

SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA

Faculty of Informatics and Information Technologies

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Car wash ordering app

Human Computer Interaction

Seminar: Tuesday 9:00

Seminar teacher: MA. Jay Kejriwal

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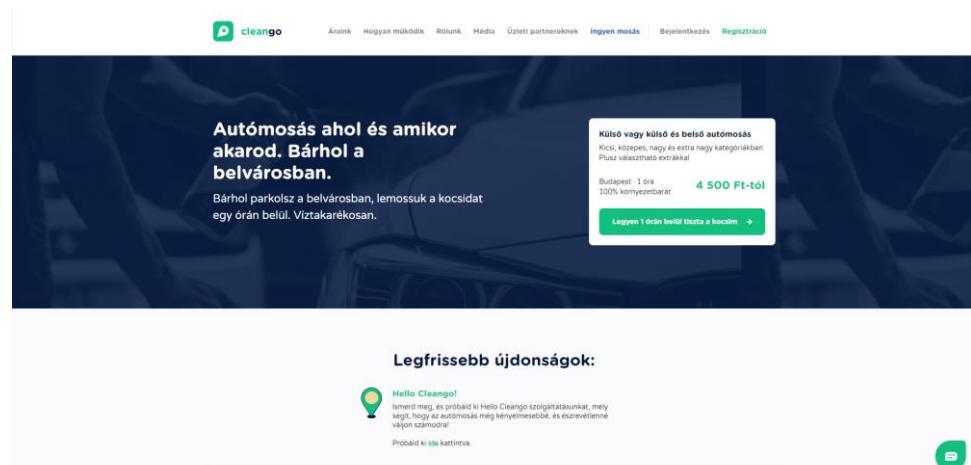
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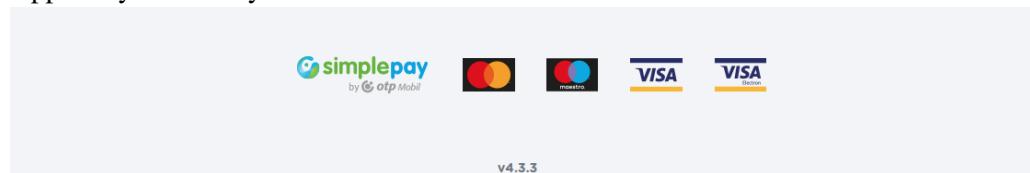
# 1 Initial Phase

## 1.1 Bad Design & Improvement Ideas

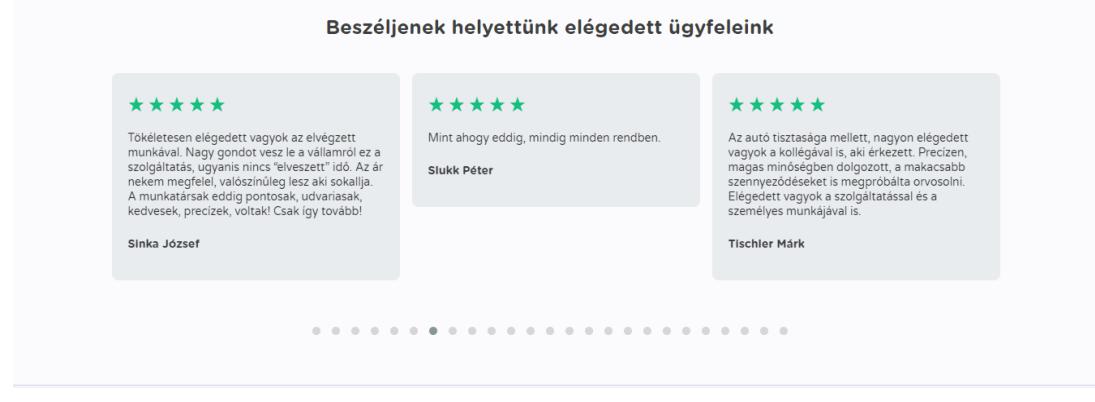
- <https://cleango.hu/invitation> - On this site, only those can order a car wash, who are registered users. We think it shouldn't be compulsory because there could be cases when somebody wants to order just once, for example, because he is not a local or just a tourist...etc.
- <https://cleango.hu/home> - The application does not support any other languages, except the native language. This could be a problem for people, who are not speaking Hungarian. This problem also includes that they do not show the prices in other valutas. At least the euro should be included.



- Our opinion is that they offer a little bit fewer paying options. Paypal, Google Pay, Apple Pay and in any case cash should be included.



- We think sliding through these many slides is uncomfortable for the potential customers. We rather suggest implementing infinite scroll or basic listing of reviews.

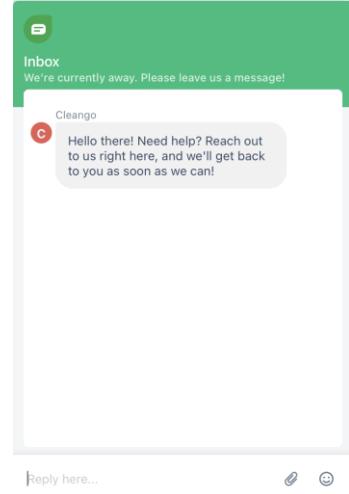


O

- Navigation - we find the navigation bar non-responsive at some resolutions.



- The language of the chatbot should match the language with the application/site.



## 1.2 Web App Topic (brainstorming)

Our web app topic is focused on an app, which offers a mobile car wash. This means that our team would go to the spot where the car is and do the washing. This way our customers don't have to do this for themselves. Our primary goal is to help people, to get some more time, by helping them out with car caring obligations.

### 1.3 User Research

Our team carefully prepared user research data for further analysis. First, we started with creating a unique set of questions in order to find out every small detail and piece of information we needed. Next, we have conducted several interviews with various respondents and carefully recorded every single answer and reaction. These interviews were the main leash of our following steps.

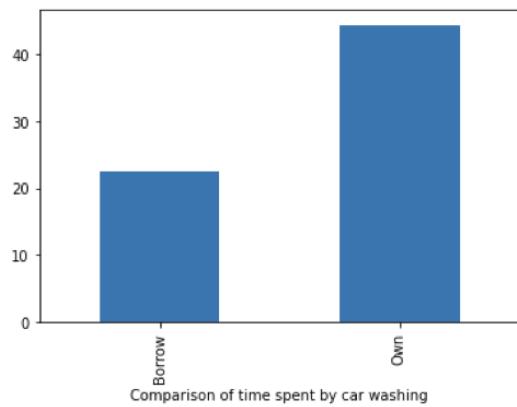
Further, our team started to parse data and prepare a dataset which is suitable for analysis. We have unified value types and added values where they were missing. Next, we determined a few leading questions which are important for our research and we tried to find answers to them in our interviews. Then we started to analyse data with methods and tools of data science. We have come with the following results:

■ **How many people we interviewed own a car ?**

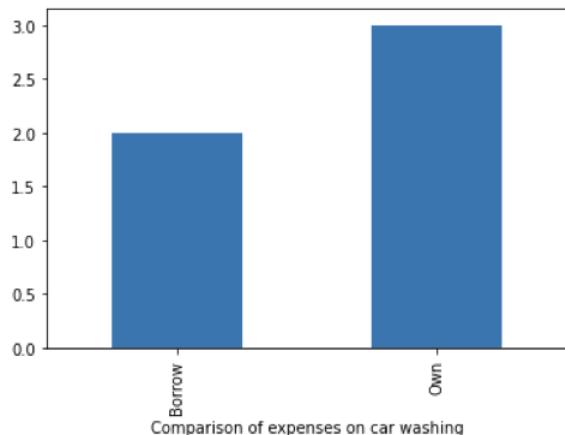
80% of respondents have their own car.

■ **Do people take better care of their own car ?**

On the chart below we can see a clear difference between car washing times. Respondents with their own car tend to spend nearly two times more time car washing than people who just borrow their car from someone else.



We can see similar results on the next chart below where we compare expenses connected with car washing. People owning a car tend to spend 50% more than people who just borrow their car.



These two comparisons clearly show that people who already paid for their own car are more likely to keep them in good condition as they realise their value. This clearly shows us that car washing is important for their cars.

### ■ **Do people have time to wash their cars ?**

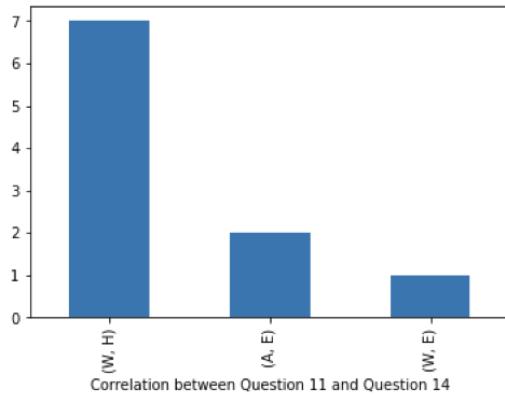
Only 30% of our respondents stated that they can manage car washing without any time difficulties. On the other hand 70% of our respondents do have severe time difficulties trying to find enough time to wash their car. Results clearly show that the majority of people cannot manage proper car washing because of time difficulties. This also indirectly suggests that people would welcome some sort of help or improvement.

### ■ **What is preventing people from washing their car ?**

Majority of respondents stated that the main reason for not being able to wash their car is being busy. Work or any other kind of necessary activity is preventing them from washing their car as much as they would like to.

### ■ **Is car washing restrictive for people ?**

This question was the most important for our team. We wanted to find out if difficulties with time management are somehow connected with waiting times linked with car washing. We found out that the majority of our respondents have to wait during car washes and cannot perform any other important tasks. Moreover, the majority of these people find it very hard to fit car washing into their daily routine. This clearly shows that people have to sacrifice their work time in order to get their cars washed. So we can easily conclude that car washing processes are very restrictive for people.



In conclusion, our research shows that people who own a car would like to take good care of them but unfortunately do not have enough time for it. The main reason is busy time schedules and the cleaning process alone being restrictive on its own. We can conclude that our car washing app would be very beneficial to people and we can see big potential in any type of customer.

