Interface and Experience Design
6930 - Victor Ribeiro Cardoso
Assignment 2b - Digital Prototype Usability Test Document

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Executive Summary

The report here will focus on testing the performance of the users while using the Mobile Coffee Order application in the first digital form. It is important to remember that in the previous steps we have tested with a paper based prototype and have found few issues to be solved. Those issues were analysed and we have modified some details in the prototype with the hope to fix them.

For the digital prototype we are using the platform Figma to simulate a medium fidelity prototype. That allows us to test the users with a much similar app than the paper based. It is also important to mention that in this stage we still have not implemented colors in the application, which means it is in greyscales.

As the previous step, we also used the method of giving three main tasks for the users so we could analyse their frustrations and how intuitive it was to use the application here proposed. We also made a quick interview and questionnaire after the tests. The information gathered is helping us to build up a better application according to the users needs.

Finally, we also have made a heuristic evaluation with two UX professionals. They have reported that the application is overall very consistent and add few cosmetics and logic details that could be changed. Those recommendations will be also considered for the next stage of the project.

User Group Overview

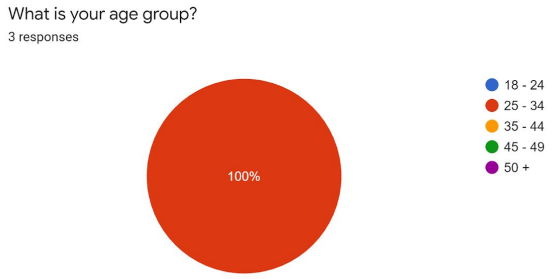


Image 1: age group - Source: author

All our users tested were in the age group between 25 to 34 and only 1 user has already used an app like the one we are proposing. We are aiming that target group considering they would be the one using technology to make their orders ahead. Also, some feature (eg. location sharing) could not be as familiar for different users as it is for those we tested.

For task 1, only one user ranked the task as medium difficulty, but most of them thought it was easy. According to our analyses during the test, the user did not find the main menu was sufficiently clear. In this sense, it will be necessary to do some changes in it to achieve a better intuitive application.

For task 2 and 3 all the users considered it easy. Which means the changes already made on the functionalities related were successfully and the users could use it fine.

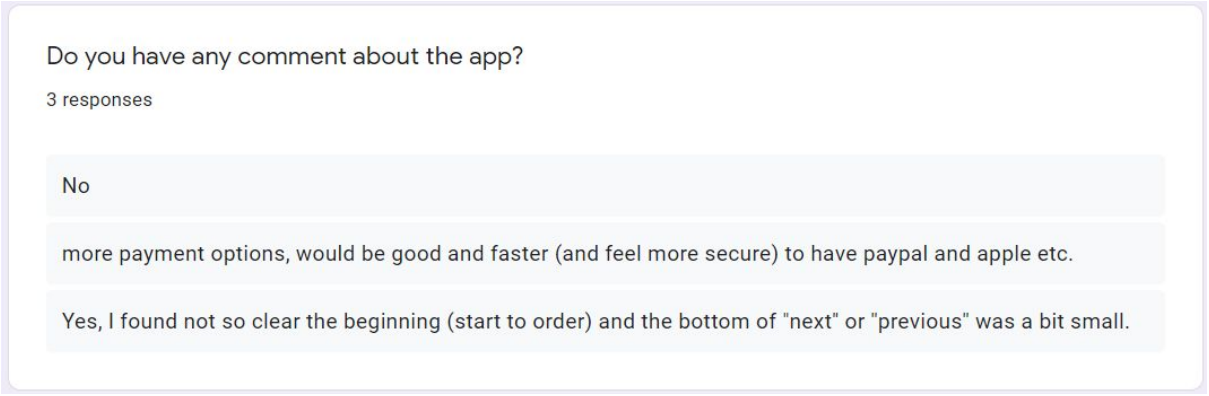


Image 2: age group - Source: author

Finally, in the questions we have asked for comments and the users suggested a few. Some of them were to change the “ORDER NOW” button and make the “next” button in the screen for specification 3 with a bigger font and in the bottom of the screen instead of the top. One user also recommended increasing the range of payment methods to Paypal option.

Overview of Tasks

For this test we used a similar method as previously. We remake the same tasks to see how better our changes were for the users. We also used three same users so they were already familiar with the application idea. Below, we have written the explanation of the task.

The following tasks were made to test the main functionality of the application here proposed. With the test we were able to evaluate if what is being proposed has an intuitive and friendly environment for the usage.

Task 1 - Order a latte with one sugar

- You are going to work.
- You want a coffee on the way.
- However, you know it is a busy time and you could lose time in lines.
- And you want just to pass by the coffee shop chosen and get your order.

Task 2 - Find your Rewards, also find out if the store you want uses recycling cup

- You become a regular shopper.
- You want to find out if you have some special offer or have accumulated enough points for your free coffee.
- You also want to make sure that your favorite store is using a recycling cup or eco friendly.

Task 3 - Go to your cart and delete one coffee from your order

- Your friend has asked you to bring a coffee as well.
- You have put through the coffee but he sent you a message saying he/she does not need it anymore.
- You want to delete your friend coffee from the cart and pay for just yours.

Testing Results

Prototype Outline

According to the paper based prototype, and the issues we have found in it, we have created the next prototype which was a medium fidelity app in digital form. That is composed mainly by wireframes representing location and functionalities of the application.

