Interface and Experience Design
6930 - Victor Ribeiro Cardoso
Assignment 3b - Usability Test Report

Executive Summary

For this project it was thought and developed a mobile application where a customer of a coffee shop could schedule its order beforehand. The main idea of the app is to reduce lines and the process of ordering a coffee. The app was also developed during COVID 19 scenario, where it also proposed to reduce the direct contact between many people. The app will help in the following:

- Facilitate coffee order process
- Avoid lines, crowd and unnecessary contact
- Schedule orders (small or big orders)
- Get the coffee on the way to a commitment and not be late
- Maintain Loyalty and Previous orders

To consolidate the idea and understand the need and gap filled of the app here proposed, it was was done a vast research using different techniques, as follow:

- Survey for qualitative and quantitative data
- Empathy map
- Personas
- Journey Map
- User Flow
- Market Research

With the research done, it was performed a card sorting testing and built the first prototype for the app, a paper based prototype. A questionnaire before and after the techniques were also done to observe and document the user interaction. With those it was possible to collect information and identify main issues of the app.

Following it was created a second prototype, this time in a digital grayscale using the software Figma. That prototype was created correcting the issues first found in the previous tests. Here it was analysed the user interaction with a test based testing, oral interview and few post questions. We also performed a heuristic evaluation with UX professionals. Again, the results of the test helped understand if the issues before found were solved, what was good and what could be improved.

In the sequence, with the results and analyses of the previous tests, it was possible to create a colored version of the prototype. That version was build considering the issues before found and we finally performed a final test with the user.

Overview of Proposal

The main idea of this app is to give a VIP experience with speed and quality. With the app, the user will mainly be able to choose the store and time to pick up its coffee with all the customizations desired. The app can easily help clients to plan ahead their pick up in a safe environment. Will also help to reduce the time of the user in the store and also avoid the contact with other people. It also will be cleaner with no cash payment.

The app would be mainly to achieve more users during Covid19 pandemic lockdowns, with a safer process, and also during the busy environment Melbourne provides. The café would be beneficiated with more daily transactions and would give special treatment for each user.

Personas, Storyboards and Journey Maps

For the project it was created with three main personas with a storyboard and Journey map. In this report, it is displayed only one of them as an example. Creating the three personas for the helped to visualize better the needs and interests of our ideal users. Following, see Joshua as a persona.

Joshua Berthelsen

Bio

Joshua is a full-time product-developer for a women clothes brand in Melbourne. He loves the fast pace environment and the coffee culture in Melnourne and he normally drinks his usual almond strong flat white before work. However, he usually gets late to work and sometimes can not have it on his way to work. He also prefers to consume eco friendly products.

Goals · Interest

- Have his coffee every day without getting late for his commitments.
- Consume ecofrindly products. (recyclacle cups)
- Availability of good non-dairy products and being able to specify that in the order.
- Accuracy and good quality of the drink.
- Been able to "alert" the establishment when he is close so the coffee can be prepared in advane but not get cold.

Pain Points · Concerns

- Wait in long lines and in extra contact with people during a pandemic.
- Places that does not use recycling cups.
- Too much steps in the app to get to hes goals (coffee).
- Lack of information about products: callories and origin, for example.

Motivations

Accuracy	55%
Agility	80%
Health	81%
Money	35%
Eco Friendly	100%

Technology

Personality

Extrovert	
Analytical	
Sensing	
Judging	

Brand

COUNTRY ROAD

Joshua Berthelsen
32, Product-Developer

Melbourne CBD
VIC - Australia

DESIGN ECO FRIENDLY
CREATIVE CURIOUS

" "I need my daily coffee to function properly for work or any other activity. However, I take serious the ecosystem and will go only in cafés where uses mainly recylcing cups."

Image 1 : Persona Joshua - Source: author
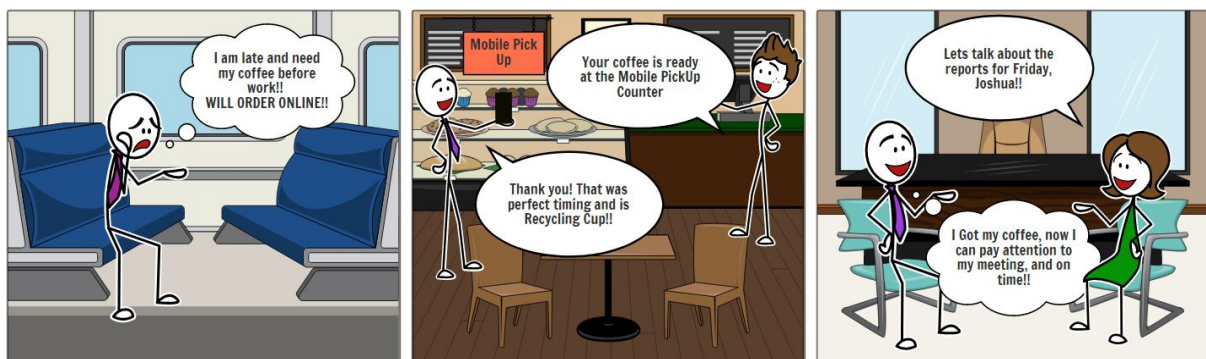
Image 1 : Persona Joshua - Source: author

	Awareness / Discovery	Consideration and Decision	Pick Up	Post-Experience
Description	I am late for work, but I need a coffee on my way. Need to find one that uses recycling cups.	On my way to work and to get my coffee, can I check my coffee order is being done?	Arriving in the store, how do I know where I can get my coffee?	Receive a notification for rating the mobile order process.
Actions	• Open app • Check information • Decide store	• Reopen app • Check order detail • Close app	• Look for the mobile order hand off place • Check the name/order detailed • Get the coffee	• Click in the notification • Fill ou the question • Send it
Customer experience	Cry	Sad	Friendly	Happy
Motivations	• Quick process • Accurate coffee • Recycling cup	• Punctuality • Quick process • Accurate coffee	• Get product done • Be the right coffee • Be fast and obvious	• Give feedback • Be fast in that • Have a reward from it
Questions	1. Could I get one in less than one minute? 2. Does it comes in recycling cups? 3. Are there dairy-fre milks?	1. Is everything all right? 2. Am I going to be late or not? 3. How can I check it?	1. Where is my coffee? 2. Is that my coffee?	1. Why would I do a feedback? 2. Is that fast?
Pain points	✕ Product health information ✕ Eco freindly place ✕ Diversity in items	✕ Anxiety without knowing if his coffee is being done ✕ Pressure to not be late	✕ Not find the coffee ✕ Not be able to check which is his coffee	✕ Long feedback process ✕ Not getting something back
Ideas to improve	1. Make sure custumer has all information needed 2. Faster and accurate process 3. Eco friendly products been used and symbols in the app	1. Current situation of order 2. Accurate information in order details	1. Make the place to pick up obvious and clean 2. Easy check up	1. Make 2 quick question for feedback 2. Give rewards for using the app

Image 1 : Persona Joshua - Source: author

Market Research

With the research we could find three main options for this kind of product here in Australia, Melbourne. Most deliver similar ideas:

Skip

What is it? App for food and beverages, coffee also are included in the range.

