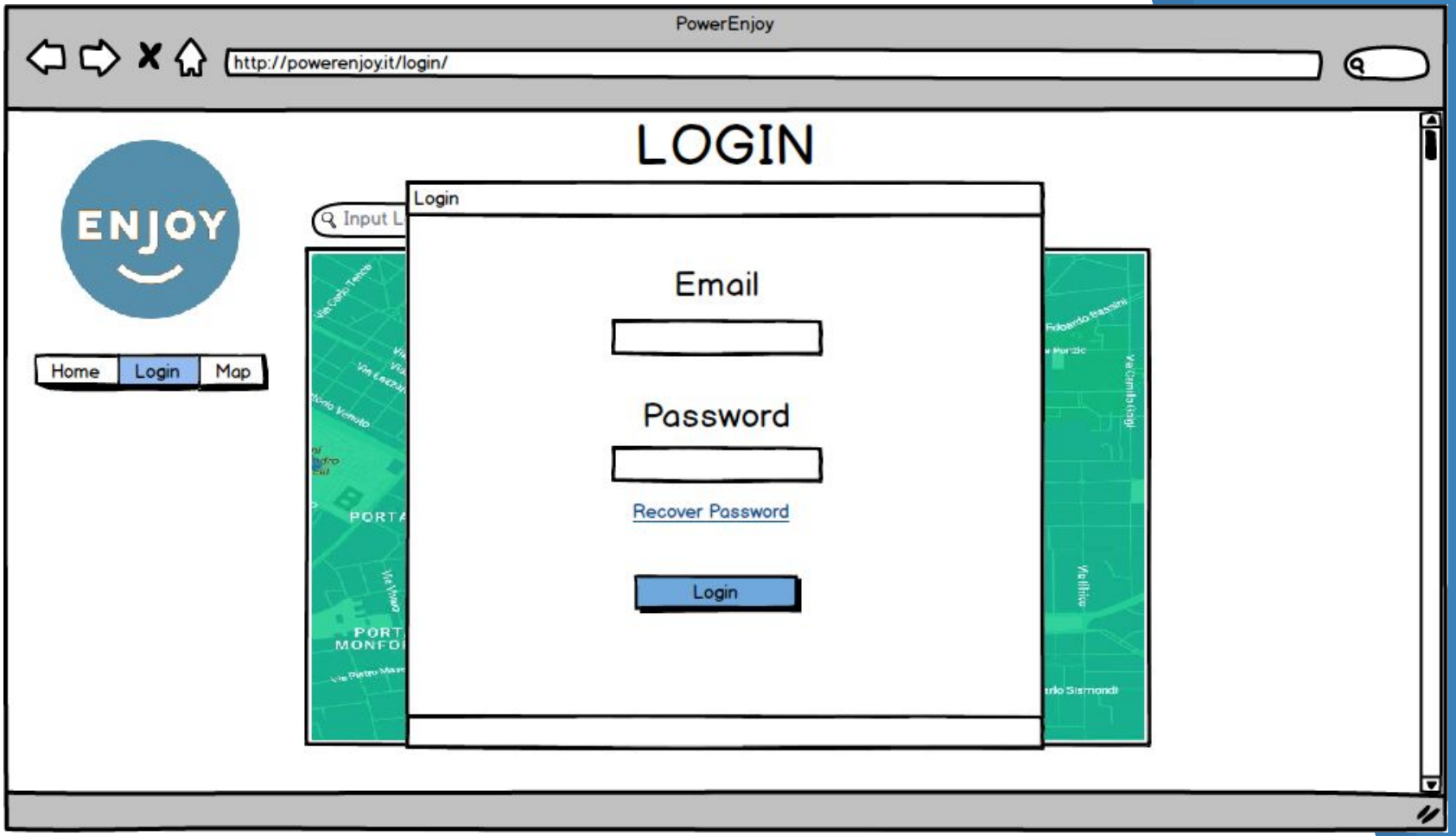
- PGS System: compatible PGSs are already deployed around the city, we just need to integrate our interfaces with them in order to use and track this shared network.

- Application Development: we propose an application general interface to interact with the application subsystem but leave the GUI and other components development to a third party software house.