In the last prototype, we had found 6 issues and we have proposed solutions with the new prototype. They were "extra shot button", "Home Page", "cart design", "location set up", "Orders Previous" and "payment method".

The prototype was made in digital form with the help of Figma software. In this stage we are still using grayscale, then, adding colors was not necessary.

To have access to the prototype through FIGMA find it below:
https://www.figma.com/proto/h5HAyeTmGbEMLowkbzqQJw/Mobile-Coffee-Order-Wireframe?node-id=34639%3A0&scaling=scale-down
Below there are some images to show how the prototype was made. To find all the pages made, go to Apendice A.

Image 3 and 4: example of screens of the prototype - Source: author

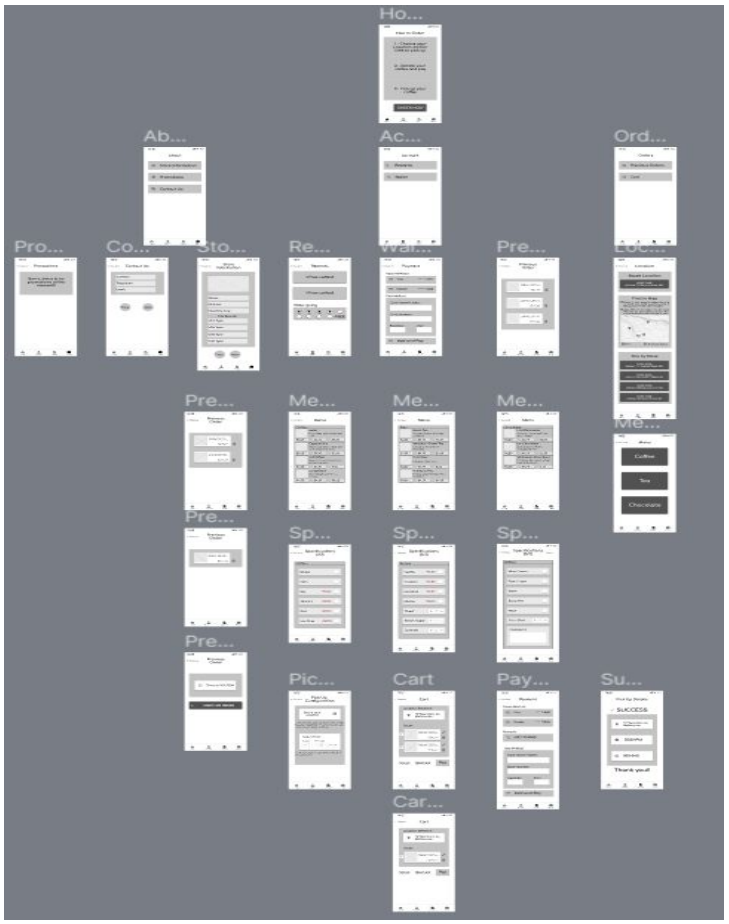


Image 5: Overview of prototype - Source: author

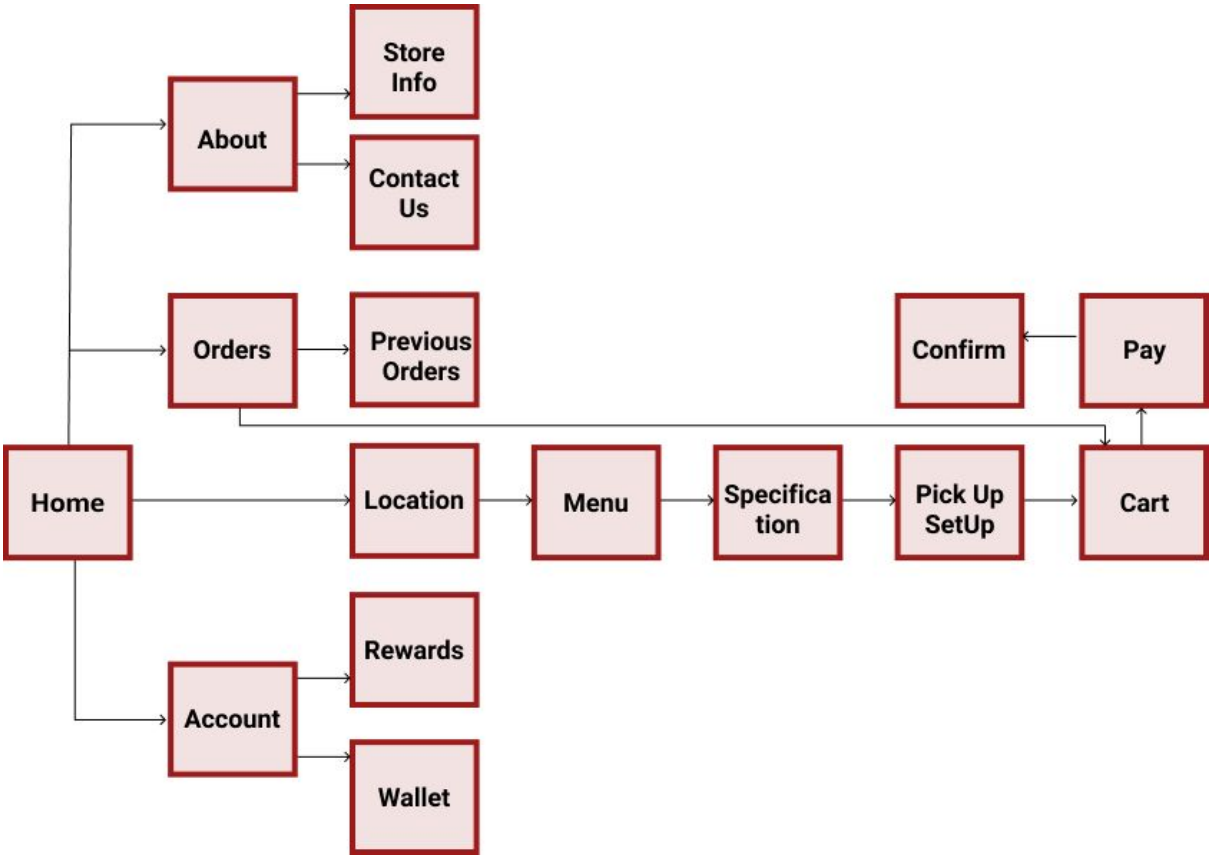


Image 6: Application Map - Source: author

Bugs

There were no bugs during the tests.

Testing Results

The users were tested with three different tasks.

TASK 1

Task Number: 1			
Overview: - Order a Latte with one Sugar - Main objective of the app, order a coffee			
	User 1	User 2	User 3
Completed	Yes	Yes	Yes
Duration	1 min	1 min	1 min
Clicks	10	8	11
Mistaps	3	1	4
Path Taken	- Pick Location - Menu - Specifications - Cart - Payment - Pick up Confirmation	- Pick Location - Menu - Specifications - Cart - Payment - Pick up Confirmation	- Pick Location - Menu - Specifications - Cart - Payment - Pick up Confirmation
Pain Points	- Home Page - "next" button	- "next" button	- Not found
Key User Comments	- Confused about the instructions in the beginning.	- Small next button. - Would prefer in the bottom	No comments
General Comments	- Confused about the instructions in the beginning. - Time was not so clear. - The top "next" button was too small.	- Would prefer in the "next" button in bottom	No comments

Table 1: Task 2 sum up - Source: author

The main functionality of the app is to be able to order a coffee, so that task was important to see how intuitive the app is while the user goes through the functionalities related. For this task it was asked to order a latte.

As soon the task was given, the users were still a bit not sure how the prototype would work. That is probably because of the miss knowledge of that kind of platform. Even though, as soon as they understood how it would work, the users managed to complete the task with no big issues.

However, even though it was implemented a new "home page", some of the users still thought it could be more intuitive. Moreover, user 1 commented on the missing colors, which was explained here and for the user that the colors were missing on purpose. Finally, the button “ORDER NOW” was not as clear as it was believed to be. In this sense, that could be considered an issue found and something to change in the future stage.

TASK 2

Task Number: 2			
Overview: - Find your Rewards (points) and also Find out if the store you are buying uses recycling cup			
	User 1	User 2	User 3
Completed	Yes	Yes	Yes
Duration	1min	1min	1min
Clicks	4	4	4
Mistaps	0	0	0
Path Taken	Menu Rewards Menu Store Info	Menu Rewards Menu Store Info	Menu Rewards Menu Store Info
