



universidade
de aveiro

HCI - Assignment n.2

EZStand - The Easy Way of Buying a Car

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Lab Class - P6

Introduction

EZStand

- We had a debate with a friend that was searching for a car to buy
- After thinking about the state of car sales and the way the sale is conducted, from the search of the client for a car that suits him to the point the client pays for the car, we reached the conclusion that must be a way to simplify the process
- After thinking for a while an idea of an easy application to search cars to buy was thrown at the table and EZStand was born
- This will be a stand-alone project, so it will not have any relation with other courses

Project Objectives

EZStand

- Make a good application that allow stands to advertise their cars through it
- That application will also have a good and intuitive design , to make an easier experience to every types of user
- We expect that the users will find that car the suits their interests through or app, without visiting multiple stands with no results
- By doing a good choice of the requisites on the application , saves time and prevents confusion in the moment of buying the car

Personas

EZStand

João



João is a 25 year old man from Viseu. He works as a software developer at a company in Lisbon since he was 22 years old. He studied in Aveiro, where he got his graduation in computer science at age 21.

Since a few months ago that João thinks about purchasing a new car. Because of his parents living in his hometown and his local work being far from his residence. However, he does not pretend to spend a lot of money so he prefers a car in second hand.

João also works 8 hours a day, and going car stand by car stand would be very exhaustive. An app that would gather all the stands around him would be great for his problem.

Personas

EZStand



Maria

Maria is a 75 year old women from Santarém, mother of 2. She used to work as a nurse in her home town and is now reformed.

Maria is reformed since she was 65 and she is not a very adventurous women, so she usually does not spend her savings on travelling or expensive stuff.

Because Maria has a lot of money saved she wants to offer a car to her grandson Manuel. EZStand would help her a lot since Maria does not have a license car of her own, so looking at cars at home would be perfect for her situation.

Personas

EZStand

José



José is a 40 year old man, with his own car stand at Porto. He has 2 sons and both are in college.

José has not been making much money lately because not as many people visit his stand anymore. So sustaining both of his sons is getting difficult.

An app like EZStand would be life saving for his situation, since he would have more exposure, and more people would start buying the cars he has for sale.

Scenarios

EZStand

Scenario #1

João wants to buy a car in second hand, but he does not have time to visit car stand by car stand. So, he decides to use the app EZStand in the comfort of his house.

After João opens the app, it is presented a list of cars for sale near his location as well as an intuitive system of search that let's him filter cars by brand, price and others.

When he already has an idea on what car he pretends to buy, João calls the respective stand and schedules a date so he can meet an employee that works on the respective stand where the car is at.

After the call, the seller can go to his account and edit the car description marking it as reserved.

Scenarios

EZStand

Scenario #2

Maria bought a car to her grandson Manuel.

As she is very satisfied with her purchase Maria decides to rate the Stand where she bought the car from as a 5 out of 5.

This will take effect in the average rating of the stand, and it will show for all the users in the app

Scenarios

EZStand

Scenario #3

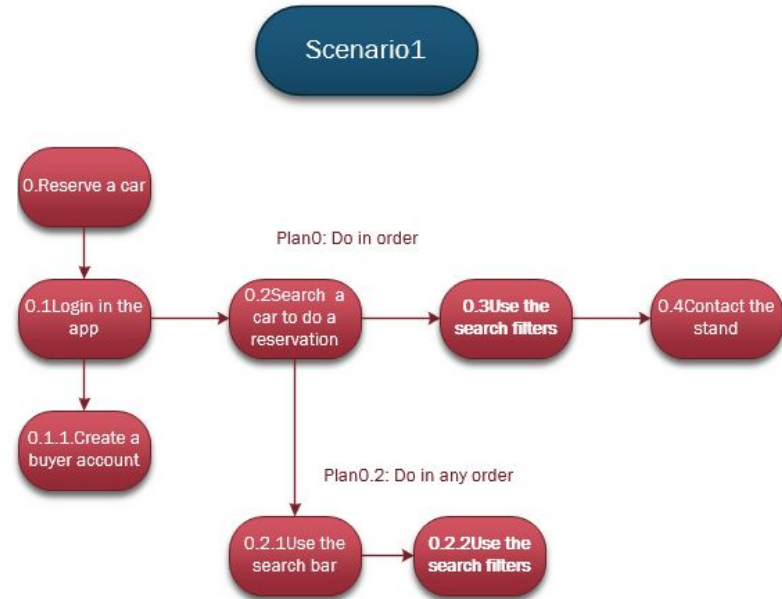
José wants to add his stand to the app.

After creating an account as a stand owner by verifying the location, he can add each car one by one.