Positives:
+ Many options of establiments
+ Can find restaurants with you location, but does not show map
+ Can customize and has brief specifications (not as much as could have, though)
+ Basic Loyalty point included
+ Free App

Improvements:
- There are no extra information about eco friendly products
- Loyalty/reward could have more sales and special offer for regular users
- Does not have an option to send order with real location
- Could have an option to find the locals in the app with an real map
- Every establishment in the app has the same general design. That can be a problem with bringing comfort and close loyalty from the users. A strong branding/customization for each kind of establishment could bring more reliability.

Hey You

What is it? App for food and beverages, coffee also are included in the range.

Positives:
+ Can find local with a real map locator
+ Few options of establishment
+ Free app

Improvements:
- The map does not work as proper as could work
- Does not have easy loyalty program included
- Does not have an option to send order with location

Starbucks Online Order

With research we can see three main options for this kind of product. Most deliver similar ideas, but they do not provide some extra information and features as we propose:

What is it? Website for coffee order for Starbucks brand, does not have an app in Australia

Positives:

+ No extra charges in ordering online
+ Strong branding and relationship with it
+ Free access

Improvements:

- Only one store has the Mobile order option
- Does not have all the range of coffee they offer regularly
- Difficult access to the website (it need to write the specific web or it will not find easily in google etc)
- Loyalty program is not connected with the mobile order

Overview and results of all testing methods and techniques

Card Sorting

According to the previous process we have made (target users, personas, journeys maps and user flow) we came up with 22 cards that would represent the features of the app. In this sense, we asked for 5 testers to organize the cards according to their intuition. The results of this test gave us the possibility to change our site map according to users needs and expectations.That method was done with the objective to organize the application in the way it would be more intuitive for the user.

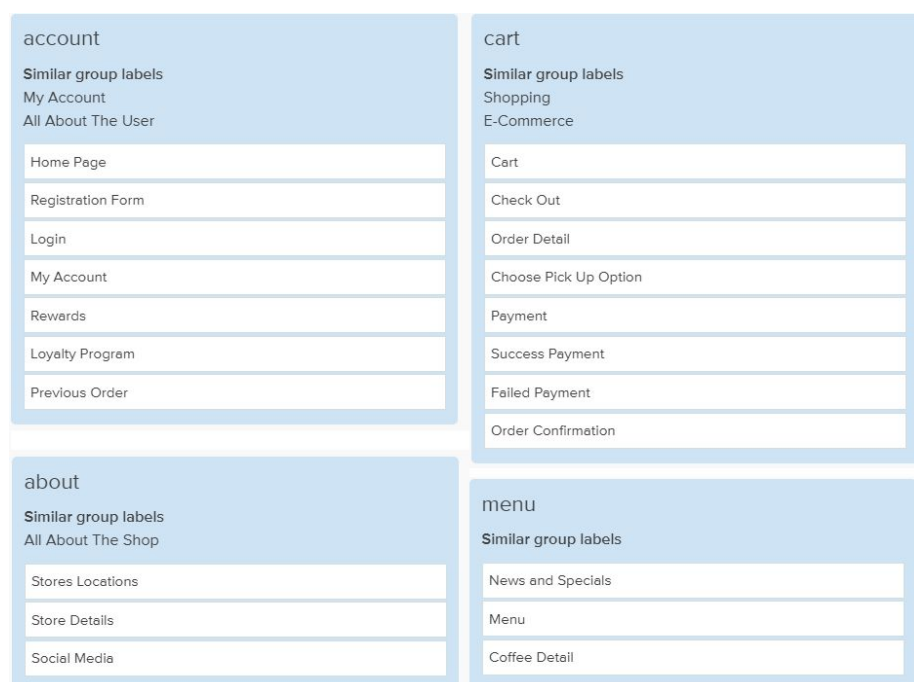The image below was the result of the card sorting after our test:

account	cart
Similar group labels	**Similar group labels**
My Account	Shopping
All About The User	E-Commerce
Home Page	Cart
Registration Form	Check Out
Login	Order Detail
My Account	Choose Pick Up Option
Rewards	Payment
Loyalty Program	Success Payment
Previous Order	Failed Payment
	Order Confirmation

about	menu
Similar group labels	**Similar group labels**
All About The Shop	
Stores Locations	News and Specials
Store Details	Menu
Social Media	Coffee Detail

Image 1: Cards sorted by similars result - Source: author with use of OptimalWorkshop

The image below is a dendrogram that shows in proportion how the tester agreed with each other. That image clearly identified four main groups that were differentiated in 4 colours: yellow, orange, blue and pink. It also sums up what we have seen in the previous tables. Analysing them helped us to come up with the main 4 features that we grouped our new app map: Home Page, Account, Orders and About.

Best merge method

The best merge method often performs better than the actual agreement method when your study has fewer participants. It makes assumptions about larger clusters based on individual pair relationships.
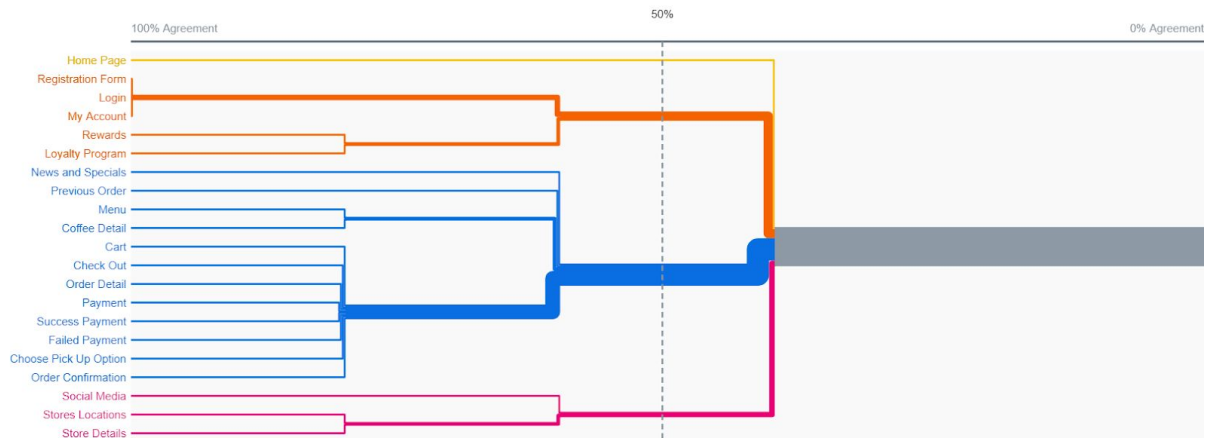