Pain Points	No pain points	No pain points	No pain points
Key User Comments	Super Easy	Fine	No comments
General Comments	Super Easy	Fine	No comments

Table 2: Task 2 sum up - Source: author

For the second task, find the rewards and information if the store uses a recycling cup, all the users found it really easy. None of them had difficulties to do it and all commented how easy it was. No missing taps as well. Which means we have not found issues or pain points on the functionalities related to the task.

That task was made so the user could test for us how intuitive it was to find information about the business and also information that would bring them loyalty in the app. Finding easy information that is interesting for the user will be important to keep the user interested in using the app.

TASK 3

Task Number: 3			
Overview: - Make changes in your CART deleting one coffee from it.			
	User 1	User 2	User 3
Completed	Yes	Yes	Yes
Duration	1min	2min	2,5 min
Clicks	4	4	5
Mistaps	0	0	1
Path Taken	- Menu - Order - Cart - Delete	- Menu - Order - Cart - Delete	- Menu - About - Order - Cart - Delete
Pain Points	No pain points	No pain points	No pain points
Key User Comments	Super Easy	Fine	No comments
General Comments	Super Easy	Fine	No comments

Table 3: Task 2 sum up - Source: author

With task three it was asked for the user to find his cart and delete one or all of the drinks it was there. None of the users have reported difficulties to do that task.

Overview of Issues

In order to talk about issues, we need to remember the ones we have found in the paper based prototype.

- **Home Page : Severe**
- **Cart : Major**
- **Extra Shot Button : Minor**
- **Previous Orders and/or Favorite Order : Minor**
- **Location set up : Minor**
- **Payment Method : Minor**

For the ranking above, we have follow the below explanation:

Minor	Major	Severe	Catastrophic
Find an issue but still be able to finish the task. Little or no frustration reported.	Find an issue causing small frustration, still completed the task.	An issue caused large frustration. It needed help to complete the task.	Task not completed and big frustration.

We have designed the digital prototype believing we could fix the issues found. In this sense, with the results of the digital prototype we can conclude what issues were solved or not:

- **Home Page :** PARTIAL SOLVED!
  - Although we created an easy home page, users still believe it could be better.
  - However, we managed to reduce the frustration to a minor problem. They were not strongly frustrated and still completed the task easily.
  - That issue will now be considered as minor.
- **Cart :** SOLVED!
  - Users thought it was really easy to find the cart and how it was designed. Which solved the issue.
- **Extra Shot Button :** SOLVED!
  - We added the button and the users could easily find the button on the proper page.
- **Previous Orders and/or Favorite Order :** SOLVED!
  - Finding the previous order and the cart was easier with the digital prototype as well.
  - Any user reported difficulty with it.
- **Location set up :** Not tested
  - We have not tested. However, the location was clear to the user.