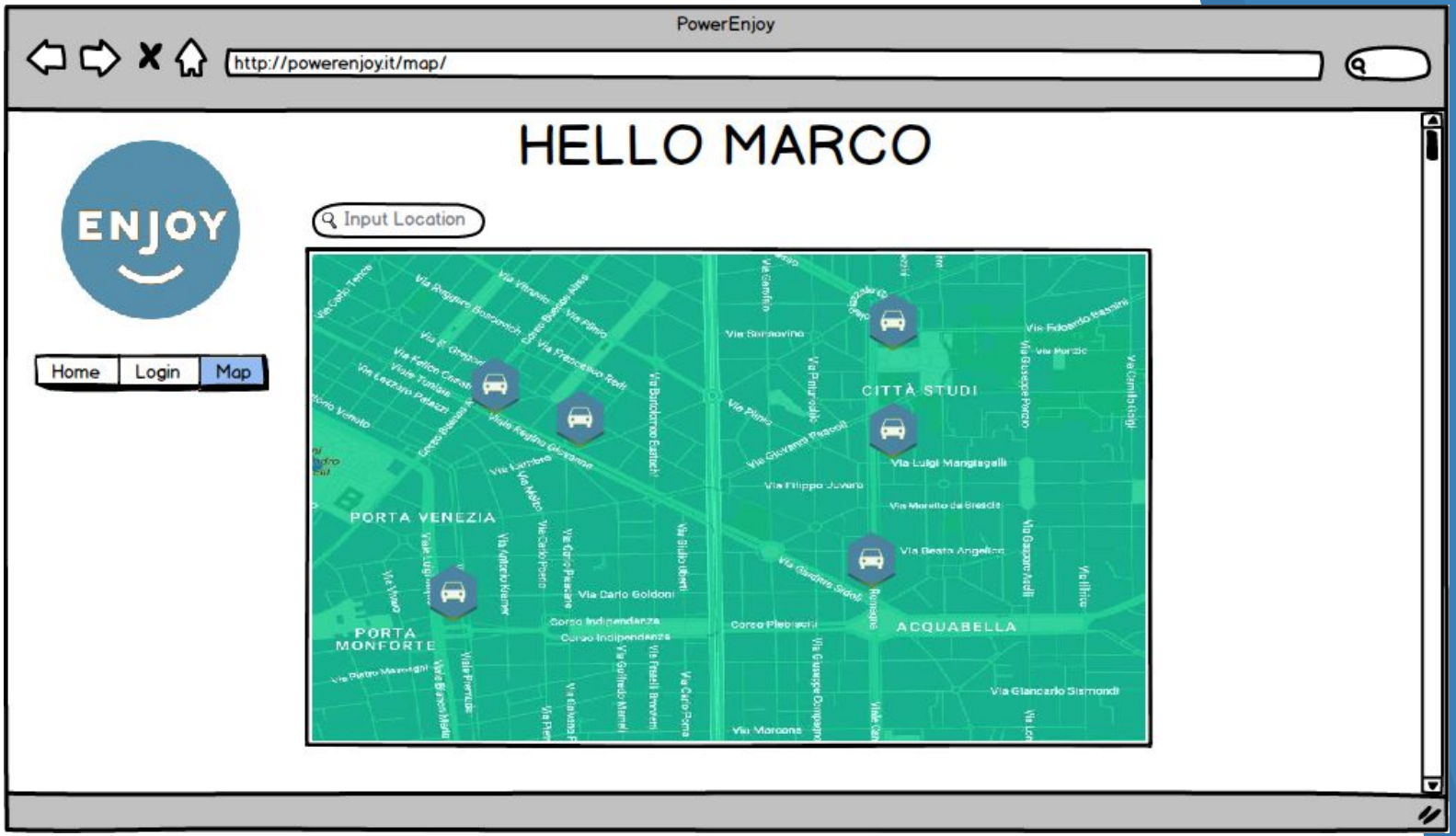
End-user **experience**

- Registration and login:



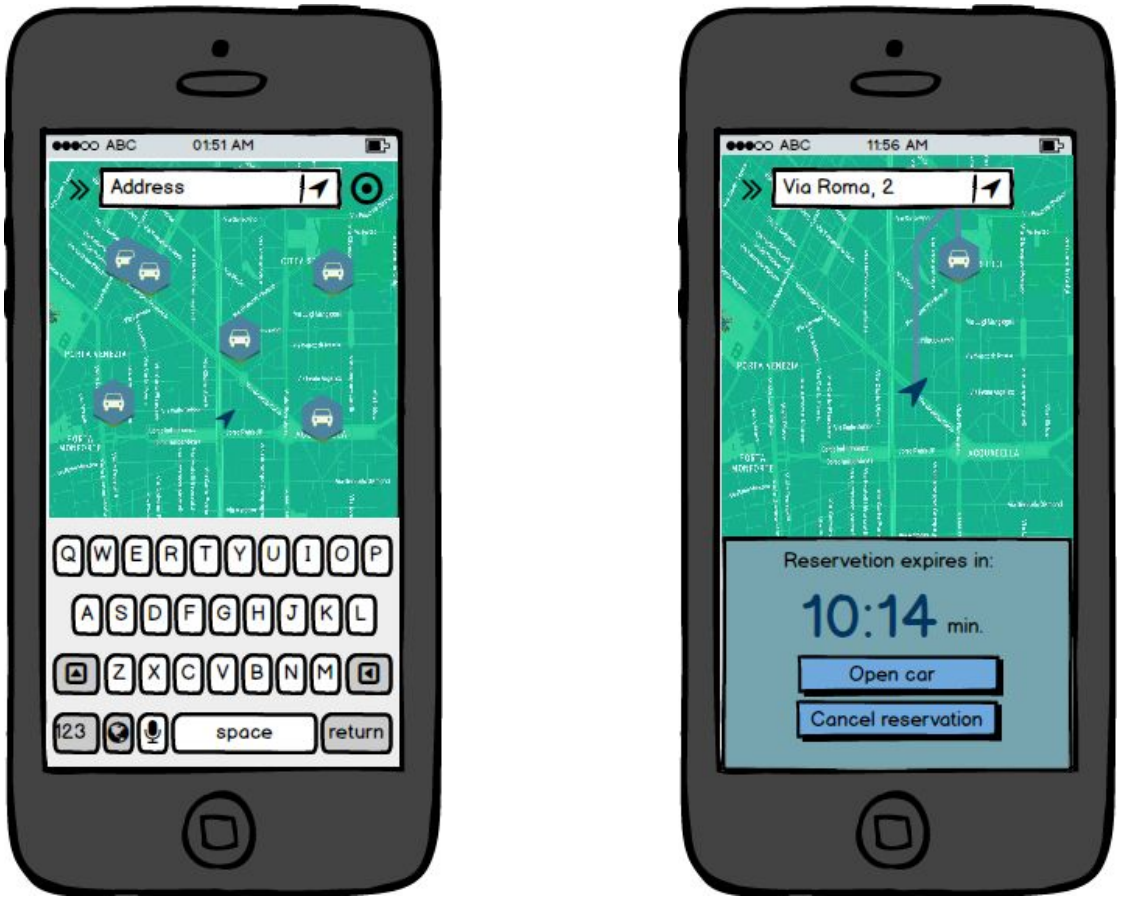

PowerEnjoy
http://powerenjoy.it/login/
LOGIN
ENJOY
Home
Login
Map
Input L
Login
Email
Password
Recover Password
Login