For each car he needs to upload a photo and tell the characteristics (brand, year, km etc)

Tasks EZStand

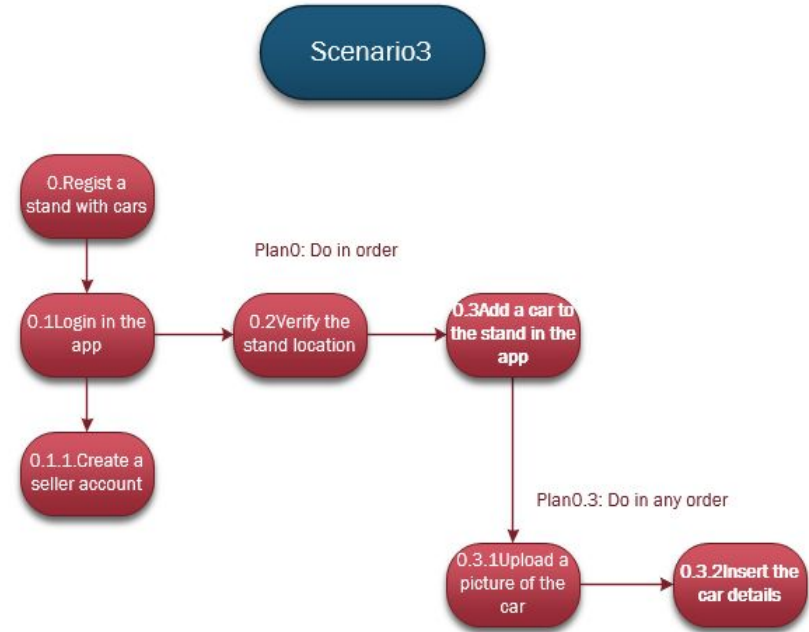
- This is an example of a task that becomes that you can perform with the application
- This is a task that is much easier doing through the application instead of visiting multiple stands
- If the user does not have a smartphone, don't know how to work with one or has access to Internet, he will not be able to use the application



Tasks

EZStand

- This is an example of a task that becomes that you can perform with the application
- This is a task that is much easier doing through the application instead of visiting multiple stands
- If the user does not have a smartphone, don't know how to work with one or has access to Internet, he will not be able to use the application



Requirements

EZStand

Requirements



- Allow users to see a car details, including the stand contact number in case they want to contact them
- Allow the making of a search for cars with filter based on brand, price and location of the stand (for example: to be possible to search for all BMW's in lisbon, that cost 5000 euros or less and organize by order of ratings of the stand where the car belongs to)
- Allow the making of a search of stands with filter based on location and rating of the stand as well as popularity (for example: to be possible to search all stands available in Aveiro and organize by order of ratings or popularity of each stand)
- Allow a user to see all cars available on a specific stand (for example: see all cars available to buy on stand X)
- Allow the user to rate the stand after the reservation of a car
- Allow an user that manages a stand to add, edit or remove a car
- Allow an user that manages a stand re-add a car to the stand after it being removed

Non-functional Requirements

EZStand

Requirements



- Low responsive time to complete a given task (loading data)
- Usability (user should understand the flow of the App easily)
- Reliability (when a user performs an important task, like making a reservation, it should be acknowledged with confirmation)
- Security (authentication on log-in)
- Screen adaption to device size
- Availability (app is available to download from app store or play store, user should be able to rate the app and contact necessary person via app (help tab))

Low Fidelity Prototype

EZStand



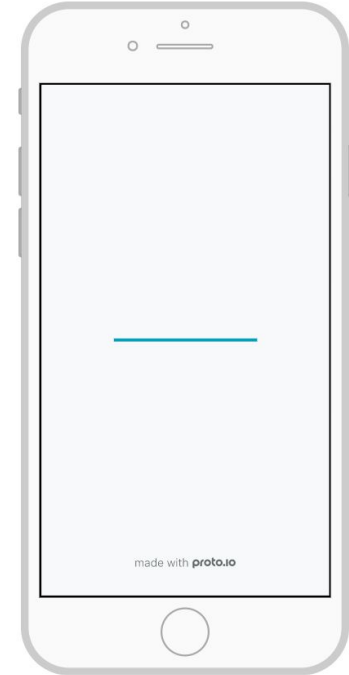
- Digital prototype made in Proto.io
- Main Features

Buyer Interface:

- Create Account and Log In method
- Searching a car by search bar or using filters
- See available cars from a stand
- Rate a Stand

Seller Interface:

- Add/Remove/Edit a car from a seller stand
- Create Account and Log In method
- See history of removed cars as well as having an option to re-add a car from that history



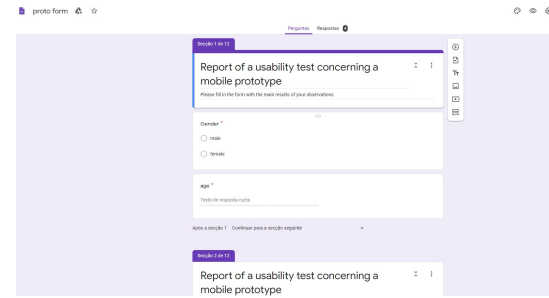
LFP User Evaluation

EZStand

- The evaluated were 2 females and 2 males, ages between 20 and 50
- They each performed 10 tasks and gave an overall opinion and suggestions about the prototype