    - There was no problem reported.
- **Payment Method :** SOLVED!
    - It was added in the functionality of a wallet and also easier to use the rewards while doing the check out.
    - Paypal will also be implemented in the future prototype.

Post Questionnaire Result

After the tes, we have given 3 quick questions about the difficulty of the task and 1 question asking if they had something to add or delete.

Below, the graphs with the answers of the users. Only task 1 had a ranking with medium level of difficulty. Task 2 and 3 were considered really easy by all the users, as we already have reported in sections before.

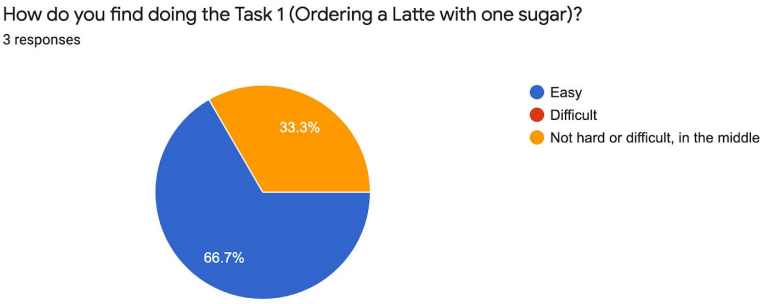


Image 7: Task 1 ranked - Source: author

Image 8: Task 2 ranked - Source: author

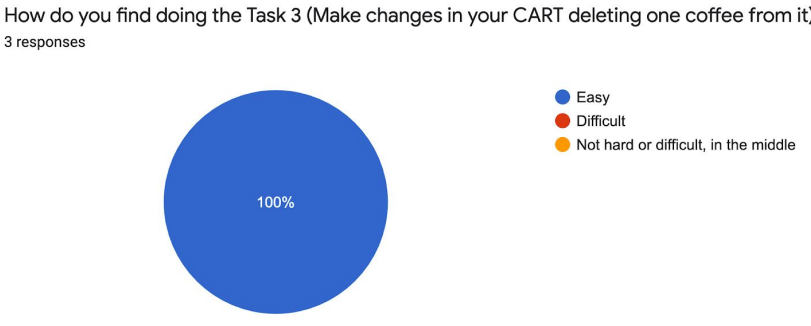
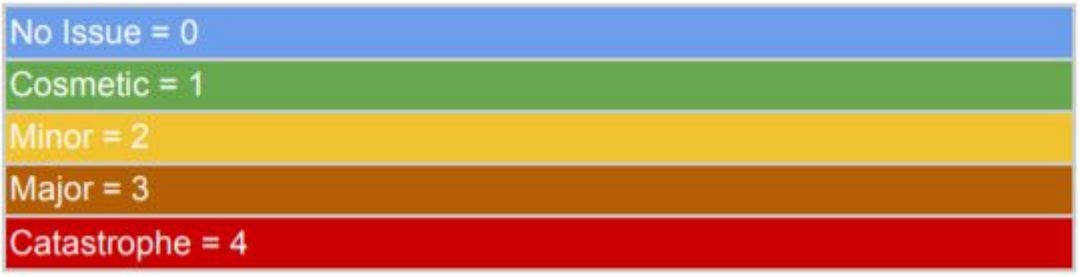