## 1.4 User-oriented Specification

As we mentioned above, our main goal is to help people, who suffer from bad time management, are overwhelmed, and simply can't do everything they want, because they simply don't have enough time. It's a pity, but we are living in a rushing world, and the recently mentioned problems are getting typical for more and more people. That's why we think that our potential customers include anyone who owns or drives a car from teenagers to adults and retired people. People would like to get rid of some of their tasks, or at least have the option or skill to do more at the same time. So we came up with the idea to take care of their cars, so they had more time for other responsibilities.

## 1.5 Personas

- **Persona 1**

- **Name: Noel**

Age: 42

Location: Bratislava

Job: Bus Driver

Family: Married

Children: 2

- **Bio**

Lives with his family in the outskirts/ suburbs of Bratislava where they live with 2 children for 6 years. Likes to travel for vacation 1 time a year, what they can afford. Most of the day he is busy.

- **Favourite portals:**

cp.sk  
washingcars.sk  
cleanmycar.sk

- **Tech:**



**Needs & Goals:**

- Get rid of or fasten up tasks that are not primarily affecting his family, job, or personal interests.
- Would be happy if he could do more than one thing at the same time.

**Frustrations:**

- Sometimes he has to neglect other responsibilities because he is totally scheduled.
- He has a lot of responsibilities besides his job.

- **Persona 2**

- Name: Rast'o

Age: 22  
Location: Košice  
Job: Med. student  
Family: unmarried  
Children : 0

- **Bio**

Lives in a college. Most of his time he is studying. In his free time, he likes to hang out with his friends, girlfriend.

- **Favourite portals:**

medbasics.com  
manageyourtime.sk  
pubmed.ncbi.nlm.nih.gov

- **Tech:**



**Needs & Goals:**

- Manage his time more efficiently.
- Would be better to have some of his obligations done by somebody else.

**Frustrations:**

- Most of his time is exposed on his studies.
- Find it uncomfortable to neglect the state of his car.

- **Persona 3**

- Name: Phil

Age: 35  
Location: Bratislava  
Job: Full stack developer Lead  
Family: Married  
Children : 0

- **Bio**

Lives with his wife in Bratislava. He likes to have a day off from work. Most of the day he is busy. He likes to have his car clean, but he is missing basic equipment for car cleaning like a high-pressure cleaner, car washing chemicals or shampoo, microfiber wipes. Because of that, he is not even able to clean his car properly.

- **Favourite portals:**

stackoverflow.com  
github.com  
superuser.com

- **Tech:**



**Needs & Goals:**

- Big salary & do nothing(day off).
- More time with family.

#### **Frustrations:**

- Not being able to spend time with his family due to tough deadlines.

### ○ **Persona 4**

#### ○ Name: Mercedes

Age: 27

Location: Kraków

Job: Hairdresser

Family: Single

Children: 0

#### ○ **Bio**

Lives and works in Kraków. She is absolutely not into cars. It means nothing special for her. She doesn't like to take care of it, doesn't know how to either. Although she doesn't want to show up in a dirty car.

#### ○ **Favourite portals:**

hadviser.com

therighthairstyles.com

menshairstyletrends.com

facebook.com

#### ○ **Tech:**

Internet



Social Media



Car portals



#### **Needs & Goals:**

- To have the necessary things in order.
- Needs some help with the works she has no skills and knowledge about.

#### **Frustrations:**

- Sometimes there are things that bother her, but he cannot do it as well as it would be perfect for her.
- Doesn't like to deal with things she is not interested in.

### ○

### ○ **Persona 5**

Name: Júlia

Age: 70  
Location: Jelka  
Job: Retired  
Family: Widow  
Children: 2

○ **Bio**

Júlia is a widow living alone in a small Village of Jelka. Although she has 2 children she doesn't get much help from them because they live far away in distant cities with their families. They visit her rarely. She has to do everything on her own. She has a small car which is a lifesaver for her. She uses it for all of her commuting. These mainly include the church, local shop, hospital... etc.

○ **Favourite portals:**

varecha.pravda.sk  
voyo.markiza.sk  
kaufland.sk/aktualna-ponuka/letak.html

○ **Tech:**

|              |           |
|--------------|-----------|
| Internet     | ● ● ○ ○ ○ |
| Social Media | ● ○ ○ ○ ○ |
| Car portals  | ○ ○ ○ ○ ○ |

**Needs & Goals:**

- To have the necessary things in order.
- Needs some help with the works she has no skills and knowledge about.

**Frustrations:**

- Doesn't see her grandchildren enough.
- She is frustrated when she has to travel by bus due to the dirty car and nobody lets her have a seat.

## 1.6 User Scenarios

**Scenario 1**

The busy father who has a scheduled day is at work but realizes how dirty his car is and that he also has to do the shopping, but he can't do both. But at the moment he is not financially balanced, and the shopping is primary. Luckily he has an app, where he can choose from a variety of car washing programs, including some that are financially beneficial.

**Scenario 2**

He is preparing for an exam, so at the moment he has time for nothing, except studying, but after the exam, he is meeting with his friends to celebrate, but he doesn't want to show up with a dirty car

either, which he has at the moment. He has to choose to show up in a dirty car or to sacrifice some time from his studies. Luckily he has a third option to order a car wash on his new mobile app. So he can continue the learning and have his car completely washed for the evening.

### **Scenario 3**

Phil is a full-stack developer. He is truly obsessed with his profession. He acknowledges that he has other responsibilities at home, especially today, because with his wife they are going to a grill party. He has a problem because they cannot show up with a dirty car they have, and his wife is getting angrier because he hasn't washed it yet. But now he is right in the middle of his project, with great enthusiasm, so he cannot be disturbed. So he orders a car wash on his smartphone, so they can show up in a completely clean car.

### **Scenario 4**

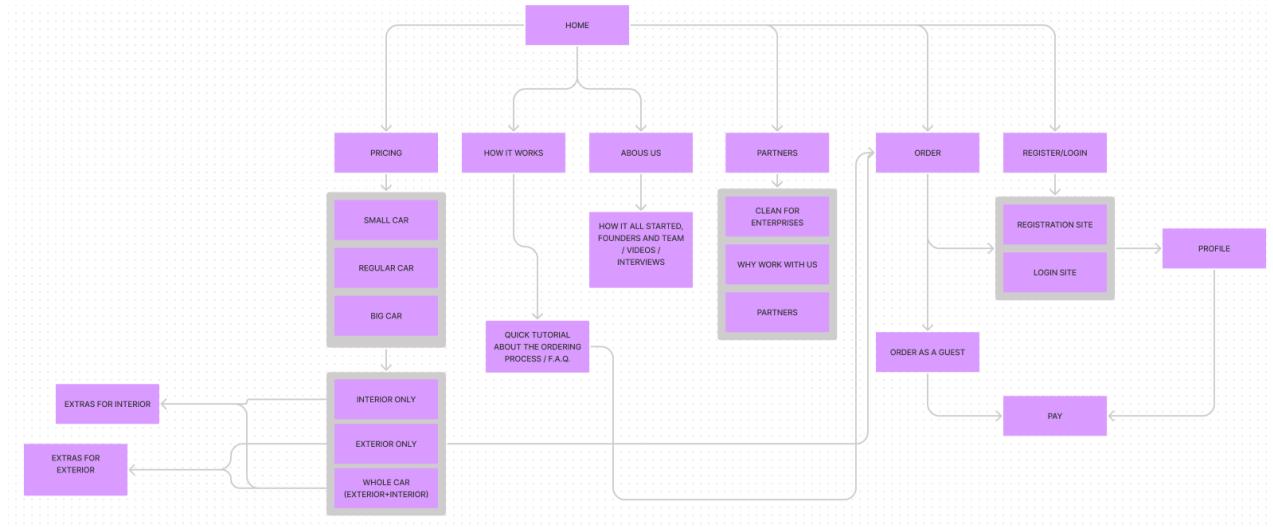
A regular woman living in a flat wants to clean her car. But she doesn't have the necessary tools, and skills to do it. Despite the fact that she is not into cars, she doesn't want to show up in a car that people look after because it is dirty. Most of the time she is in the salon and visits the gas station when she needs to refill the car. Since she doesn't like to wash her car, and can't do it as well as she wants, she orders a car wash from a car washing company while she is in the salon. This way she saves some time, and mainly will have a clear car that she wants.

### **Scenario 5**

Júlia has a busy day. She has to do the shopping. In the afternoon she wants to visit the cemetery and in the evening she has to go to church. Her car isn't in a neat state, it would be embarrassing for her to get seen in it. She doesn't want to take a bus, because she wants to manage her own time and the bus is sometimes full and the driver drives dangerously. That's why she orders a car wash on her computer.

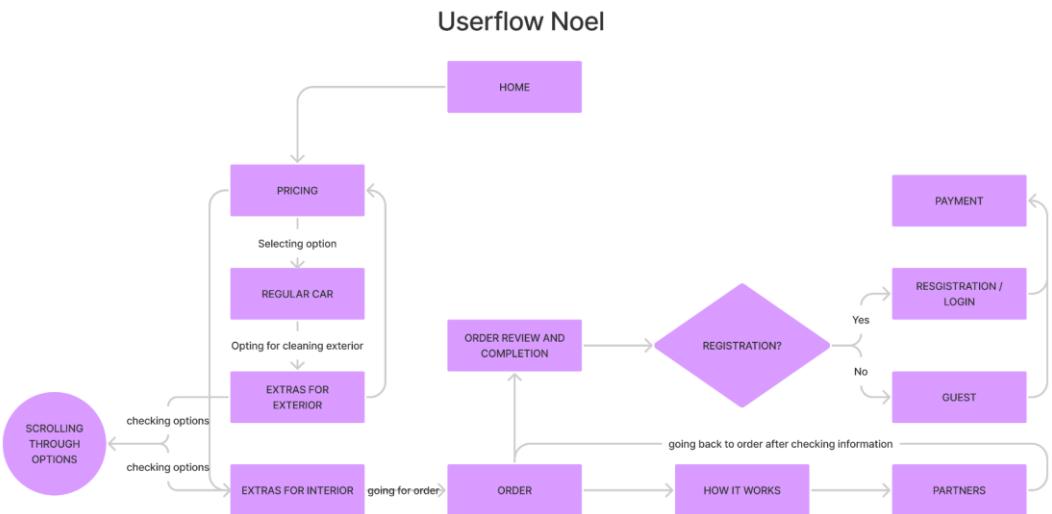
## **1.7 Information Architecture**

Site map prototype:

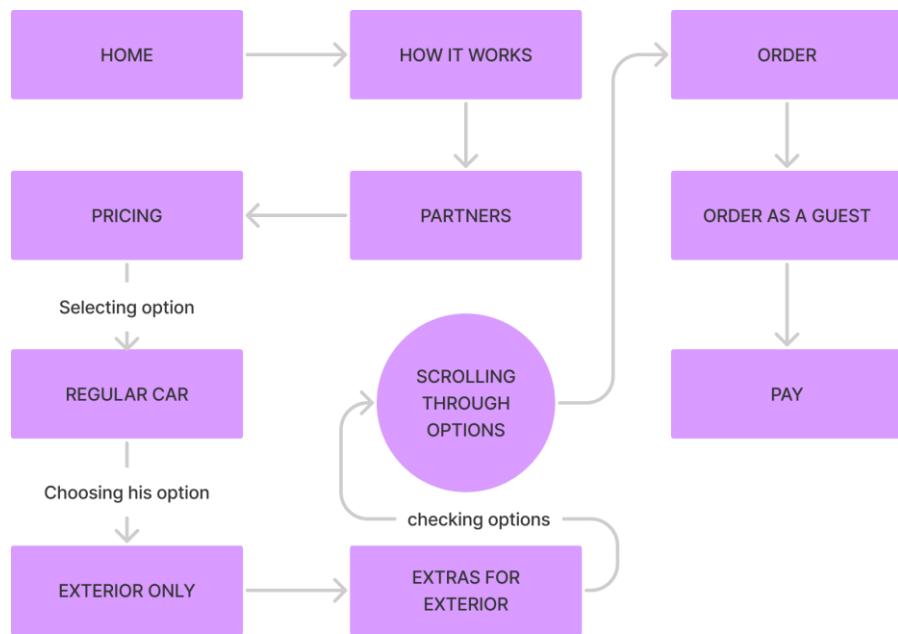


User flows:

## Noel

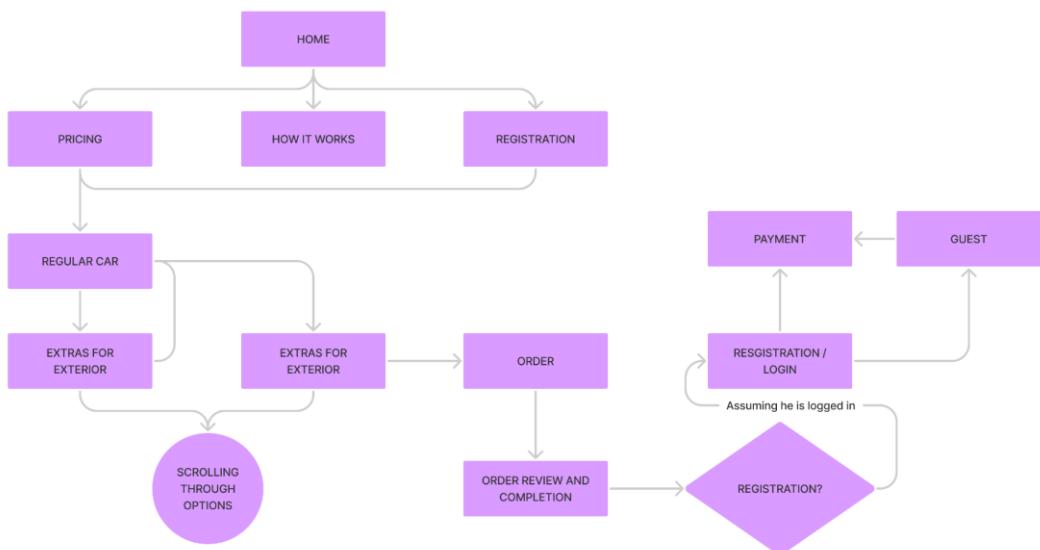


## Rast'o

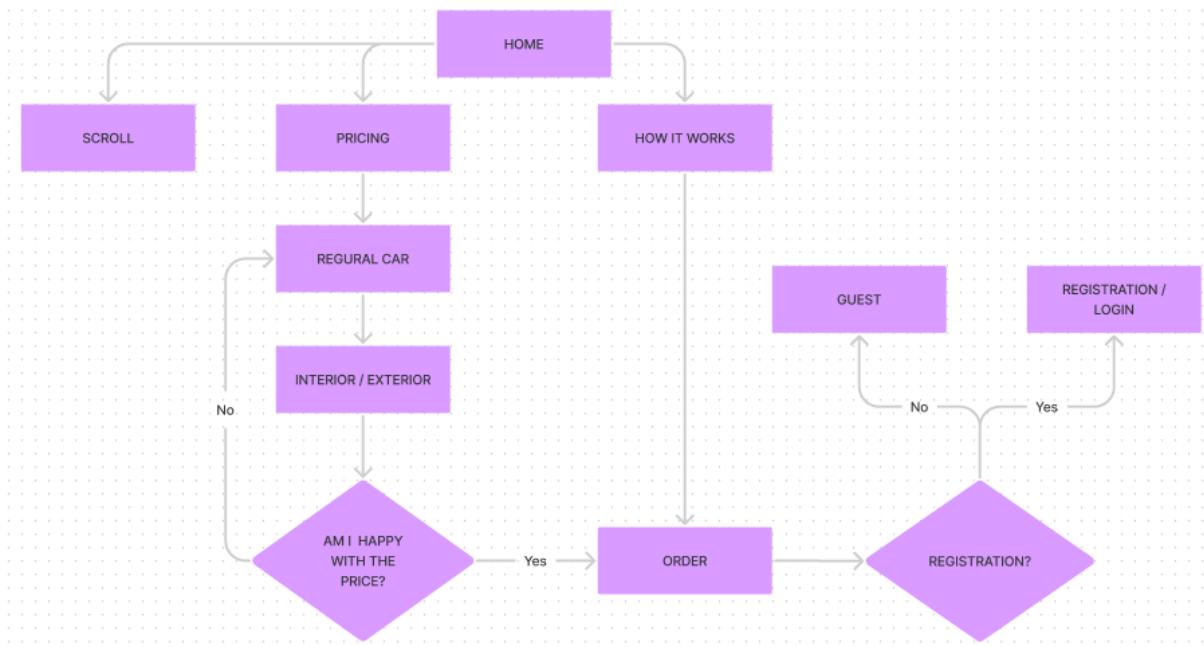


## Phil

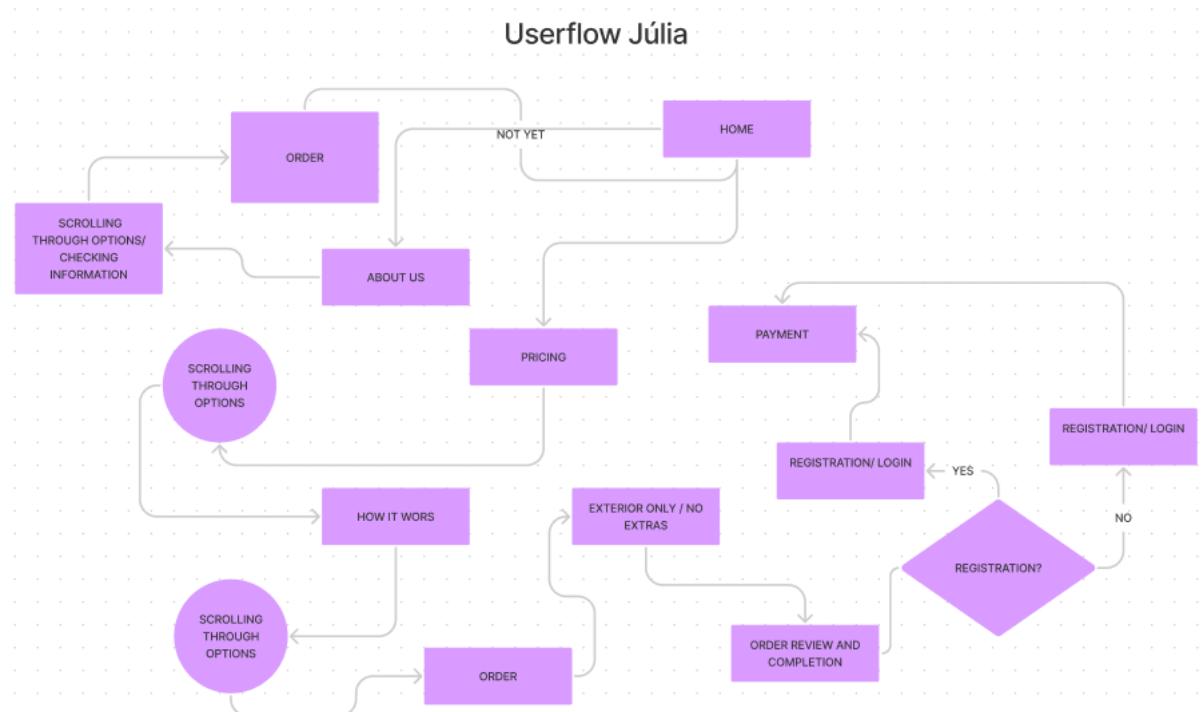
Userflow Phil



## Mercedes



## Júlia

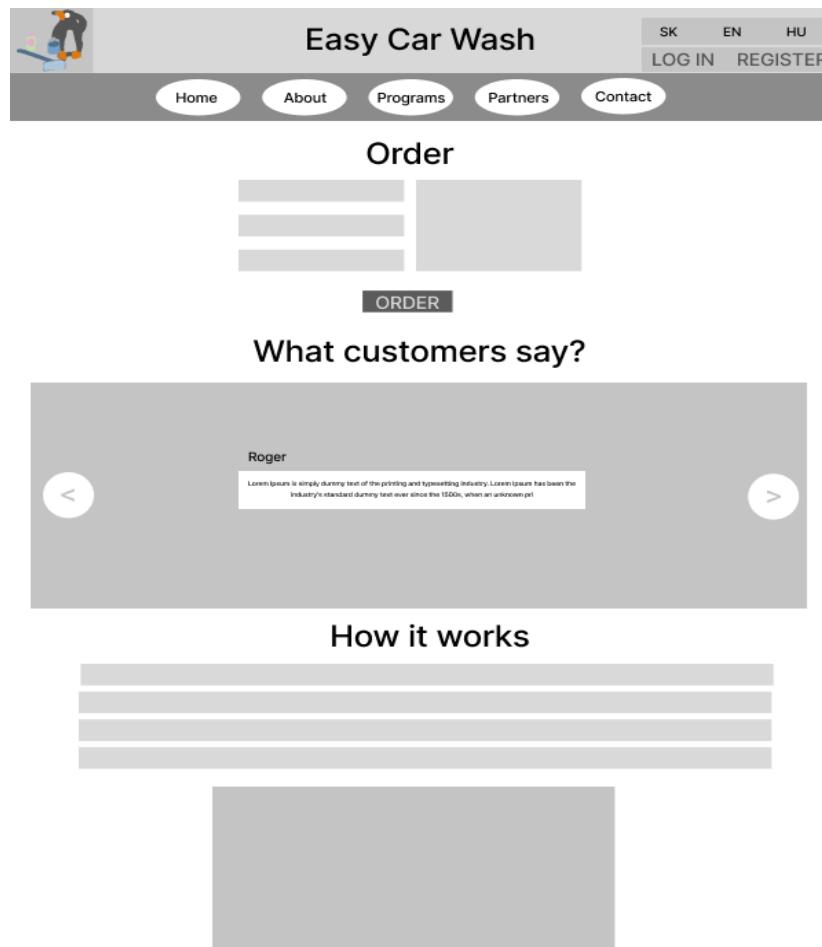


## 2 Prototyping Phase

Prototyping has many objectives including evaluation of the design, functionality and user interface. This report will be focusing on the user interface aspect with some linkage to the functionality. Prototypes thus let users validate and evaluate their requirements and thus users can discover requirements omissions early in the process. These prototypes are either discarded (throw away prototypes) or enhanced (evolutionary prototypes) into production systems.

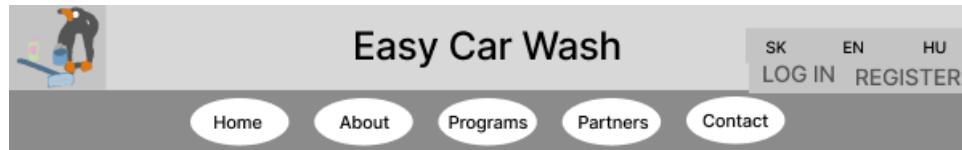
### 2.1 Low-Fidelity Prototype (1st iteration)

#### ■ Homepage



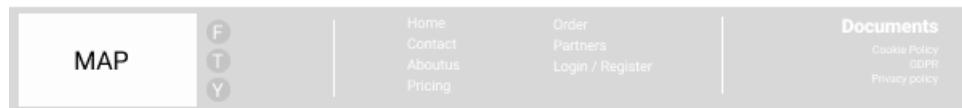
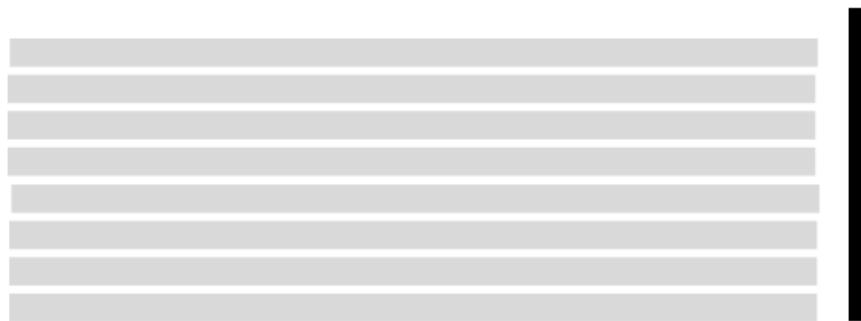
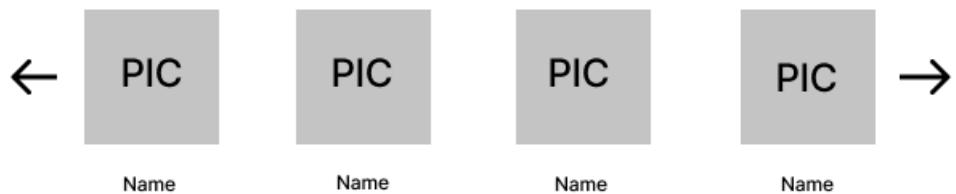
On the homepage, the user is able to quickly order car cleaning if he is an experienced customer and knows what each cleaning pack contains. Also, users can see reviews of other customers, and they can get some more info on how our service works.

## ■ About



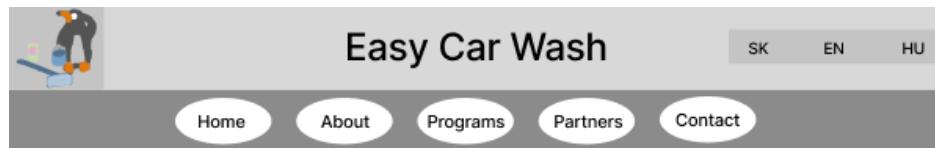
### Who we are

#### THE TEAM



In the “About” section we want to raise our trust as an organization where users can see our profile photos and names. On the page, users can see descriptions of founders and basic information about the organization.

## ■ Programs



### Cleaning programs

| Exterior        | Interior        | Both            |
|-----------------|-----------------|-----------------|
| Included item 1 | Included item 1 | Included item 1 |
| Included item 2 | Included item 2 | Included item 2 |
| Included item 3 | Included item 3 | Included item 3 |
| Included item 4 | Included item 4 | Included item 4 |
| Included item 5 | Included item 5 | Included item 5 |

100,- eur      100,- eur      100,- eur

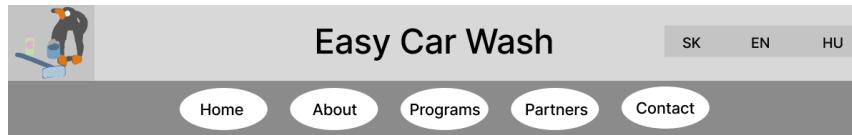
✓               

Final price

**ADD TO CART**

In the “Programs” section we list all cleaning programs, some basic information about the options which users can choose. Users can see the final price based on the chosen programs.

## ■ Contact



# CONTACT

## Contact us

A large, light-grey rectangular placeholder box, likely a form input field for a message or comment.

I agree to become cleaner penguin

SEND

Where can you find us ?

Big map



MAP

P  
T  
Y

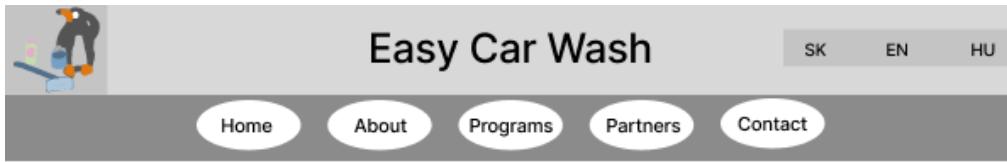
Home  
Contact  
Aboutus  
Pricing

Order  
Partners  
Login / Register

Documents  
Cookie Policy  
GDPR  
Privacy policy

In the “Contact” section, the user can write an email to the company. As well he can see the map with the location of our company.

## ■ Cart



### Your cart

| Program number/name | Exterior+Interior                          |  |
|---------------------|--|--|
| Chosen extras       | Exterior                                   | Interior                                   |
|                     | <input checked="" type="checkbox"/> Item 1 | <input checked="" type="checkbox"/> Item 1 |
|                     | <input checked="" type="checkbox"/> Item 2 | <input checked="" type="checkbox"/> Item 2 |

| Program number/name | Exterior+Interior                          |  |
|---------------------|--|--|
| Chosen extras       | Exterior                                   | Interior                                   |
|                     | <input checked="" type="checkbox"/> Item 1 | <input checked="" type="checkbox"/> Item 1 |
|                     | <input checked="" type="checkbox"/> Item 2 | <input checked="" type="checkbox"/> Item 2 |

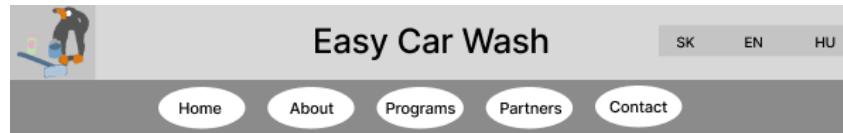
| Program number/name | Exterior+Interior                          |  |
|---------------------|--|--|
| Chosen extras       | Exterior                                   | Interior                                   |
|                     | <input checked="" type="checkbox"/> Item 1 | <input checked="" type="checkbox"/> Item 1 |
|                     | <input checked="" type="checkbox"/> Item 2 | <input checked="" type="checkbox"/> Item 2 |

PAY for your Order



In the “Cart” section the user can see the items he/she put in the cart.. On the very bottom, he can continue to checkout by clicking on the button.

## ■ Partners



### Our partners



Want to be our partner?

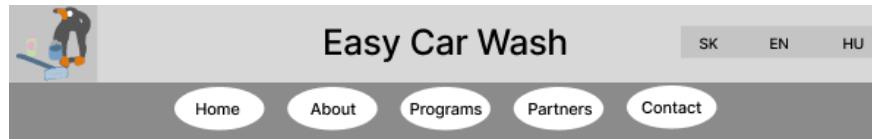
Contact Us

v



In the “Partners” section we expect the user to check out our partners so we gain more trust in our organization and we also offer the option to become partners by ordering cleaning for multiple cars.

## ■ Registration



### Create account

#### Personal information

Email \_\_\_\_\_

Telephone number \_\_\_\_\_

Password \_\_\_\_\_

#### Default car location information

(Can be changed when ordering)

Street \_\_\_\_\_

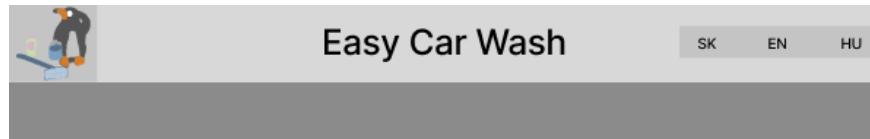
City \_\_\_\_\_

Postal code \_\_\_\_\_



This is a basic registration page where the user can fill up all the basic information about him which we need.