Image 2: Cards sorted by Best Merge- Source: OptimalWorkshop

Task based - Paper Prototype (Grayscale)

Drawing basic wireframes with low fidelity, by hand, representing our app we have created a Paper Based Prototype. The draws were added to a software called Marvel App. Marvel helped to create a connection between the app pages. That made it possible to build a function, low fidelity, app that could be tested with real users and collect information from their interaction while testing it.

The link for the paper based prototype is the following:
https://marvelapp.com/prototype/5d1b2ii

For the prototype we used the following draws:

Image 3: Paper Based Prototype - Source: author

According to our test there were no catastrophic issues, but 1 Severe, 1 Major and 4 minor. All the issues were considered and fixed in the best way possible in the next prototypes.

The issues were the following:

- **Home Page : Severe**
  - Users 1, 3, 4 and 5 find the homepage as the set up location not intuitive.
  - The homepage should be clearer and more basic
- **Cart : Major**
  - The way information was presented might have caused difficulties.
  - Finding the cart could be more intuitive in different places.
- **Extra Shot Button : Minor**
  - User 1 could not find a button for an extra shot.
- **Previous Orders and/or Favorite Order : Minor**
  - User 4 reported a difficulty to find favorite orders.

- ○ It was recommended that we create a separate part for Favorite order and other for the previous orders.
- **Location set up : Minor**
    - ○ User 3 and 4 thought the set up location could have a different page and not be asked every time it started an order.
- **Payment Method : Minor**
    - ○ User 1 and 4 reported that a saved payment method would be interesting to have and would facilitate the process.

Task based - Digital Prototype

With the 6 main issues that were found, it was proposed solutions with a digital prototype. The prototype was made with the help of Figma software. In this stage it was still using grayscale.

In this sense, with the results of the test with digital prototype it was concluded 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.

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
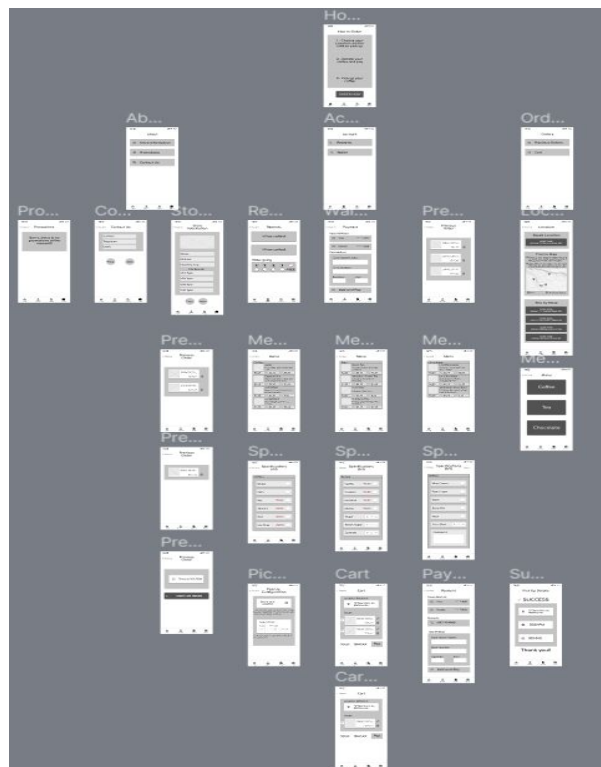Below there are some images to show how the prototype was made.

Image 4 and 5: example of screens of the prototype - Source: author

Heuristic Evaluation

For the Heuristic evaluation it was 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:

No Issue = 0
Cosmetic = 1
Minor = 2
Major = 3
Catastrophe = 4
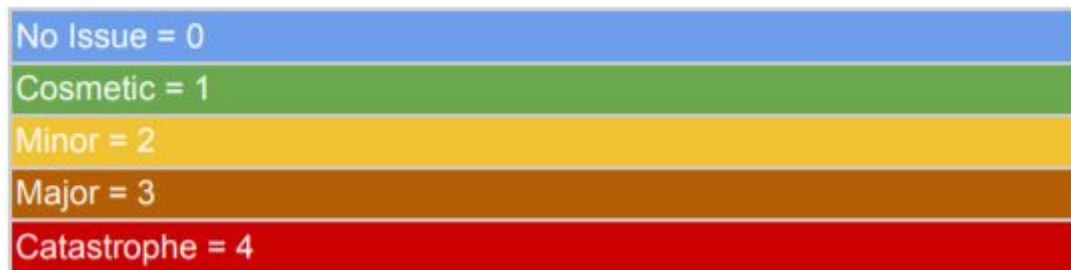
According to the professionals evaluation the app was in general well consistent. However, they have pointed few cosmetics issues:
- Font size for Heading / titles in the pages could be bigger.
- "Next" and "Previous" buttons need to be bigger.
- Icon in the Rewards button can be changed.
- Location page needs to have the map more "obvious".
- Need an easier way to make larger orders.