Image 9: Task 3 ranked - Source: author

Heuristic Results

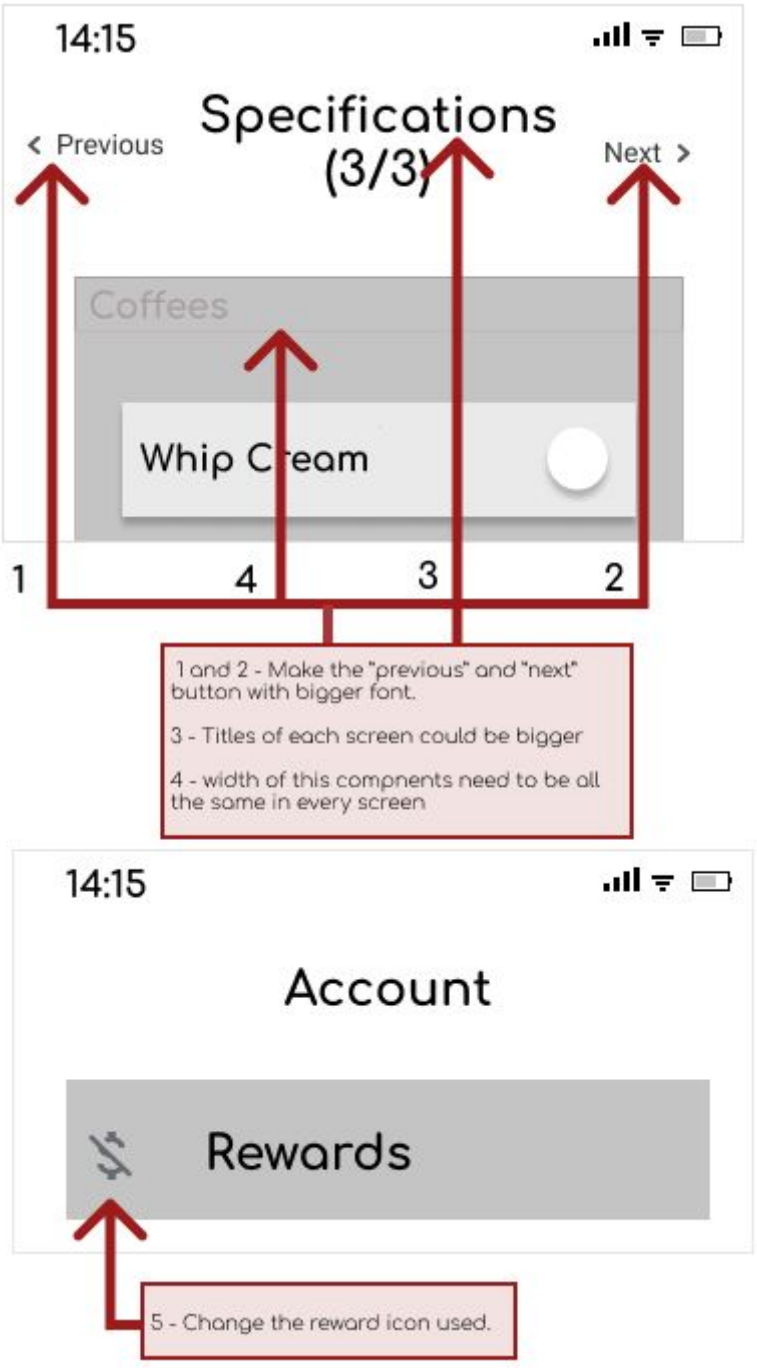
For the Heuristic evaluation we asked for two UX/UI professionals to evaluate the application. They are Daniel Hayashi and Michela Borgato. They analyzed all the applications to give consistent feedback with the help to the following chart:



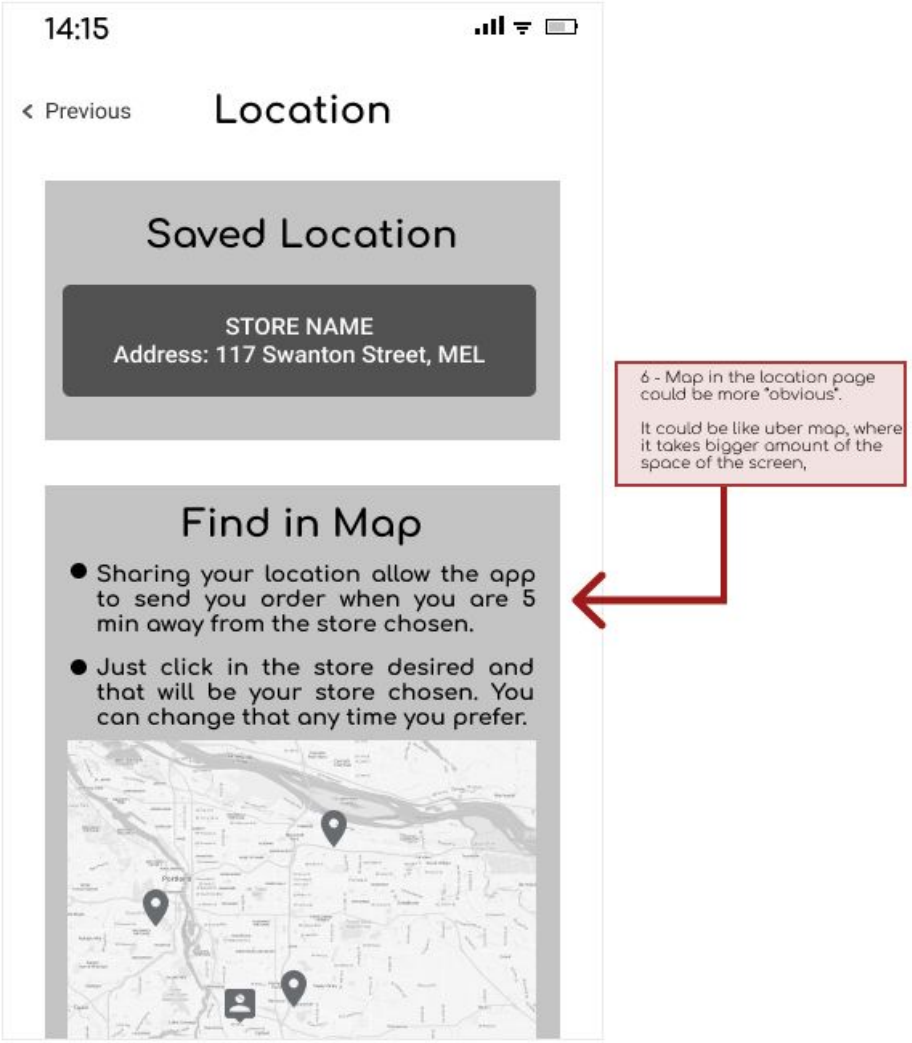
According to the professionals evaluation the app was in general well consistent. However, the pointed few cosmetics issues:

- Font size for Heading / titles in the pages could be bigger.
- "Next" and "Previous" buttons need to be bigger.
- Icon in the Rewards button can be changed.
- Location page needs to have the map more “obvious”.
- Need an easier way to make larger orders.

See in the next page representations of the recommendations from the designers. Those recommendations will be considered for the next prototype.