## ■ Login



### Login

Email

Password

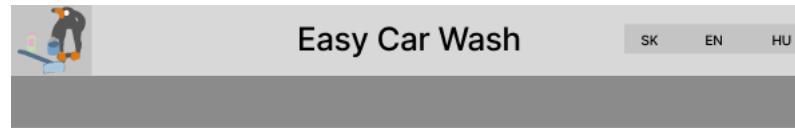
**LOGIN**

Don't have an account? [Create one here.](#)



This is a basic login page where the user is able to authenticate.

## ■ Profile



### Profile

#### Personal information

Email

Name

Old password

New password

#### Default car location information

Street

City

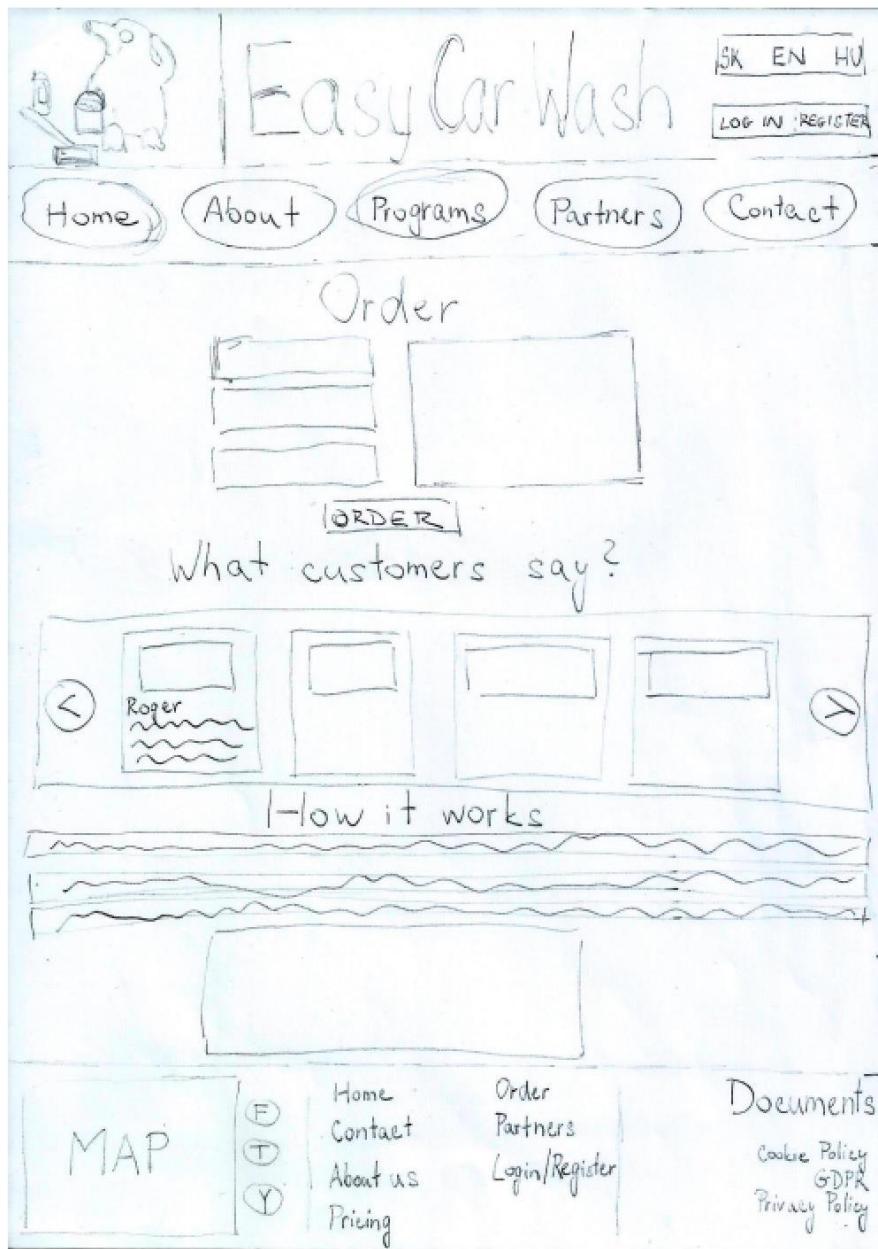
Postal code



## 2.2 Low-Fidelity Prototype (2nd iteration)

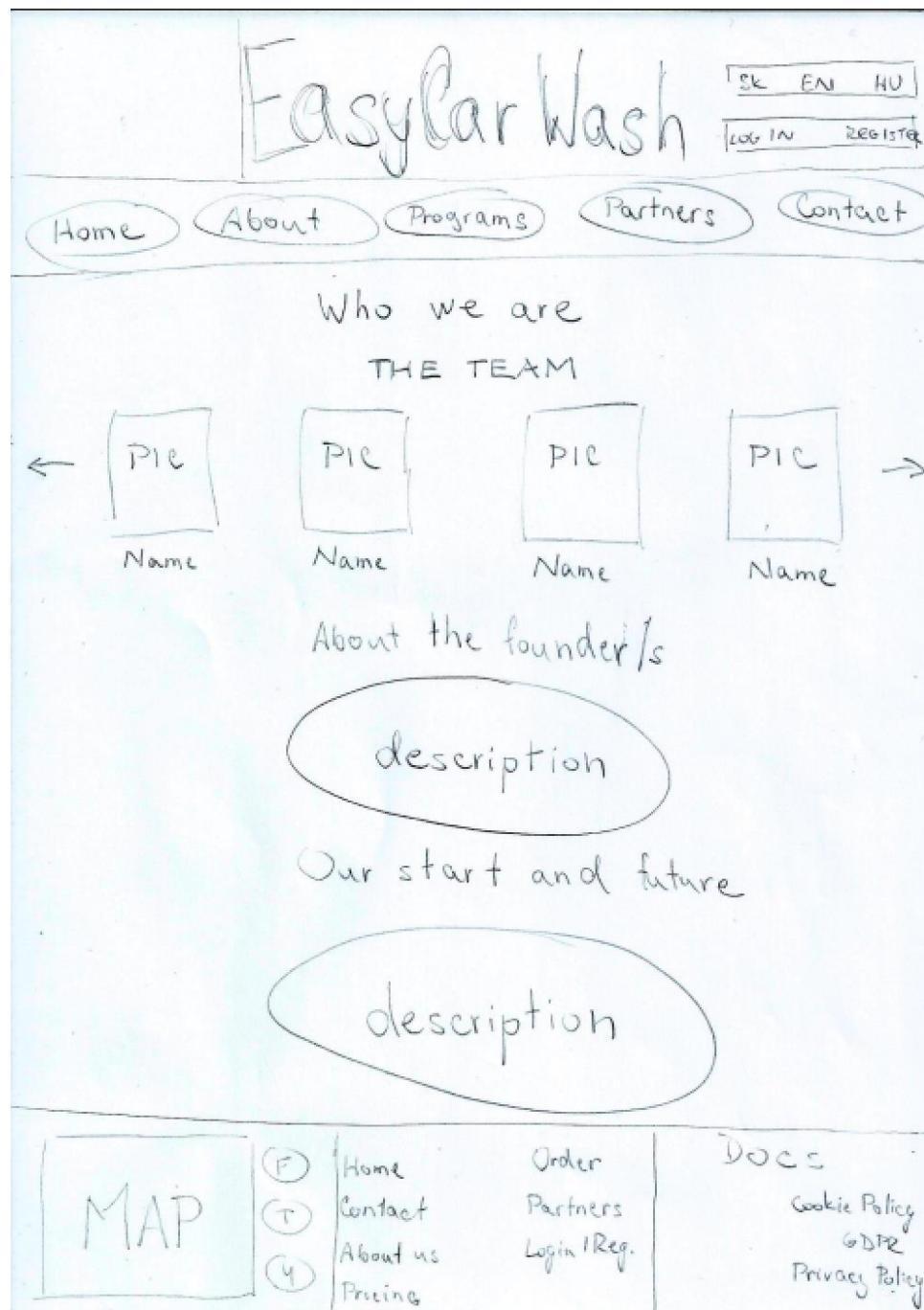
In the second iteration of the low-fidelity prototype, we focused mainly on the uniformity of design and the lack of content of necessary and important information for the customers. We also worked on making the site work better, adding sections and also adding the necessary buttons.

## ■ Homepage



On the homepage we adjusted the look of the customer feedback section for better visualization. The customer will now see more reviews with a photo of the person who added the rating, for a more personal and trustworthy look and experience. As mentioned, we focused on the uniformity of the design and therefore a footer was added.

## ■ About



To better understand the company, who we are and what our goals and motivation are, we have divided the text about us into 2 parts: about the founders, our start and future. We have thus provided a clearer and more concise description, thanks to which the site will be simpler and clearer for the visitor.

## ■ Programs

**EasyCarWash** | SK EN HU  
LOG IN REGISTER

Home About Programs Partners Contact

### Cleaning programs

|                 |                 |                 |
|-----------------|-----------------|-----------------|
| Exterior        | Interior        | Both            |
| Included item 1 | Included item 1 | Included item 1 |
| Included item 2 | Included item 2 | Included item 2 |
| Included item 3 | Included item 3 | Included item 3 |
| Included item 4 | Included item 4 | Included item 4 |

|                                     |                          |                          |
|-------------------------------------|--------------------------|--------------------------|
| xy,- eur                            | xy,- eur                 | xy,- eur                 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Choose Extras**

|  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> Item 1 | <input checked="" type="checkbox"/> Item 1 | <input type="checkbox"/> Item 1            |
| <input checked="" type="checkbox"/> Item 2 | <input type="checkbox"/> Item 2            | <input type="checkbox"/> Item 2            |
| <input type="checkbox"/> Item 3            | <input type="checkbox"/> Item 3            | <input type="checkbox"/> Item 3            |
| <input type="checkbox"/> Item 4            | <input checked="" type="checkbox"/> Item 4 | <input checked="" type="checkbox"/> Item 4 |

**Final price**

|                      |
|----------------------|
| <input type="text"/> |
|----------------------|

**ADD TO CART**

|            |  |                                     |   |
|------------|--|-------------------------------------|---|
| <b>MAP</b> | <input checked="" type="radio"/> Home<br><input checked="" type="radio"/> Contact<br><input checked="" type="radio"/> About us<br><input checked="" type="radio"/> Pricing | Order<br>Partners<br>Login/Register | <b>Documents</b><br><a href="#">Cookie Policy</a><br><a href="#">GDPR</a><br><a href="#">Privacy Policy</a> |
|------------|--|-------------------------------------|---|

Together with the footer, we have added extended program options at the suggestion of testers. This way, the website will offer more shopping options and items.