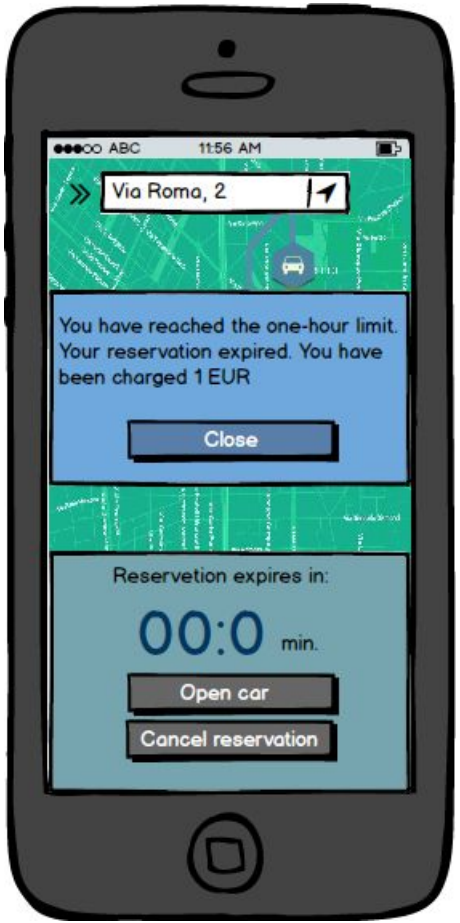
- Logged in and reservation pages:




PowerEnjoy
http://powerenjoy.it/registration/
HELLO MARCO
ENJOY
Home
Login
Map
Input Loco
Choose your car !
Address: Via Golgi 34, 20133 Milano
Battery:
Full
Reserve
PORTA V
PORTA
MONFORTE

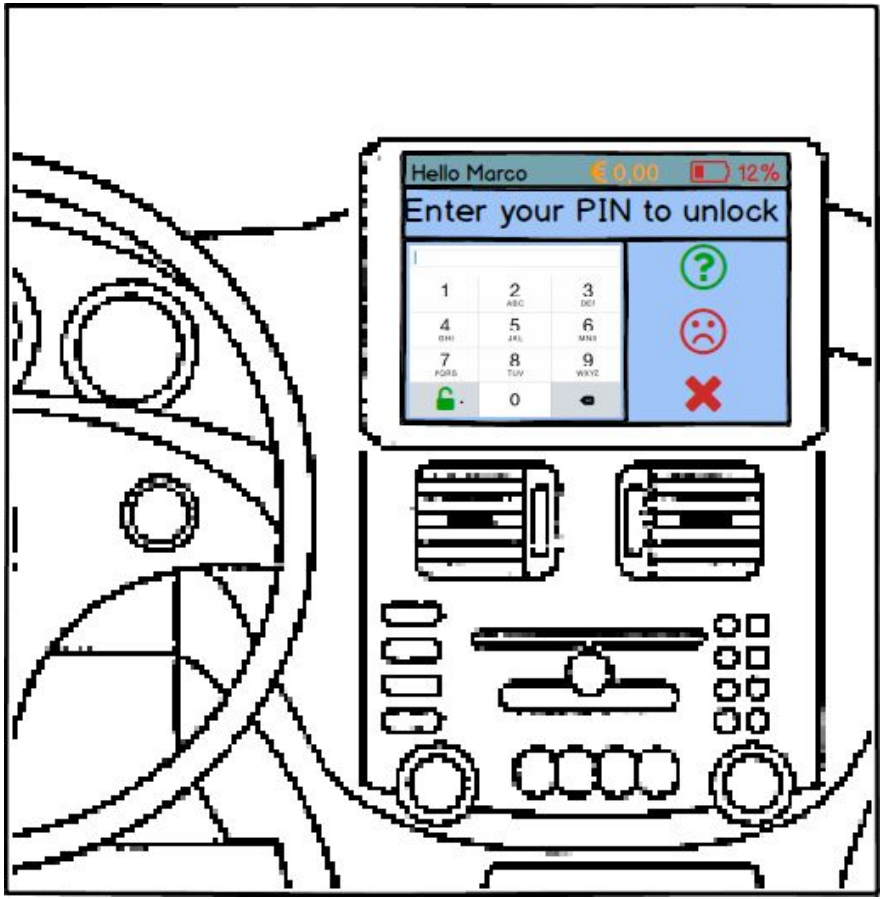
- Smartphone application:

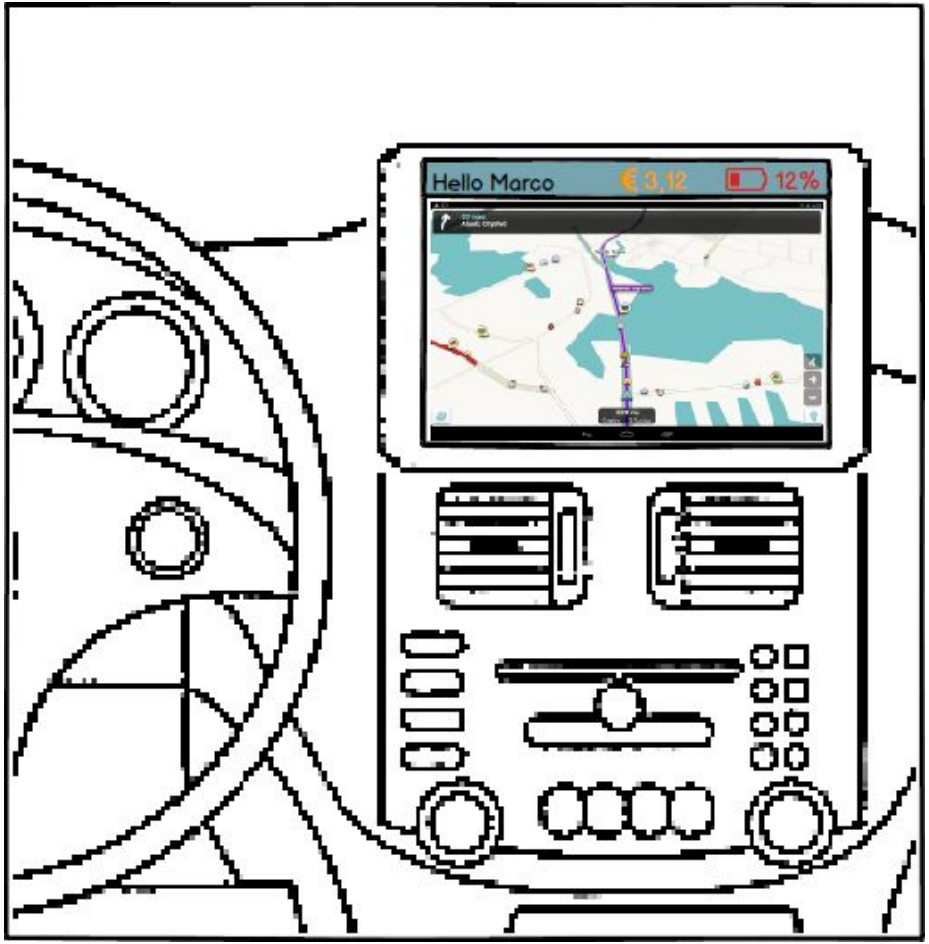



ABC
11:56 AM
Via Roma, 2
You have reached the one-hour limit. Your reservation expired. You have been charged 1 EUR
Close
Reservetion expires in:
00:0 min.
Open car
Cancel reservation


ABC
01:51 AM
Address
Via Golgi 34, 20133, Milano
Battery:
Reserve
Open

- Car internal application:



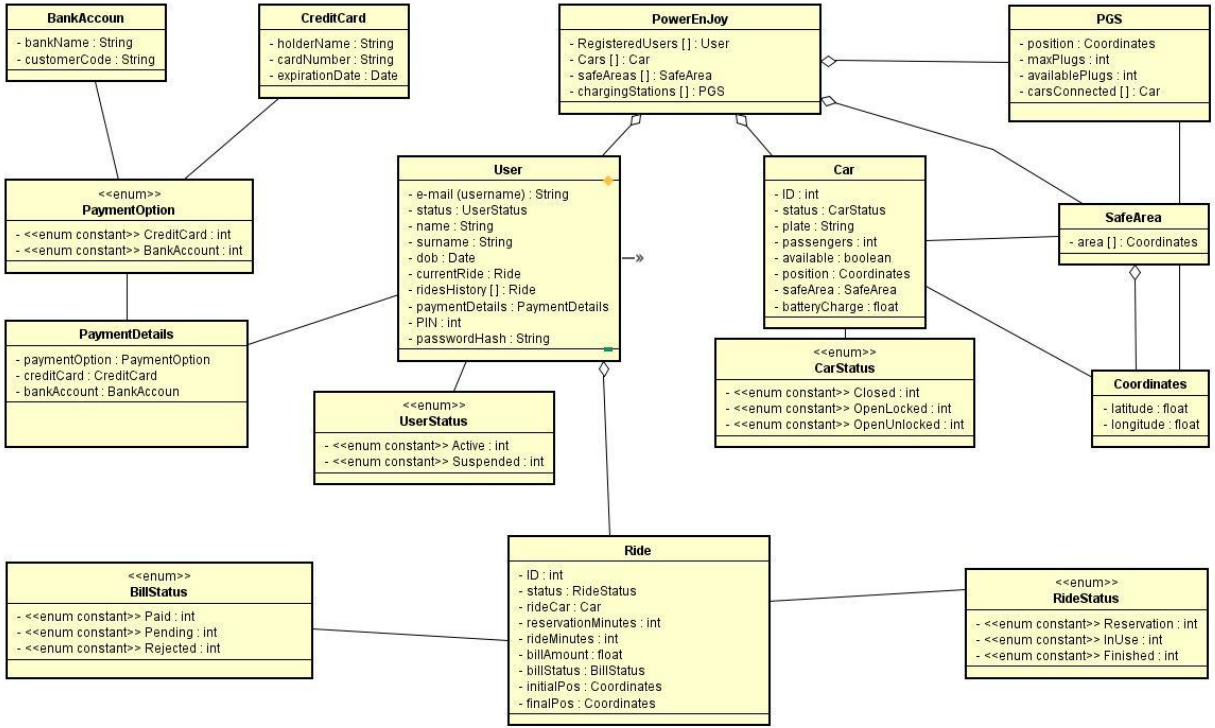

Hello Marco
€ 3,12
12%

2.