Images 10 and 11: Results Heuristic Evaluations - Source: author



Images 12: Results Heuristic Evaluations - Source: author

Overview of the Results

In the previous steps we have built a paper based prototype and realized many tests to evaluate how our application was filling the user's needs. The results showed some issues that needed to be fixed before going further with the project.

After the paper prototype was made and the results collected, we were able to work in the digital prototype with the help of the software called Figma. That prototype was made after analyzing and thinking how we would fix the issues found in the previous stage of the project.

With the prototype ready, we performed usability tests with three different users in our target group, here in this document detailed. Those tests also helped to analyze the issues we have found in the first prototype and most of them were solved. However, there is still one issue reported that was not fully solved, the home page design.

Finally, it was asked for two UX/UI professionals to perform a Heuristic evaluation in our prototype. With this evaluation we had a deeper look in the application here proposed. The evaluators considered the application well consistent and only pointed out a few cosmetic flaws that will be considered for the next step. Those are:

- Font size for Heading / titles in the pages could be bigger.
- "Next" and "Previous" buttons need to be bigger.
- Icon in the Rewards button can be changed.
- Location page needs to have the map more “obvious".
- Need an easier way to make larger orders.

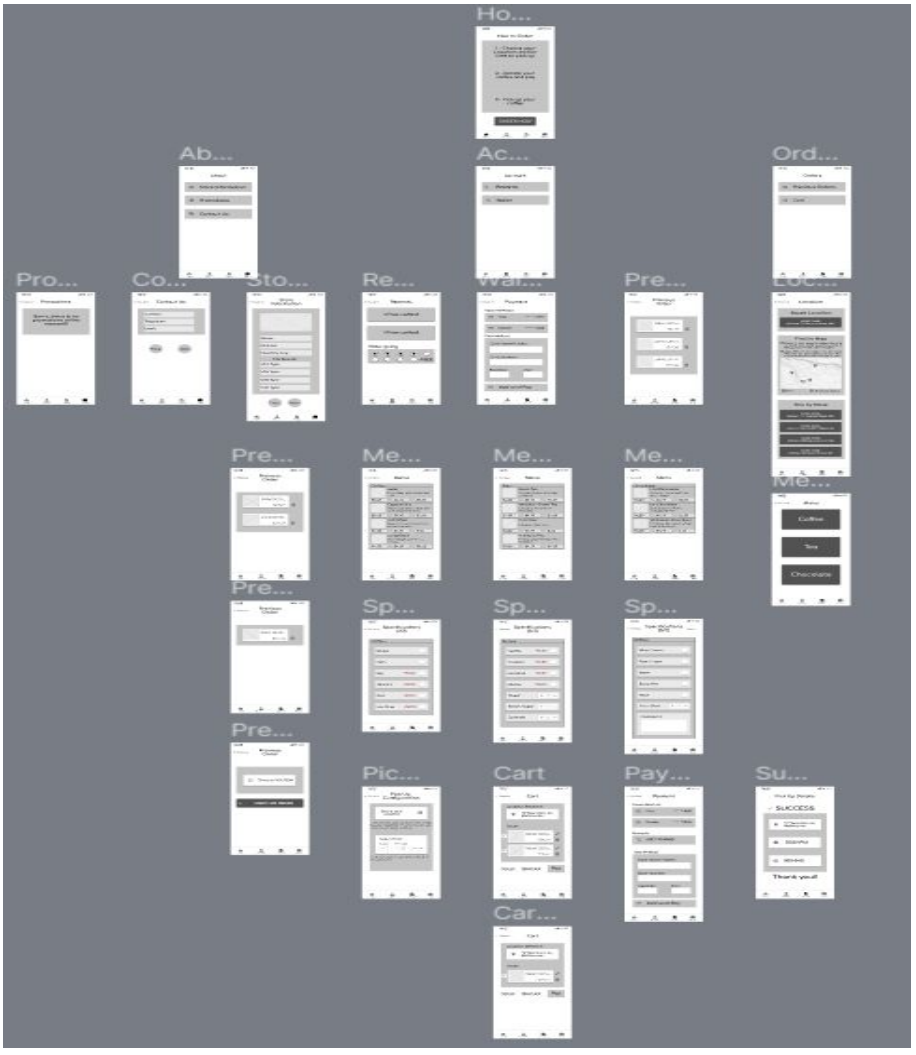
References

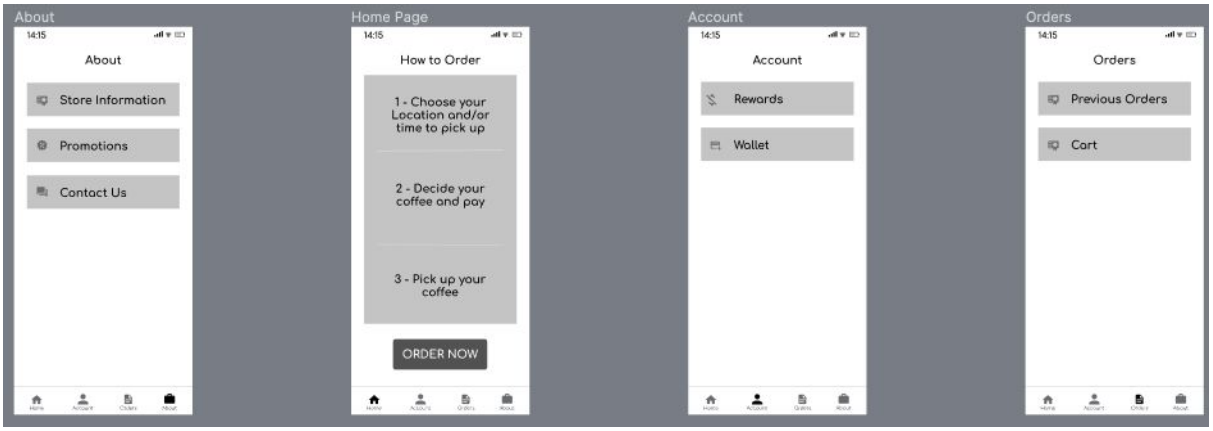
FIGMA, 2020. Accessed by: www.figma.com

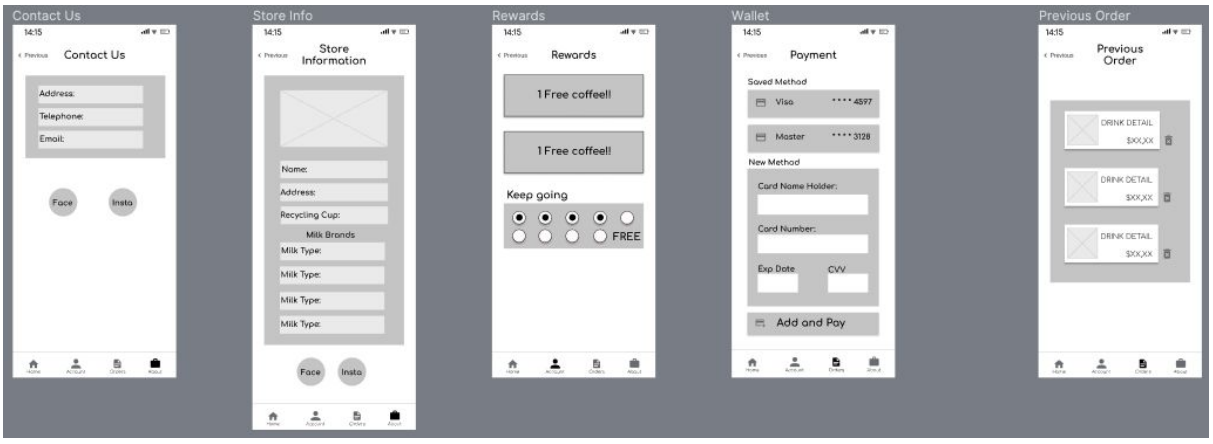
Appendices

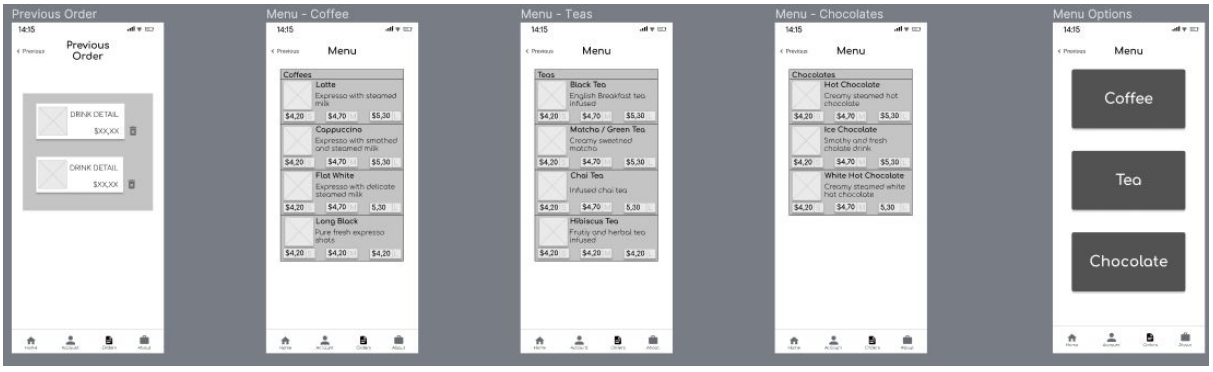
A. Digital prototype (Figma)

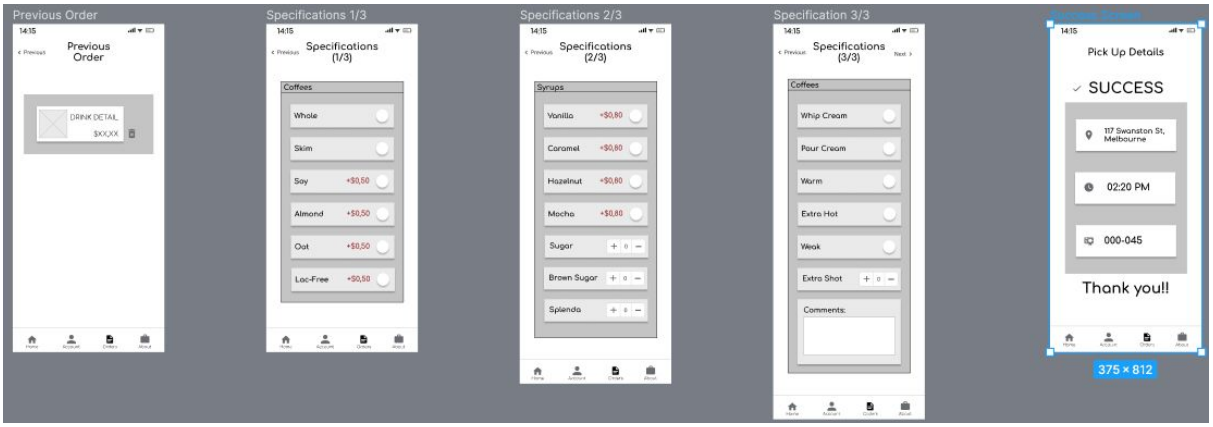
To have access to the prototype in figma, click in the following link: https://www.figma.com/proto/h5HAyeTmGbEMLowkbzqQJw/Mobile-Coffee-Order-Wireframe?node-id=34639%3A0&scaling=scale-down