## ■ Contact

The image shows a hand-drawn wireframe of a website contact page. At the top, there's a header with the logo 'EasyCarWash' and language links 'SK EN HU' with 'LOG IN REGISTER' buttons. Below the header is a navigation bar with 'Home', 'About', 'Programs', 'Partners', and 'Contact' buttons. The main section is titled 'CONTACT'. On the left, there are fields for 'Phone' (+421 900 000 000), 'E-mail' (email@email.com), and 'Address' (Street 01,000 00 Bratislava). To the right, there's a 'Contact us' form with four input fields, a checkbox for 'I agree to become cleaner penguin', and a 'SEND' button. Below this is a large rectangular area labeled 'Big map'. At the bottom, there's a footer menu with 'MAP' and links to 'Home', 'Contact', 'About us', 'Pricing', 'Order', 'Partners', 'Login/Register', 'Documents', 'Cookie Policy', 'GDPR', and 'Privacy Policy'.

|     |             |  |                                     |  |
|-----|-------------|--|-------------------------------------|--|
| MAP | F<br>T<br>Y | Home<br>Contact<br>About us<br>Pricing | Order<br>Partners<br>Login/Register | Documents<br>Cookie Policy<br>GDPR<br>Privacy Policy |
|-----|-------------|--|-------------------------------------|--|

The added phone number, e-mail address and address of the company are a very necessary part of the contact section. In this way, the person can contact the company directly with immediate response from the car wash company.

## ■ Cart

The wireframe illustrates a user interface for a car wash service. At the top, there's a header with the logo 'Easy Car Wash' in a large font, language options (SK EN HU), and user links (LOG IN REGISTER). Below the header is a navigation bar with five items: Home, About, Programs, Partners, and Contact.

The main content area is titled 'Your cart'. It contains three separate sections, each representing a different program or service. Each section has a title 'Program number/name', a 'Chosen extras' section, and a 'Edit item' button.

- Program 1:** Chosen extras include 'Exterior' (checked for Item 1, unchecked for Item 2) and 'Interior' (unchecked for Item 1, checked for Item 2).
- Program 2:** Chosen extras include 'Exterior' (unchecked for Item 1, checked for Item 2) and 'Interior' (checked for Item 1, unchecked for Item 2).
- Program 3:** Chosen extras include 'Exterior' (checked for both Item 1 and Item 2) and 'Interior' (checked for both Item 1 and Item 2).

Below the cart sections, there's a 'Price' input field containing '€' and a 'PAY for your order' button.

At the bottom, there's a sidebar with a 'MAP' button and a list of links: Home, Contact, About us, Pricing, Order, Partners, Login / Reg., DOCS, Cookie Policy, GDPR, and Privacy Policy.

In the “Cart” section the user is now able to see also the calculated final price for the chosen items, which is an important part for the payment.

## ■ Partners

The sketch shows a header with the title 'Easy Car Wash' in a large, stylized font. Below it are language links 'SK EN HU' and buttons for 'LOG IN' and 'REGISTER'. A navigation bar below the header includes 'Home', 'About', 'Programs', 'Partners', and 'Contact' buttons. The main content area is titled 'Our partners' and features six placeholder boxes for logos, arranged in two rows of three. Below this section is a question 'Want to be our partner?' followed by a 'Contact us' button. A note says 'You can use our service as company'. At the bottom, there are three input fields: 'How many cars?', 'How often?', and 'Where?', each with a 'Choose please... ✓' button. To the right of these fields is a 'Calculate price' button. The footer contains a 'MAP' button, a navigation menu with links for Home, Contact, About us, Pricing, Order, Partners, Login/Register, and a 'Docs' section with links to Cookie Policy, GDPR, and Privacy Policy.

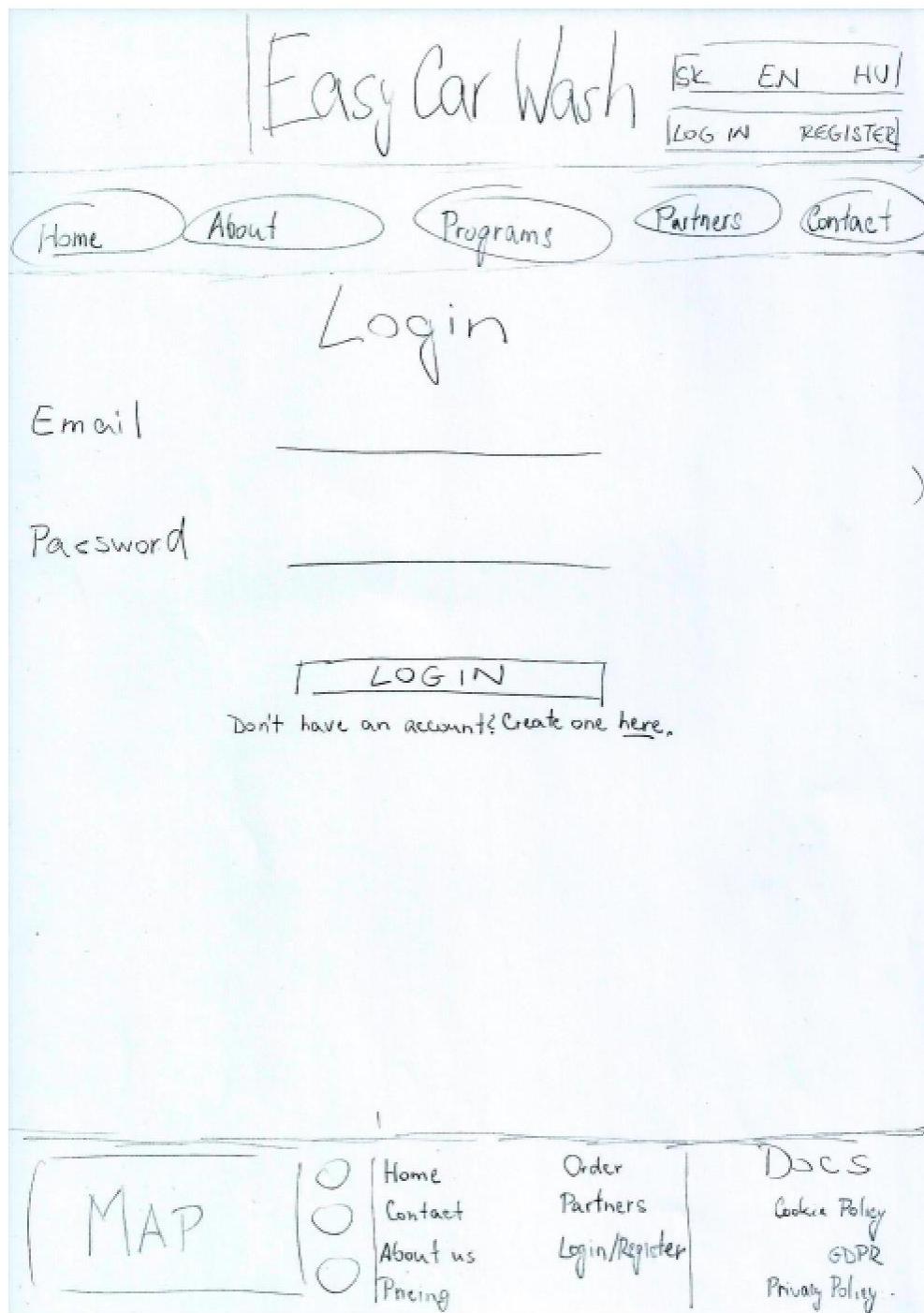
In case of long-term interest in using the offered services, a part has been added in which data is entered, such as number of cars, position of car and regularity of the order to specify the order.

## ■ Registration

The diagram shows a wireframe of a registration page. At the top, there's a header with the text "Easy Car Wash" in a large font, language options "SK EN HU", and buttons for "LOG IN" and "REGISTER". Below the header is a navigation bar with links for "Home", "About", "Programs", "Partners", and "Contact". A "Create account" button is positioned below the navigation bar. The main form area starts with "Personal information" and includes fields for "Email" (with a long horizontal input line), "Telephone number" (with a long horizontal input line), "Password" (with a long horizontal input line), and "Password confirm" (with a long horizontal input line). Below this is a section for "Default car creation information (can be changed when ordering)" with fields for "Street" (with a long horizontal input line), "City" (with a long horizontal input line), and "Postal code" (with a long horizontal input line). There is also a large empty rectangular input field. At the bottom, there's a "MAP" button with three icons (location, contact, about us) and a "Pricing" link. To the right, there are links for "Home", "Contact", "About us", "Pricing", "Order", "Partners", "Login/Reg.", and "Docs" which includes "Cookie Policy", "GDPR", and "Privacy Policy".

The basic registration has been modified minimally. We have only added a password confirmation to prevent the setting of an incorrect password due to a typo.

## ■ Login



In the “login” section, we decided not to change the content of the login in order to maintain ease of use. In order for the customer to be able to get to other parts of the website, we have added the missing buttons in the header.