Overview of the application development

Three main steps for the prototype have marked the development of the application. First the paper based, second the digital in grayscale and third adding color. All the prototypes had suffered significant changes according to research and analyzing test results. The final prototype is a result of many comments from the tests done. Following, it will be shown images and explanations for the main changes made in the project.
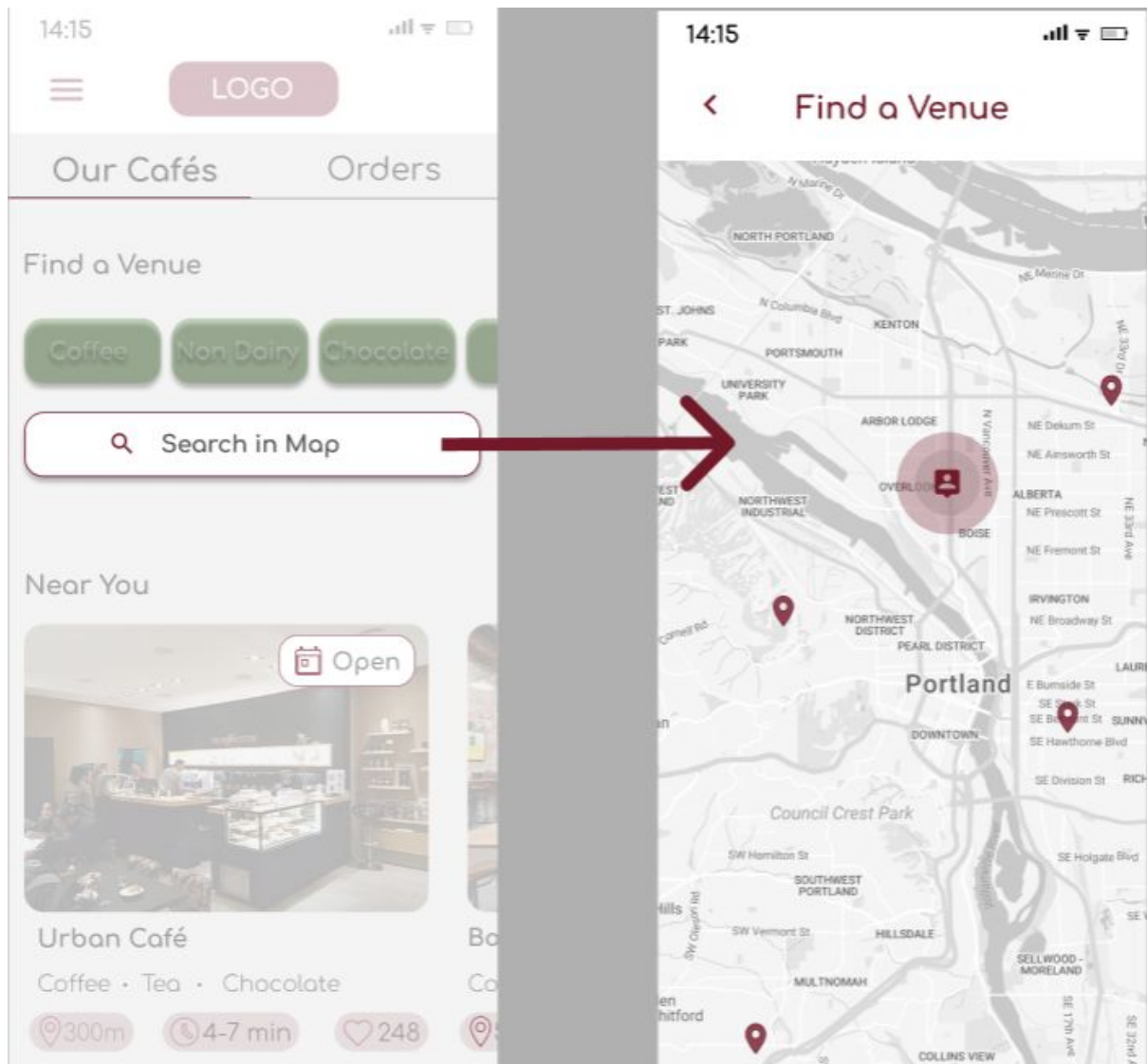
Location set up solution:
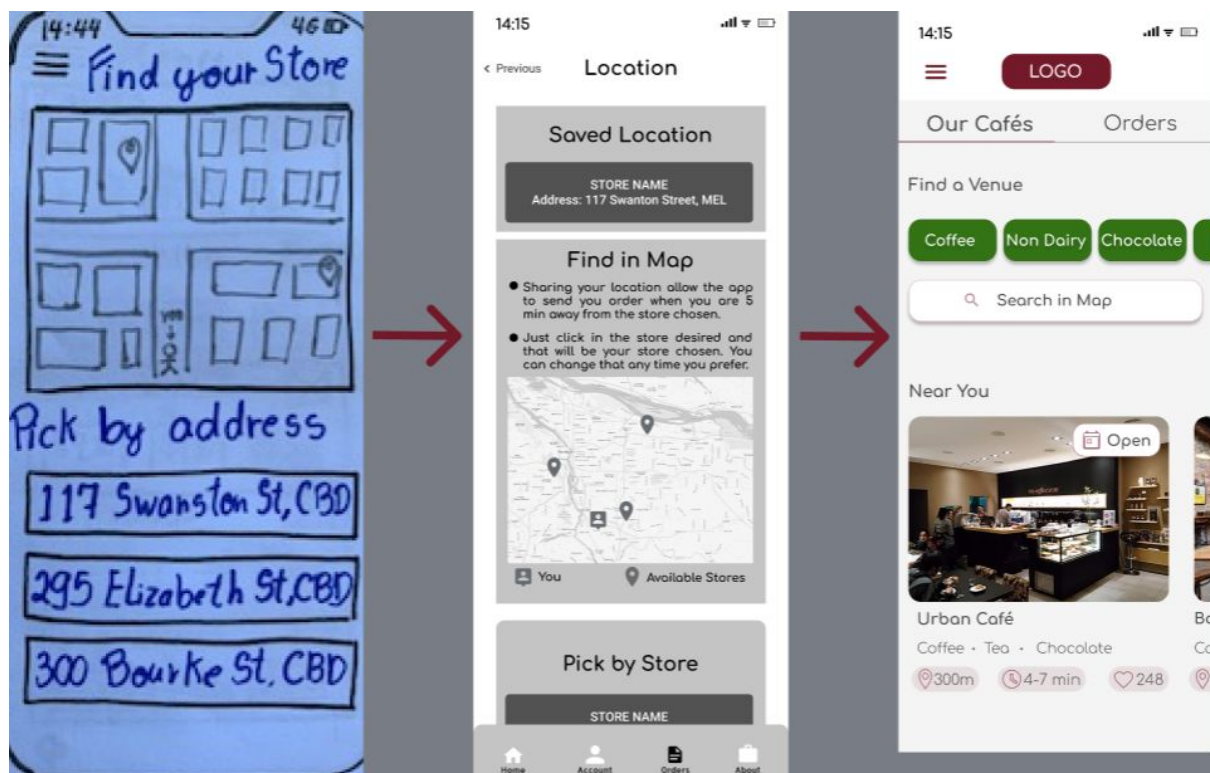
Image 6 and 7 : example of screens of the prototype - Source: author