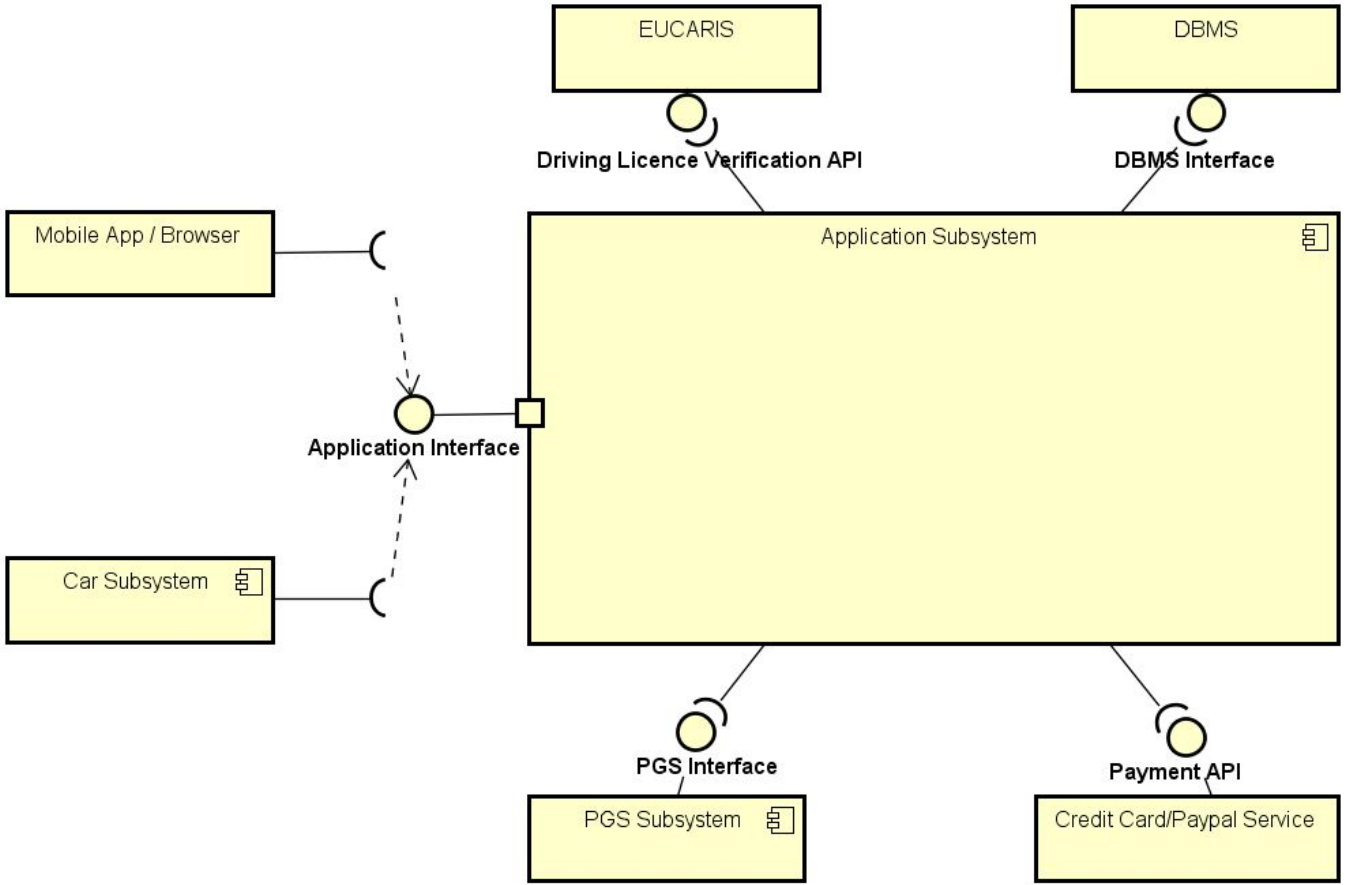
Design Specifics

How is the end-user **experience** achieved ?