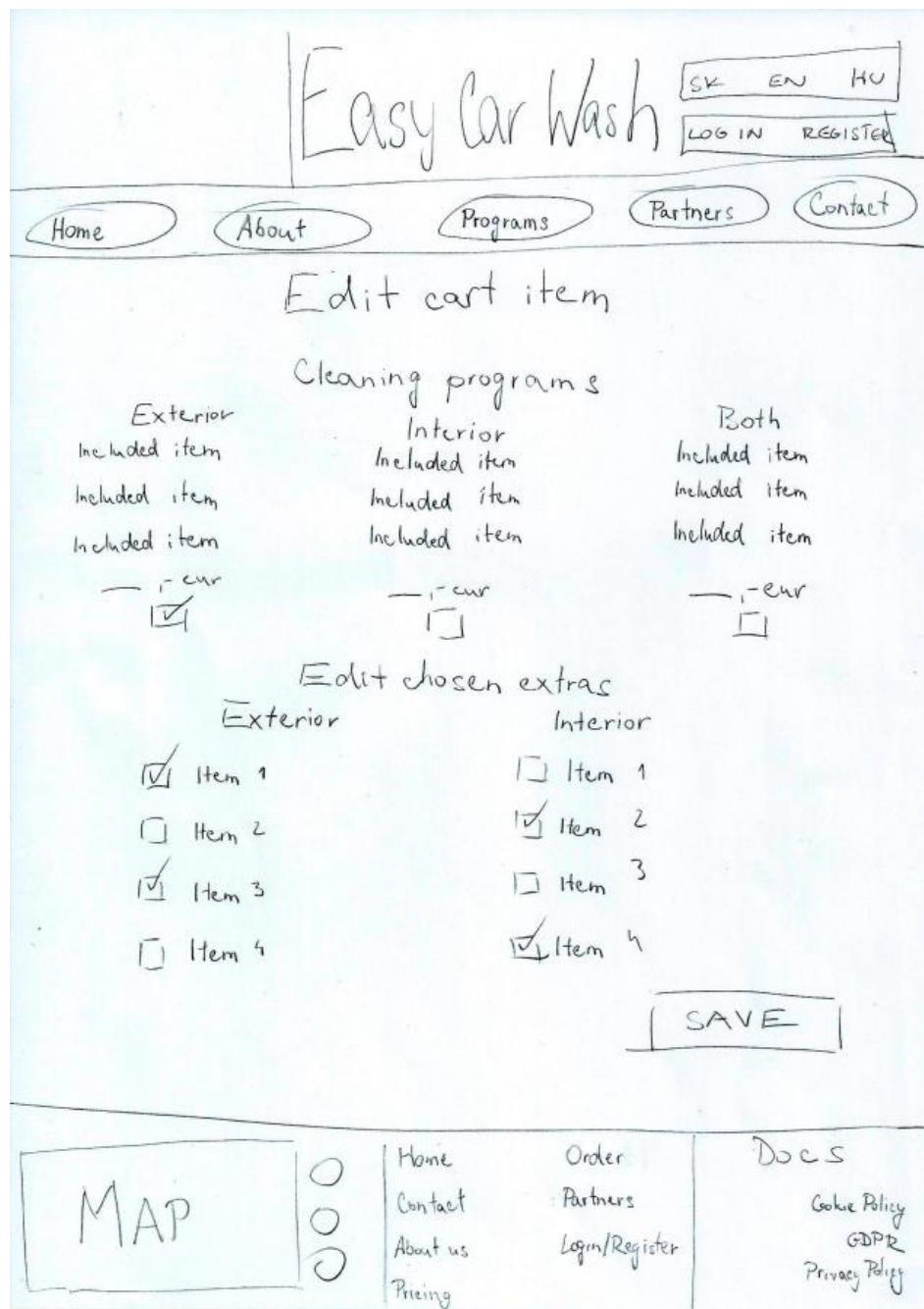
## ■ Profile

The wireframe shows a header with the logo 'Easy Car Wash' in a large, stylized font. To the right of the logo are language links 'SK EN HU' and buttons for 'LOG IN' and 'REGISTER'. Below the header is a navigation bar with five rounded rectangular buttons: 'Home', 'About', 'Programs', 'Partners', and 'Contact'. The main content area is titled 'Profile'. It contains sections for 'Personal information' (Email, Name, Old password, New password) and 'Default car location information' (Street, City, Postal code). There is also a 'Billing options' section with a 'Card number' input field and a 'REMOVE CARD' button. At the bottom right is an 'UPDATE' button. A 'MAP' button is located on the left side of the footer.

|     |  |                                     |   |
|-----|--|-------------------------------------|---|
| MAP | Home<br>Contact<br>About us<br>Pricing | Order<br>Partners<br>Login/Register | Docs<br>Cookie Policy<br>GDPR<br>Privacy Policy |
|-----|--|-------------------------------------|---|

In order for the customer to be able to change their data in this part, it was necessary to add an update button. To simplify the payment process, we have added a section of billing options and for the feeling of personal data security, a button to remove the payment card number has also been added.

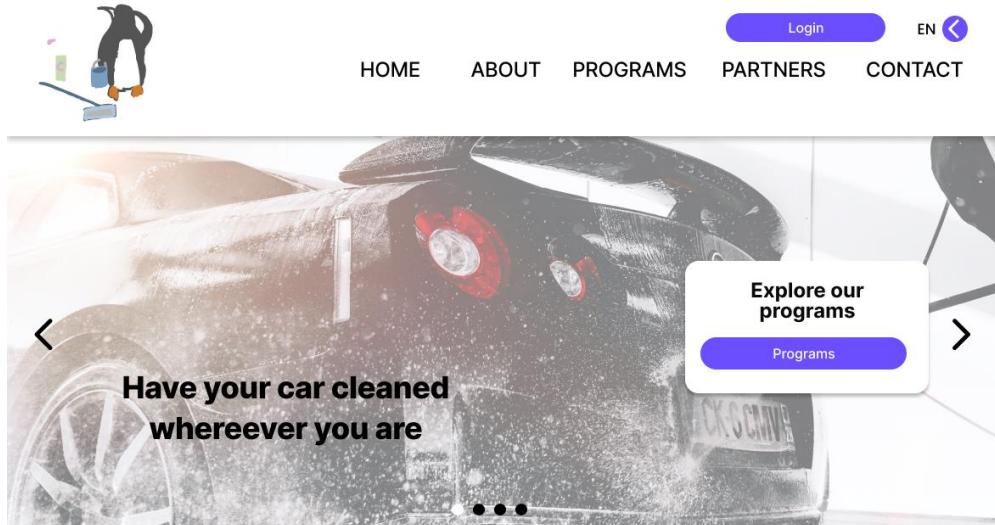
## ■ Edit cart



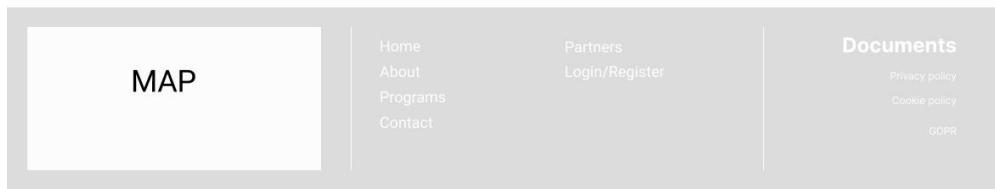
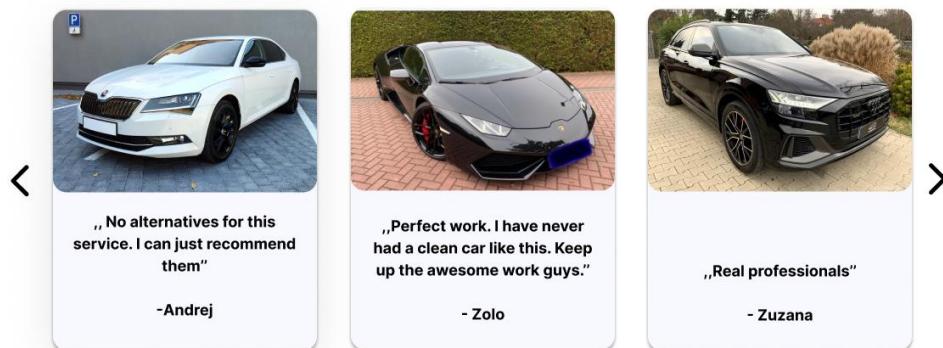
The “Edit cart” section is brand new. According to Act 102/2014 Zákon o ochrane spotrebiteľa pri predaji tovaru alebo poskytovaní služieb, the customer should be able to modify or cancel the order. Here you can do it and change the order, selected programs and other items that you can then save.

## 2.3 High-Fidelity Prototype (1st iteration)

### ■ Homepage



### What customers say about us



This site is the main page of our application. Basically, it's the starting point, from here the user can get everywhere and gets a basic insight into the application. Besides the main menu buttons, users can log in, change the language or get some information in the footer.

## ■ About



Login

EN

HOME

ABOUT

PROGRAMS

PARTNERS

CONTACT

## Team

For over 10 years we have been cleaning cars for best companies in the field and also the individual persons who care about their cars' state.

### Bonita Jewel

Bonita Jewel is a 42-year-old CEO and marketing manager. She is trying to communicate with our users and fulfill their feedbacks.

Picture

### Bonita Jewel

Bonita Jewel is a 42-year-old CEO and marketing manager. She is trying to communicate with our users and fulfill their feedbacks.

Picture

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Picture

### Bonita Jewel

Bonita Jewel is a 42-year-old CEO and marketing manager. She is trying to communicate with our users and fulfill their feedbacks.

Picture

## MAP

Home  
About  
Programs  
Contact

Partners  
Login/Register

### Documents

Privacy policy  
Cookie policy  
GDPR

This site has just an informative role. It introduces the leaders and the ones responsible for the site's functionality.

## ■ Programs



### Cleaning programs

| Exterior                               | Interior                                 | Full   |
|--|--|--|
| Window cleaning                        | Vacuuming the whole interior             | Include everything from exterior and interior programs |
| Cleaning of the wheels                 | Cleaning and polishing the control panel |  |
| Tire polishing                         | Washing the rubber rugs                  |  |
| Cleaning and polishing of the exterior | Trunk cleaning and vacuuming             |  |
| 20,- eur                               | Washing the windows                      | 45,- eur   |

### Choose Extras

- Cleaning the glove compartment #1
- Changing the engine oil #5
- Washing the bottom of the car #2
- Refilling the gasoil #6
- Cleaning the engine block #3
- Refilling the petrol #7
- Desinfection of the interior #4
- Air refresher #8

Final Price

### Where & When?

Where?

Address

When?

Date and time

Number Plate

XY123XY

Add to cart

MAP

Home  
About  
Programs  
Contact

Partners  
Login/Register

Documents  
Privacy policy  
Cookie policy  
GDPR

Basically the customer can choose from our offer. We differentiate 3 main cleaning programs (exterior, interior, full). Besides, the customer can choose extras, however, these aren't compulsory, just optimal.