Map was introduced in the first two prototypes in the main page. After tests, the map was considered confusing. Solutions in the final:

- Map is an option in case the user would like to have access to it. Then, we inserted a button to go to a map page.
  - In that page they will be able to see their real time location and click in the shops available for order. Clicking in the location they can go directly to the shop page.
- The green button works as a filter, where the user can find the places according to the specific product each venue sells. For example, in case a user also wants food, it can find in the filter the shops that sell food.
  - Swapping it shows more options of filters.
- "Near you" option shows the stores close to the user. So it can easily click in the closest and start its order.
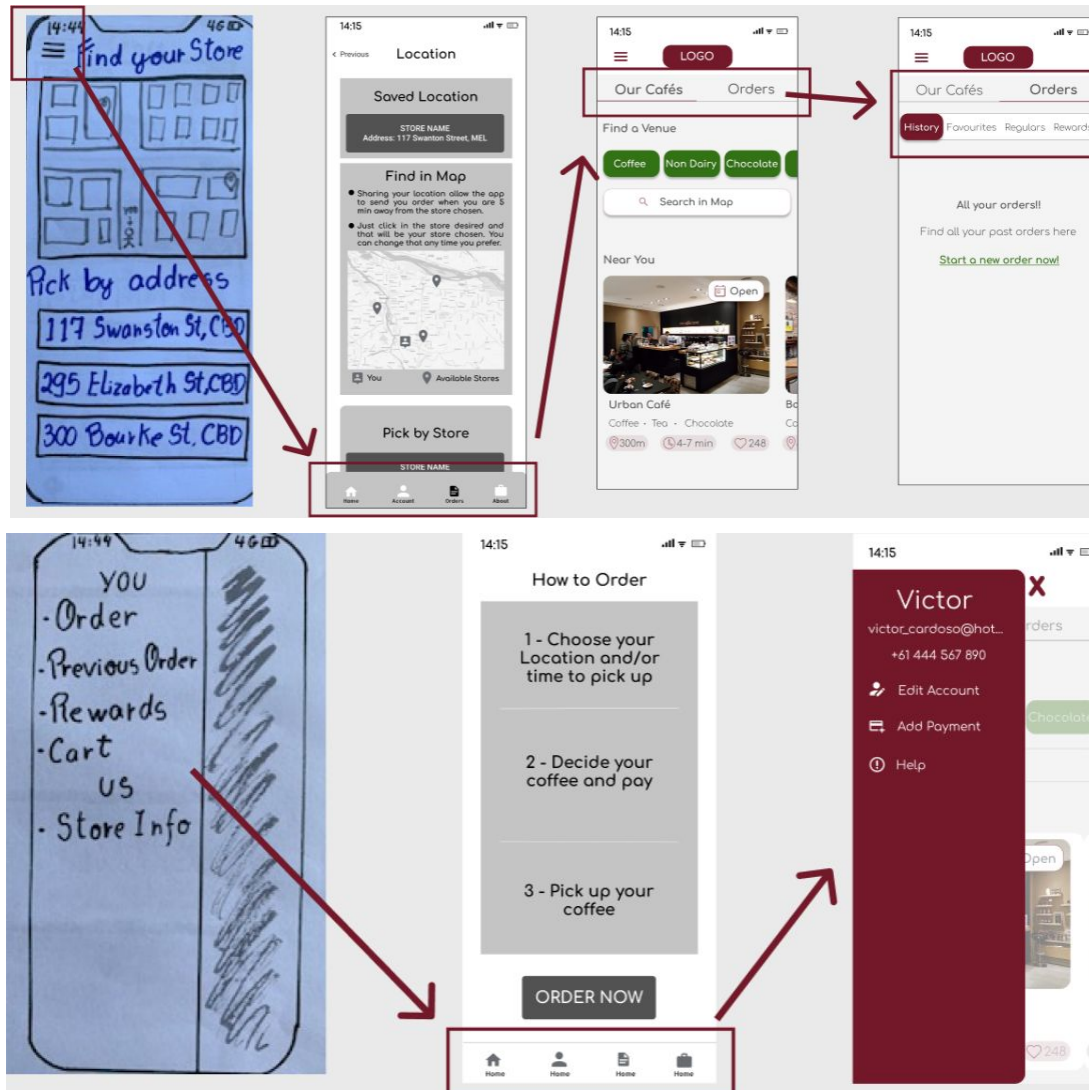 - Swapping show further shops

Main Features solution:

Image 8 and 9 : example of screens of the prototype - Source: author

The first prototype introduced a "hamburger menu" to filter the main features of the app. In the second, the hamburger menu was substituted by the icons menu on the button of the screen. However, during interactions with the app, it was shown a hamburger menu was more intuitive and also a separation in the main page to go back to personal choices of the person in "Orders". Main solution in the final prototype:

- Hamburger menu: the hamburger menu only has options for the account setting, Help and adding payment methods.
- It introduced a separation of the main Page in "Our Cafés" and " "Orders".
  - Our Cafés: the user will find the shops in this section. Here it can be found by the filter or by the shop card "near you"
  - Orders: users can easily access past orders, favourites, regular orders and loyalty cards.
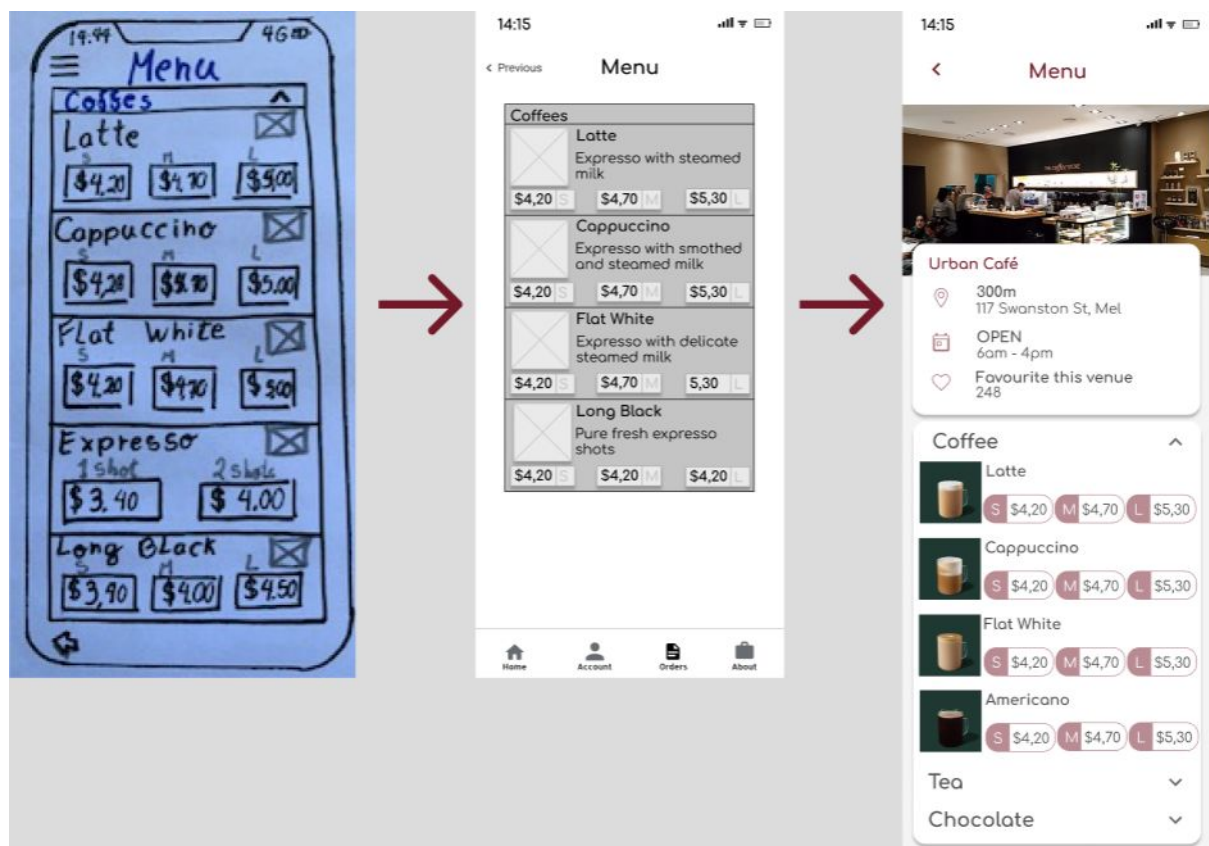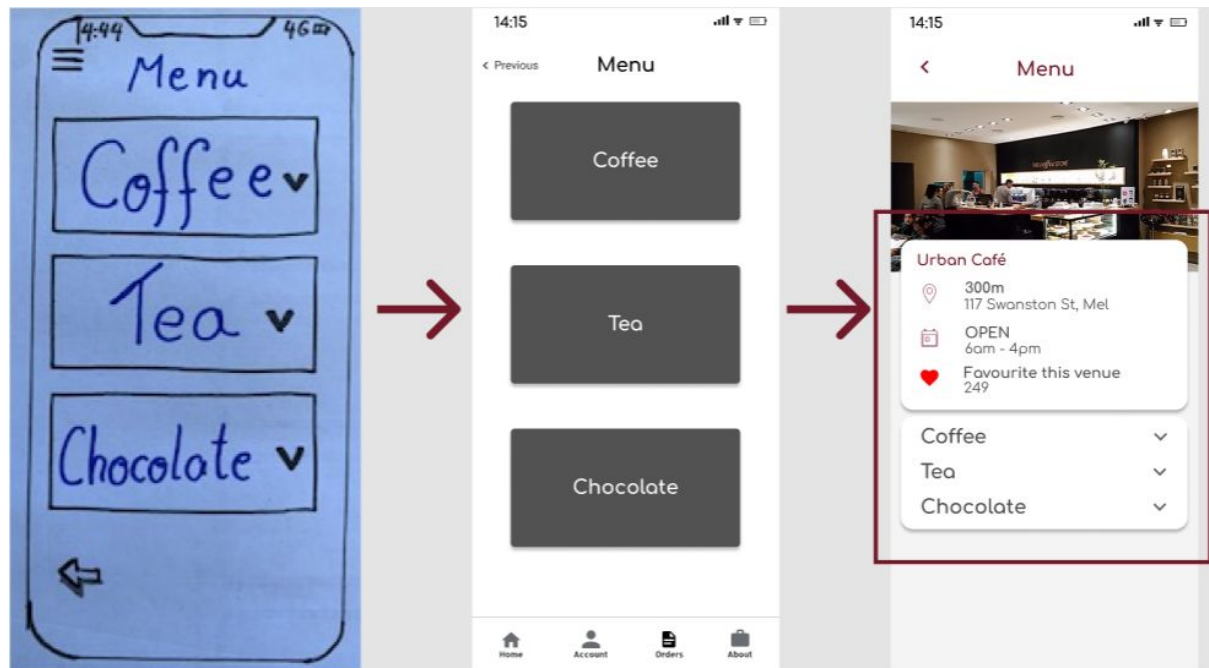
Menu for drinks solution:

Image 10 and 11 : example of screens of the prototype - Source: author

During the first two prototypes it was introduced with big buttons in a page for the drinks option divided by categories. During interactions it was realized we could improve that page:

- Details of the shop follow the user, as they tend to get confused or intrigued if they are in the right place.
- Categories are still there, but in a more delicate way that helps the user to interact with the menu easily. The user can open the categories at any time instead of having to go back every time to the main menu page to change categories.
- CLicking in the drink will send the user to the cart.
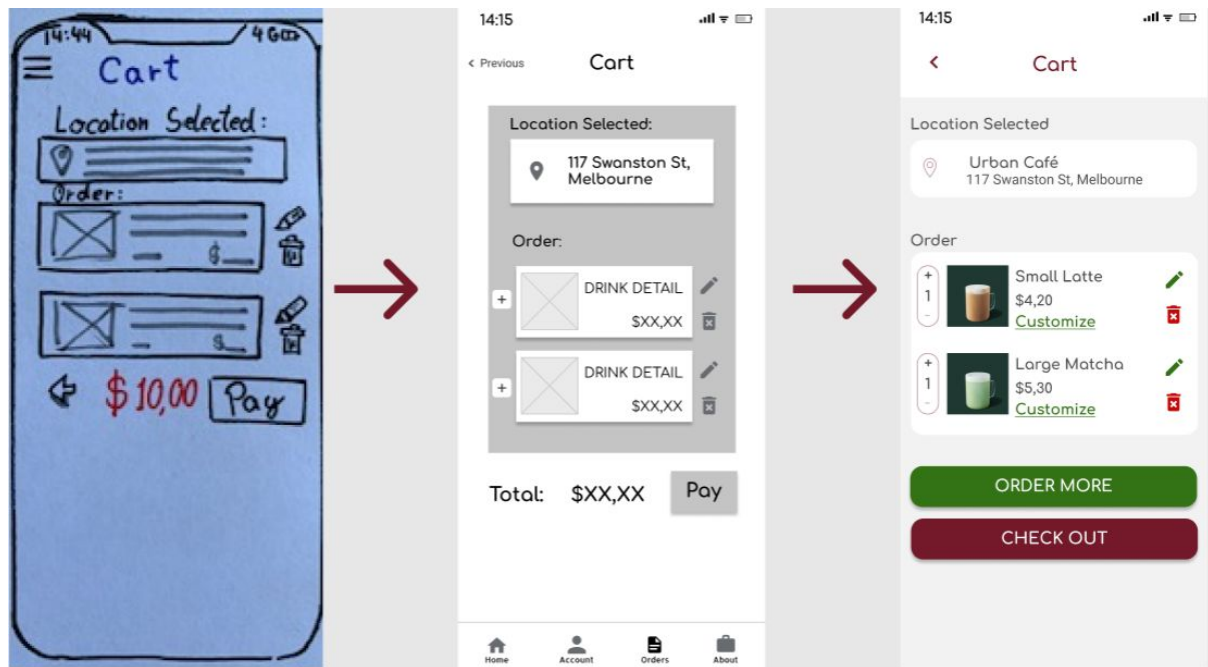
Cart Solution:

Image 12: example of screens of the prototype - Source: author

The first and second prototype had the cart pretty direct with few options. During interactions users felt that the cart should have easier options to add drinks and customizations. Some points:

- Quantity of same drink. With adding the number and the "plus" and "less" sign on the right side of the drink selected, the user can easily add or reduce the quantity of drinks. That also helped the user confirm how many he/she is asking for.
- Customize option was added in the cart. So the user can change the way the drink is made only if he/she wants to. Before all users needed to go through specifications, they were interested in changing or not.
- "Order More" button where the user is directed to the menu again to add more drinks.
- "Check Out" button will send the user to pick up specifications and payment.

Overview of how user testing affected the final outcome

For the success of this project it was clearly shown how important the testing was. Every interaction made through the application here proposed with the target group gave important insights to understand how our target user would feel about the app. As much as a designer can predict many issues beforehand, the empathy and understanding deeply the user we are aiming to achieve was the most important lesson during the process.

As much as the tests, the research made in the beginning was also valuable to find the necessity and needs to be filled with the new application here proposed. Card sorting also helped to build up a more cohesive application according to the user's beliefs.

As mentioned above, The task based tests helped check how intuitive the application was for the user. That was considered from the most basic to the most complex details of the application. Fonts, sizes, location and navigation were all made considering users insights. Moreover, many issues were found during the tests and they were fixed. That process of prototyping saves money and time for the next stage of the application, for the development in coding, for example.

The Heuristic evaluation was also important to have a deep verification of the application from a designer perspective. That step was extremely important to fix any small details that made the application much more interesting and easy to navigate for the user.
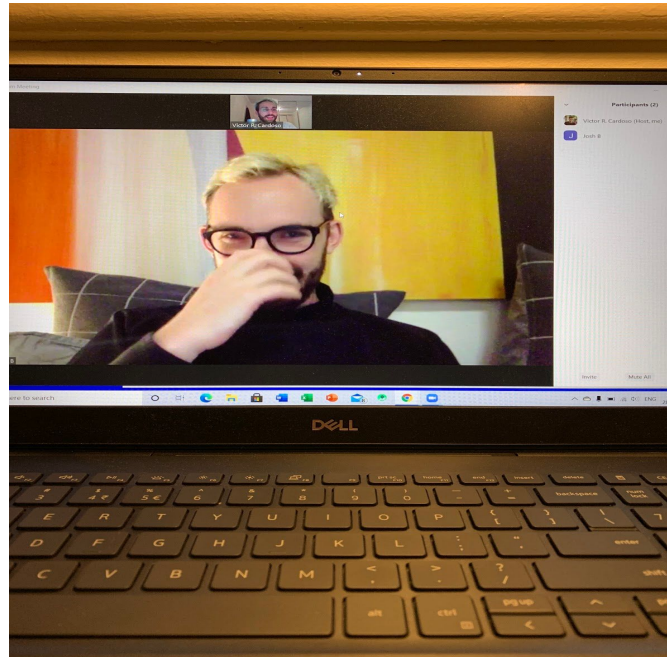
The final test was made by the same three users that were testing the previous versions. They all were happy with the results and have almost no comments to change. Few details could still be changed before sending the prototype for coding, as hierarchy organization in the main page.

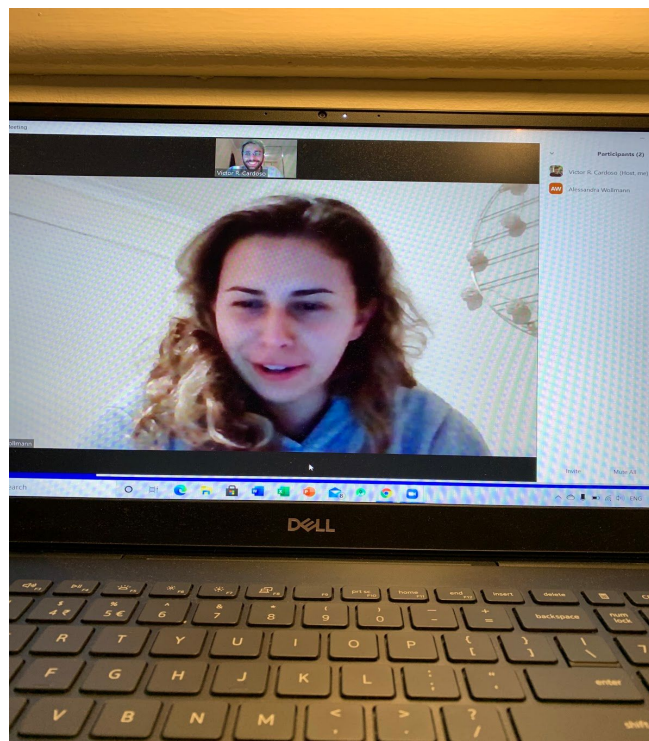To access the final version, click in the following link:
https://www.figma.com/proto/xGSP7aabdfLOzCluktXmkc/Remaking-Color-Adding-Mobile-Coffee-Order?node-id=34827%3A55&scaling=scale-down