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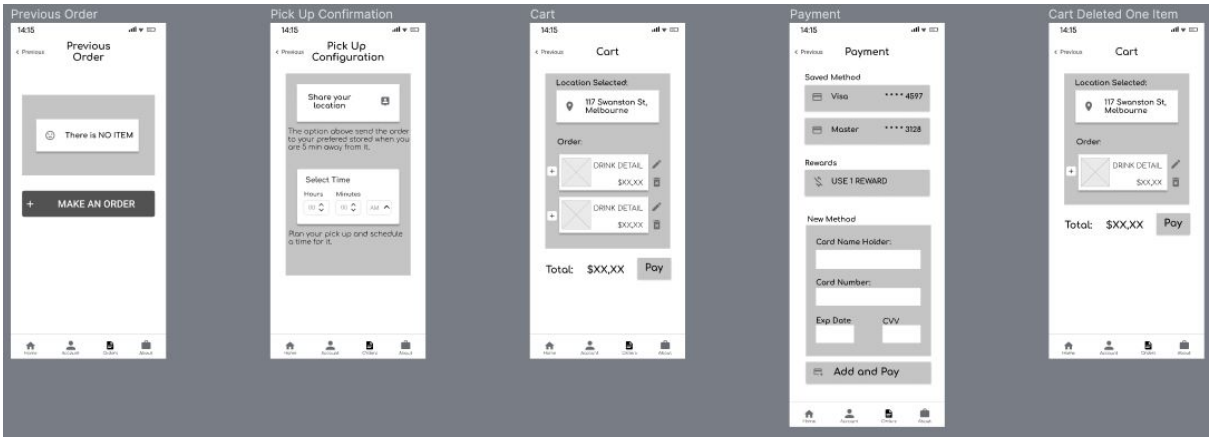
Previous Order
Previous Order
There is NO ITEM
MAKE AN ORDER
Pick Up Confirmation
Pick Up Configuration
Share your location
Select Time
Cart
Cart
Location Selected:
117 Swanston St, Melbourne
Order:
DRINK DETAIL
$XX,XX
Total: $XX,XX
Pay
Payment
Payment
Saved Method
Visa **** 4597
Master **** 3128
Rewards
USE 1 REWARD
New Method
Card Name Holder:
Card Number:
Exp Date
CVV
Add and Pay
Cart Deleted One Item
Cart
Location Selected:
117 Swanston St, Melbourne
Order:
DRINK DETAIL
$XX,XX
Total: $XX,XX
Pay

Location Set Up
Location
Saved Location
STORE NAME
Address: 117 Swanston Street, MEL
Find in Map
You
Available Stores
Pick by Store
STORE NAME
Address: 117 Swanston Street, MEL
STORE NAME
Address: 200 Elizabeth Street, MEL
STORE NAME
Address: 456 Bourke Street, MEL
STORE NAME
Address: 300 Queen Street, MEL

Cart Deleted Two Items
Cart
Location Selected:
117 Swanston St, Melbourne
Order:
There is NO ITEM
ADD DRINK

B. Documentation from the test

To access the results of the questionnaire, please click in the link below:
https://forms.gle/NpHygDZStvbsuWLc6

B1. Script

Hi,

I am Victor Cardoso and I am studying UX and UI design for my bachelor degree in IT at AIT. I am developing a smartphone application for Coffee Mobile Order. The app focuses on ordering a coffee through the app so the user can skip lines, schedule drinks at the time desired and also make big orders.

For this test it was created a digital based prototype with medium fidelity. In this sense, to understand how intuitive the app is proposed, we are going to test it with real possible users (you).

The test will be recorded, but not your face, only the paper (or computer) while you are doing the tasks asked.

We are going to give you a main scenario and with that we will give you 3 tasks to be completed. I will not be able to tell you what you need to do to complete the task, but I can help with any doubt during the test to clarify some tasks that might not be well comprehensive. However, there is no right or wrong answer, just feel free to click where you feel like to complete the tasks.

I will start recording.

- Start Recording
- Give Scenario
    - You are going to work and you want to grab a coffee on your way. However, you know it is a busy time and you don't want to lose time in a line. In this sense, you will use this Coffee Mobile Order app to skip the line and have your coffee on the time you want.
- Give TASK 1
- Give TASK 2
- Give TASK 3
- Stop recording

Ask the user to fill the Post Questionnaire. After asking if they have any comment or opinion about the prototype.
Thank the participant.

B2. Videos

To have access to the Usability tests and Prototype functions videos, please go to the following link:

https://drive.google.com/drive/folders/1GS4hdQTsiNx8Gov77GL8wvOlZY07sBR5?usp=sharing

C. Heuristic Evaluation

To have access to the Heuristic evaluation performed by the two professional, please click in the following link:

https://drive.google.com/drive/folders/1rdokAZ0_yGPPnIQbYsggv8cHl-PeAsMJ?usp=sharing