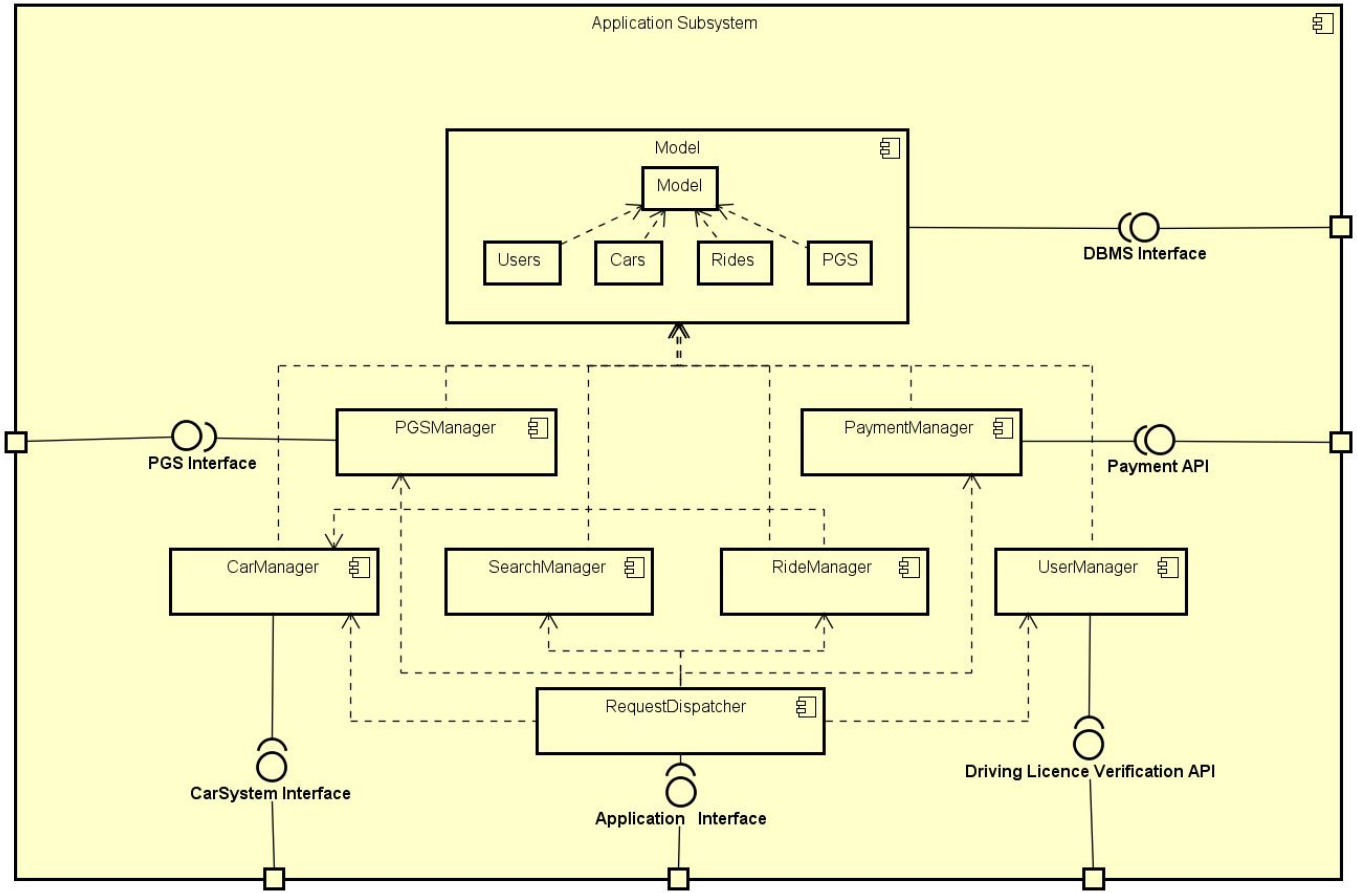
- Data structure:



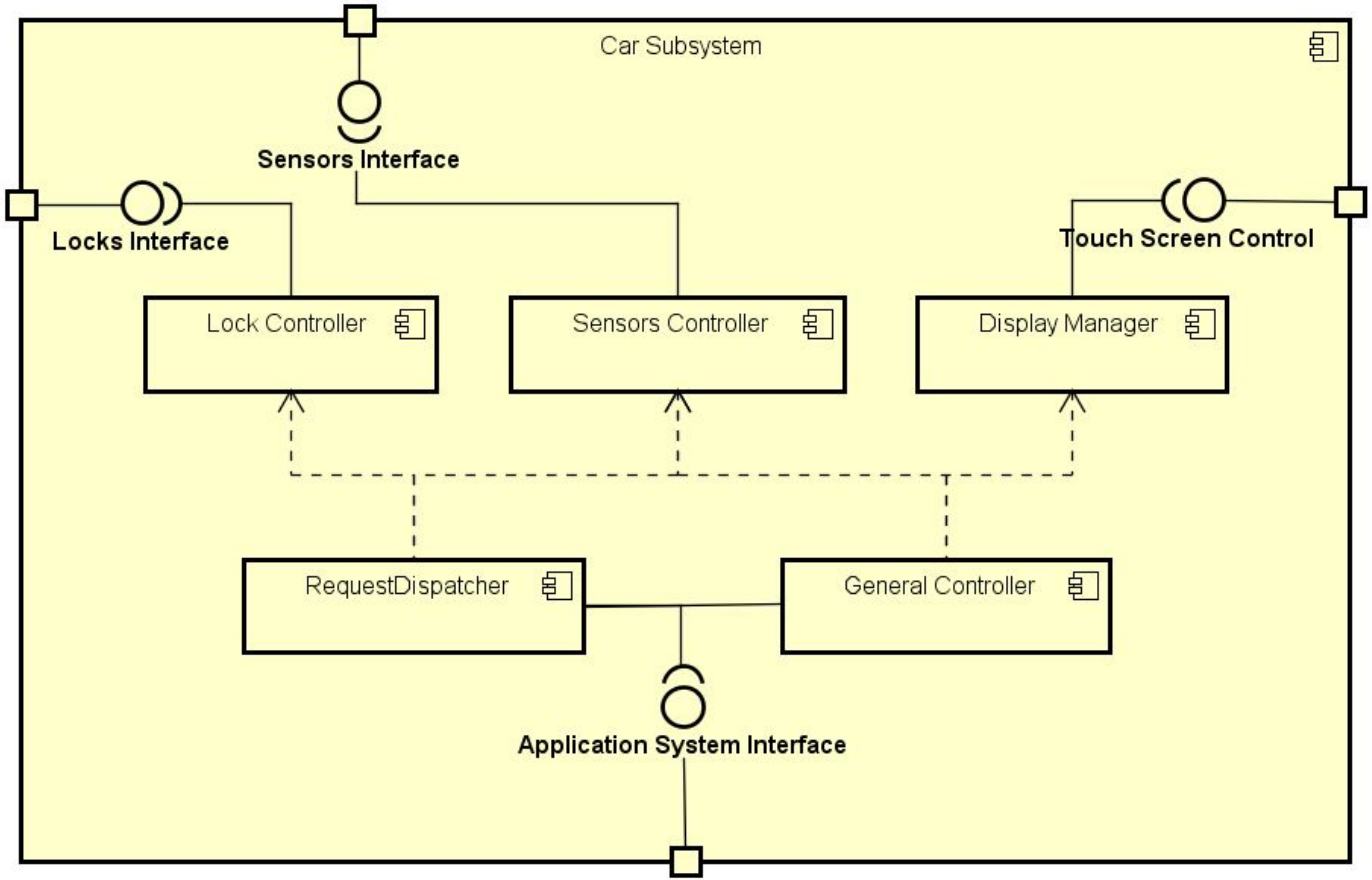
- Component view:



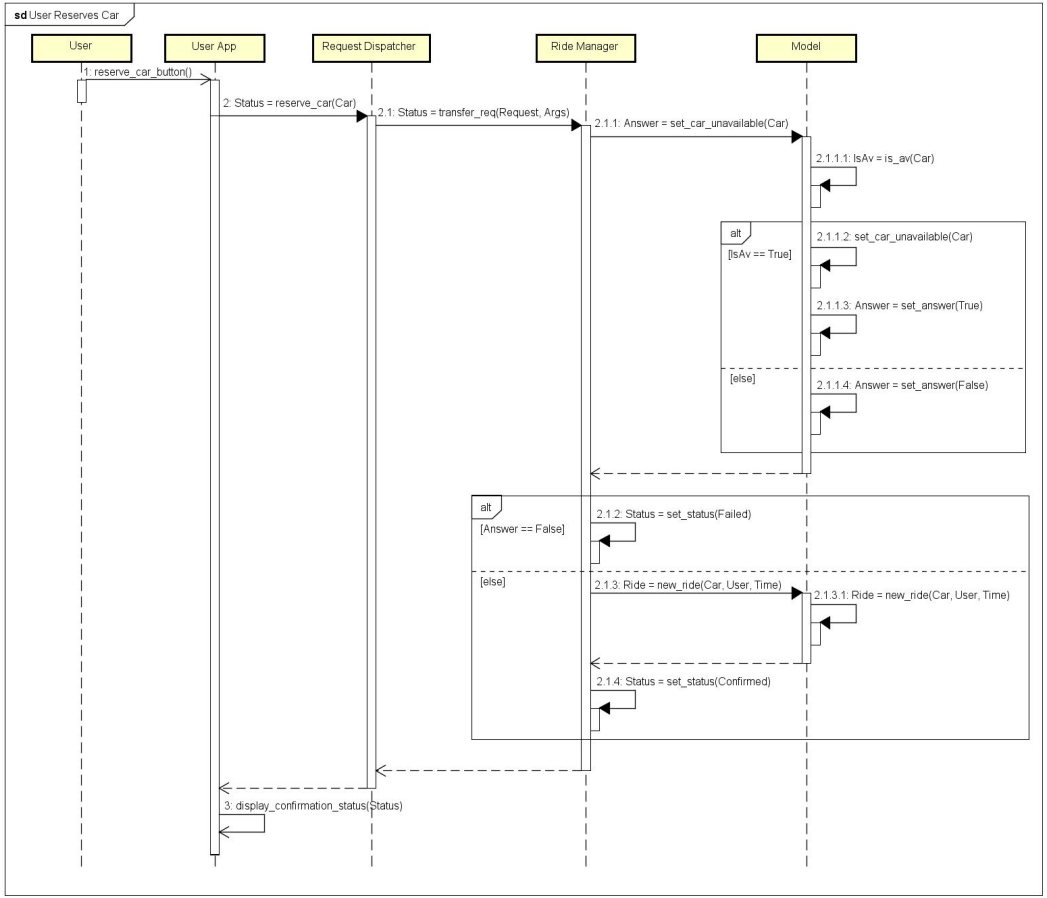
- Application Subsystem:



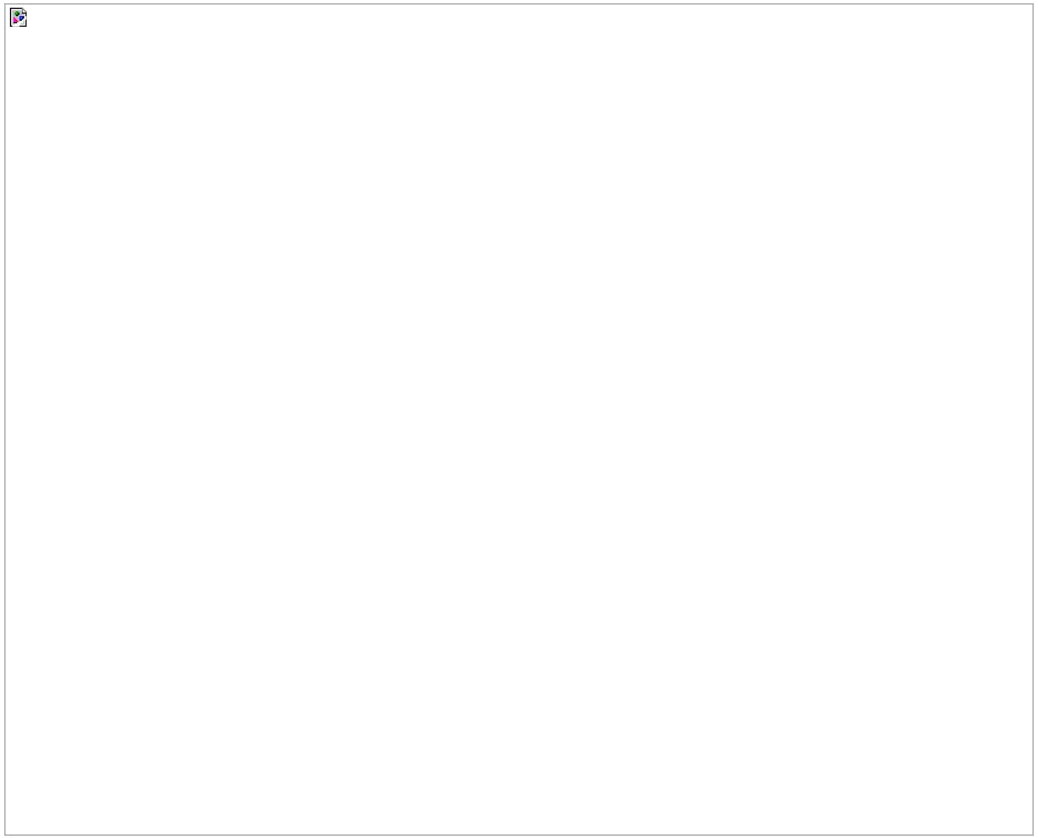
- Car Subsystem:



- Car reservation procedure:



System architecture:

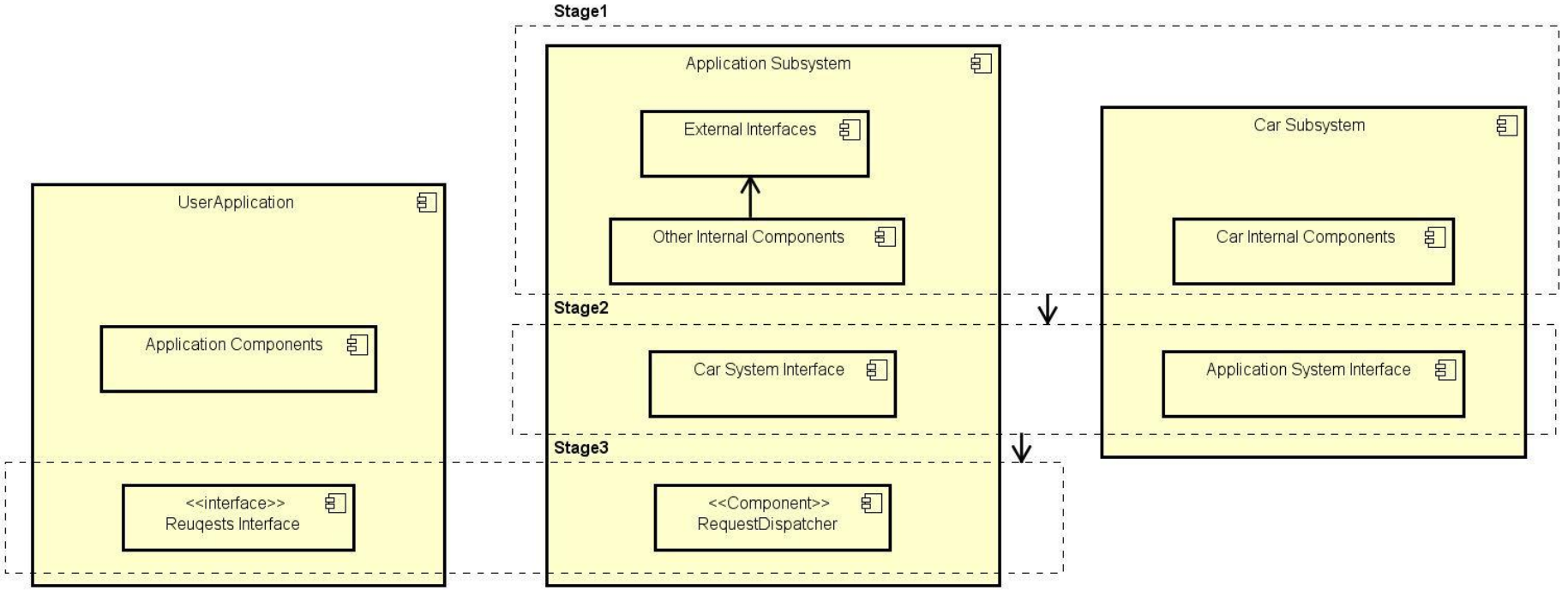


3.

Testing

Integration strategy

- Bottom up approach:



Drivers and stubs:

- PGS Manager Driver
- Car Manager Driver
- Search Manager Driver
- Ride Manager Driver
- Payment Interface Stub
- Request Dispatcher Driver

4.

Project Plan

Size estimation

- Function points:

Function Type	FPs
Internal Logic Files	49
External Logic Files	15
External Inputs	35
External Outputs	23
External Inquiries	22
Total	***144***

SLOC = 45 × 144 = 6480

Effort estimation

- With the COCOMO II approach we derive a total time to develop (TDEV) of: 7.9 months

4.

Code Inspection