Main Results

- All the evaluated completed all the tasks, with most of them being easy, but some like, evaluate a stand or edit a car, were specially more difficult



USABILITY TESTS

For the Client:

- Create account
- Give Rating to a Stand
- Observe the Cars of a Stand
- Observe the description of a car
- Log in and log out from the app

For the Seller:

- Create account
- Add and Edit a Car
- Remove a Car
- Re-add a Car
- Log in and Log out from the app

Platform used For the Functional Prototype

EZStand

- Main tools Used

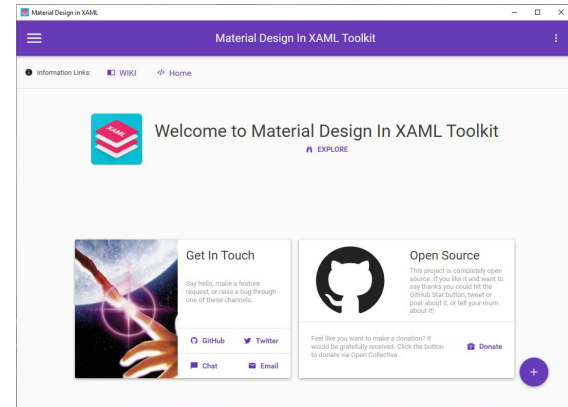
- C#
- Visual Studio (WPF)



- Main Library Used

- Material Design In Xaml Toolkit

- No specific hardware used besides our personal computers



User Evaluation of the Functional Prototype

EZStand

- The evaluated were 2 females and 4 males, ages between 20 and 50
- Results were overall better than the prototype evaluations (no questions were asked by the users during any of the tests, all tasks were completed correctly)
- Only one more task was given (change accounts settings)
- 1 User suggested implementing a database, the other 5 had no comment on additions to be made to the app

USABILITY TESTS

For the Client:

- Create account
- Give Rating to a Stand
- Observe the Cars of a Stand
- Observe the description of a car
- Log in and log out from the app
- Change account settings

For the Seller:

- Create account
- Add and Edit a Car
- Remove a Car
- Re-add a Car
- Log in and Log out from the app



Demo

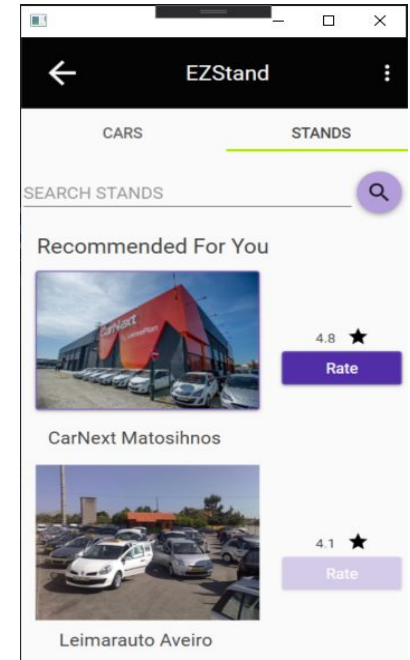
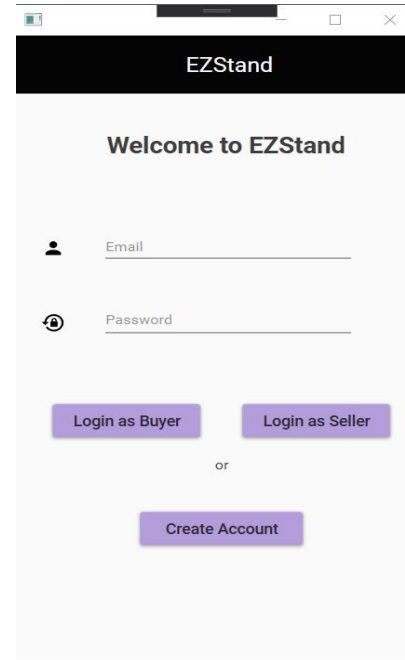
EZStand

Buyer Interface:

- See available cars as well as their description
- See available stands
- See available cars from a certain stand
- Rate a stand

Seller Interface:

- See own cars
- Add/Edit/Remove a Car
- See available cars from a certain stand
- See all the cars removed as well as having an option to re-add them



Both:

- Authentication system
- Searching a car by search bar or using filters

Future Work

EZStand



- Implement a way to see more photos of a selected car or stand
- Implement a DataBase
- Support videos of a stand or a car
- Add a history tab to the buyer interface as well as a favourites tab for both stands and cars
- Accept and create a section for stands that sell motorcycles

Acknowledgments

EZStand

- We want to thank our teachers for the classes and the help, our classmates for the tips and all the participants of the prototype and the app evaluation
- Effort of each group member
 - Bruno Pinto - 50%
 - João Vasconcelos - 50%