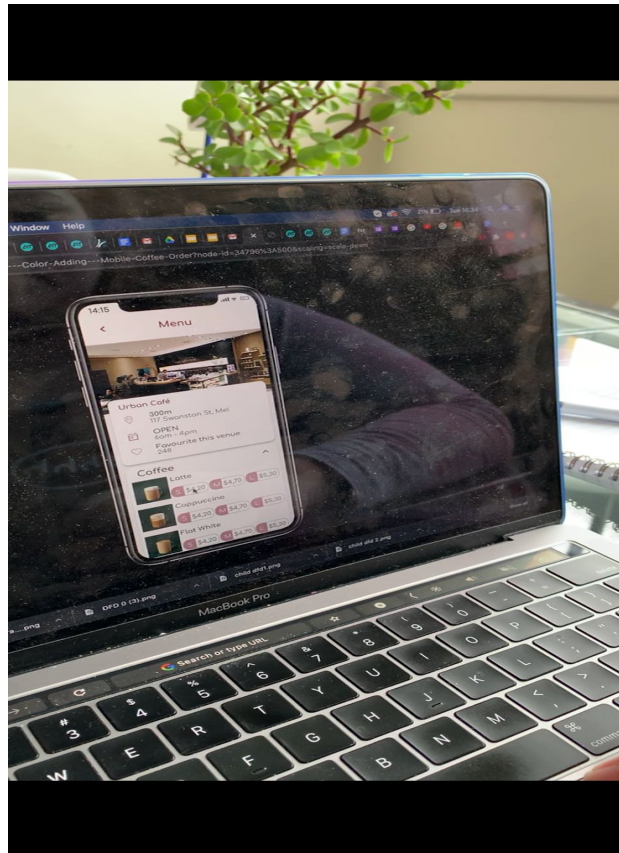# Users that tested our three versions:

Joshua Berthelsen - Product developer, 32 years old

Alessandra Wollman - Chef, 28 years old

Daniella Yumi - Student and Barista, 30 years old

References

City of Melbourne, 2020. [Online] Available at:
http://www.pedestrian.melbourne.vic.gov.au/?_ga=2.114593156.2020159587.159641
7323-1045993552.1596417323#date=27-07-2020&sensor=Swa123_T&time=21
[Accessed: 03/08/2020]

Statista, 2020 - Christopher Hughes. [Online] Available at:
https://www.statista.com/statistics/866543/australia-domestic-consumption-of
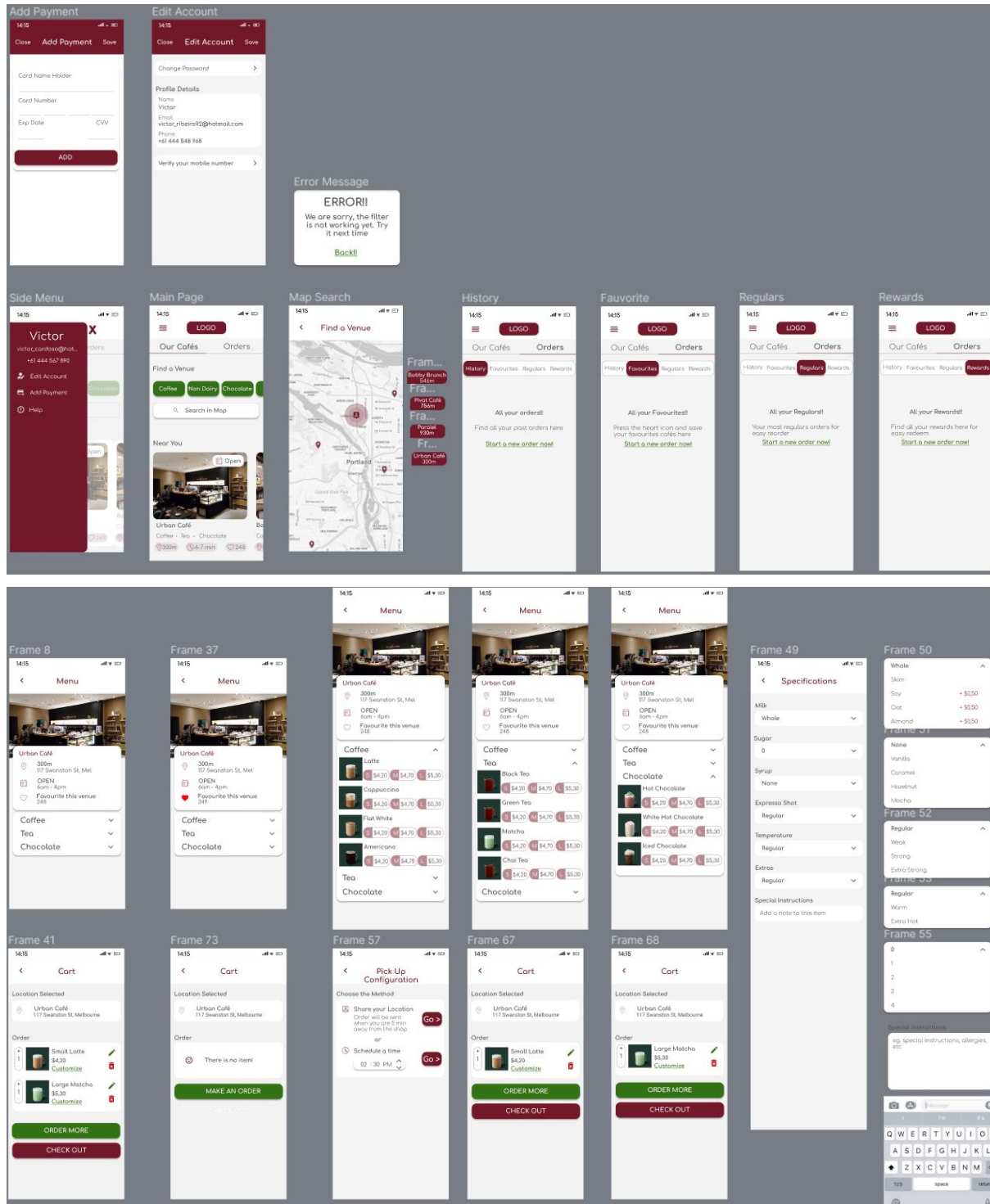-coffee/ [Accessed: 28/07/2020]

Marvel App, 2020. Accessed by: https://marvelapp.com/

Optimal Workshop, 2020. Accessed by: https://www.optimalworkshop.com/

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

Appendices

A. Digital Prototype (Figma)

B. Videos

To access the videos of the tests, please, click in the following link:

https://drive.google.com/drive/folders/1XxUV-DoAfUHAuKbMlVhtmMONpi3wxzwz?usp=sharing