## ■ Contact

[Login](#)

EN

[HOME](#) [ABOUT](#) [PROGRAMS](#) [PARTNERS](#) [CONTACT](#)

### E-mail

[info@carwash.com](mailto:info@carwash.com)

### Phone

0900 000 000

### Address

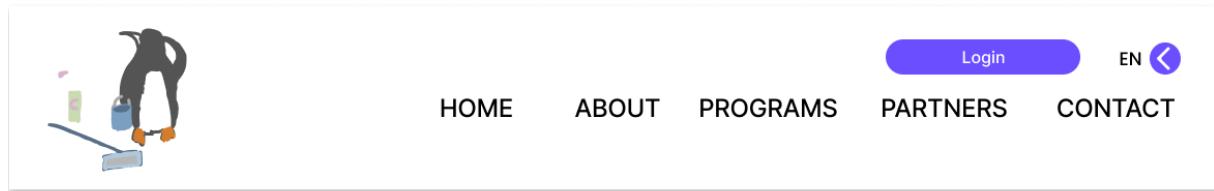
Address Line 1, Postal code, City

## Contact

**Name****Email****Message**[Send](#)[Home](#)  
[About](#)  
[Programs](#)  
[Contact](#)[Partners](#)  
[Login/Register](#)**Documents**[Privacy policy](#)  
[Cookie policy](#)  
[GDPR](#)

Any questions or complaints that the customers have, can be shared here. They just have to fill in their name, email and the message then click on send.

## ■ Cart



## Cart

### Summary

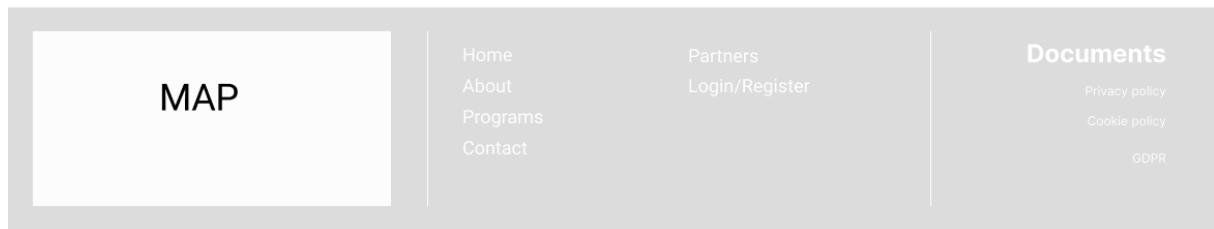
|                   |    |         |   |
|-------------------|----|---------|---|
| Interior cleaning | 1x | 20eur,- | X |
|-------------------|----|---------|---|

### Summary

|          |         |
|----------|---------|
|          | 20eur,- |
| Discount | -0eur,- |
| Final    | 20eur,- |

**Pay**

By selecting pay you will be automatically redirected to checkout page



Cart summarizes everything, what the user is going to buy. Calculates the final price, and gives the option to continue shopping.

## ■ Partners



### Our partners

For over 10 years we have been cleaning cars for best companies in the field and also the individual persons who care about their cars' state.

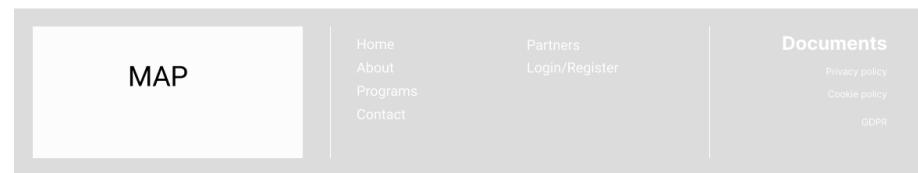


I STRONGLY recommend car company to EVERYONE interested in running a successful online business! I could probably go into sales for you. I can't say enough about car company. It fits our needs perfectly

Hans Helmold, Business Leader of Bitmex

### Become a partner

|  |  |  |
|--|--|--|
| Number of cars<br><input type="text" value="1, 5, 10,.."/> | How often you want our service?<br><input type="text" value="weekly, monthly,.."/> | Type of service<br><input type="button" value="Select"/> |
| <input type="button" value="Calculate price"/>             |  |  |



Here, the application provides the option to become a member. It is specified to customers/companies that require our service regularly and also own more than one car.

## ■ Registration



### Create account

#### Personal information

Email

Your email

Password

Your password

#### Default car location

(Can be changed when ordering)

Street

Street

City

City

Postal code

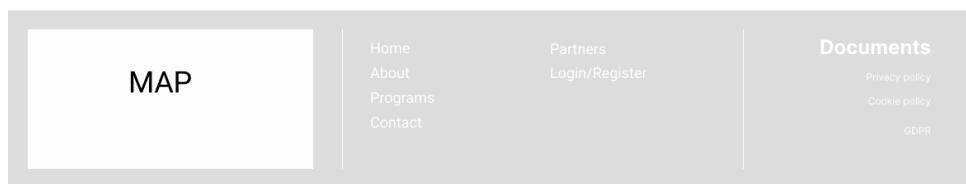
Postal code

#### Card information

VISA

Your card number

Register



This is the above-mentioned Create account site. If the user is not registered yet, then he/she can do it here. Required information is listed above, like email, password...etc. Register button confirms registration.



## ■ Login

Login

EN

HOME ABOUT PROGRAMS PARTNERS CONTACT

# Login

Email

Your email

Password

Your password

Login

Don't have an account?

Create One

MAP

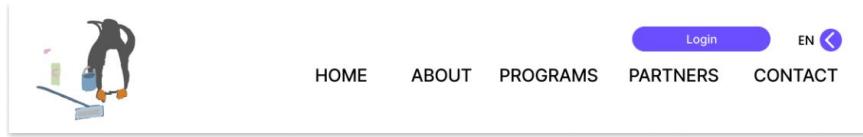
Home  
About  
Programs  
Contact

Partners  
Login/Register

Documents  
Privacy policy  
Cookie policy  
GDPR

Here the user can log in or create an account if he/she doesn't have one. Option *create one* moves the user to another site called *Create account*.

# ■ Profile



## Profile

### Personal information

E-mail

testemail@testemail.com

Name

Test Subject

Password

\*\*\*\*\*

### Default car location

(Can be changed when ordering)

Street

Street name 00

City

Examplecity

Postal code

000 00

Save

### Card information

Your debit cards

1234 5678 9012 3456      01/23  
123

Remove card

Add new card

Your card number

Expiration date  CVV



This is how the personal information site of our users looks like. It also provides the option to change some personal data, or remove/add bank cards.

## 2.4 Expert Testing

- **Heuristic evaluation:**

**List of Nielsen's heuristics:**

1. Visibility of system status
2. Match between system and the real world
3. User control and freedom
4. Consistency and standards
5. Error prevention
6. Recognition rather than recall
7. Flexibility and efficiency of use
8. Aesthetics and minimalist design
9. Help users with errors
10. Help and documentation

**Severity rating:**

- 0) I don't agree this is a usability problem at all
- 1) Cosmetic problem only: need not be fixed unless extra time is available on project
- 2) Minor usability problem: fixing this should be given low priority
- 3) Major usability problem: important to fix, so should be given high priority
- 4) Usability catastrophe: imperative to fix this before product can be released

| Severity | Strengths | Problems | Recommendations |
|----------|-----------|----------|-----------------|
|          |           |          |                 |

|   |   |   |   |   |
|---|---|---|---|---|
| 1 | 1 | Overall the system informs the users. The sites are clear and understandable.   | <p>There aren't any secondary animations/informative sites which would inform the user, for example in case of slow connection, some progress or loading bar would be nice to see.</p> <p>The final part of ordering, the checkout site does not contain the final price. It's true that the prelast site does, but before the absolute finalization the price should be visible.</p>   | We should add informative animations for users like progress and loading bars when saving things.                 |
| 2 | 1 | When a user visits the site, it's obvious that it is providing car washing/cleaning services. Main functionality of the site is in the programs menu. Customers can choose from 3 main categories of car washing, which contents are listed below them, so the user knows what she/he is going to pay for.                                      | <p>Ordering requires some information, as the address for the car. However it's not completely clear how the address should be added. There is only one field, so how should the user fill it out? City, district, street, number? Which are the compulsory data? It should be divided into more blocks, or at least print a schema into the existing field, as pattern. Same for the date and time. Do they have to add the year, month, day too? Or just the day and the time ?</p> | System should provide an example of address format.   |
| 3 | 1 | If user adds a credit card to the site he can see it right in the profile and he is free to remove it at all times<br>When customer orders our service his payment comes from the bank site and when he orders the service - he has to go through the checkout process so he does not have to be afraid of ordering the service by the accident | Customer is not able to cancel the order in the system  | System could provide option of cancelling the order within some time of ordering the service for registered users |
| 4 | 0 | The website follows the basic e-eshop guidelines  | Our merge of "Partner system" and ordering  | We should conduct more  |

|   |   |  |  |  |
|---|---|--|--|--|
|   |   | (checkout process, cart icon, cart functionality) so we keep external consistency Site keeps design consistency such as same headings, same margins between text blocks and heading and the general consistency throughout the system                      | multiple car clean might not be understood by all the clients and might be harming overall external consistency with sites with similar functionality which solve this problem by other techniques   | tests with different personas in this exact use-case to see if they find it confusing            |
| 5 | 1 | Website clearly allows the user to check every single step of ordering multiple times and summarises his actions. Cart and checkout clearly summarise every single step the user wants to do and always ask for extra button push to get to the next step. | User's profile is highly editable and can sometimes be tricky. User fills the text boxes which he wants to change and then clicks save at the bottom. There is no extra step needed to confirm these changes. User profile can be edited infinitely so if the user makes a mistake he can easily change it up again. | We should add a confirmation button to the profile page when users click save.                   |
| 6 | 1 | Website uses a conventional icon and marking system which is well known by users. Cart icons, language icons, headings, button style and every other element is easy to recognise and easy to use.   | Section of our page which is called programs can be sometimes misleading to future customers. Word programs have multiple meanings and can be tricky for not acknowledged customer.  | Word programs should be replaced by more familiar and widely used words. For example word order. |
| 7 | 2 | The website provides a big navigation bar with shortcuts to other pages. Also when a potential customer visits the site, on the homepage he sees the shortcuts to add default programs to cart.  | The website does not provide a step-by-step wizard for novice users who do not have a mental model of how the system works yet.  | We should add step-by-step wizards or tutorials for novice users.                                |
| 8 | 1 | The website uses one color palette which is focused on the color purple and this makes the site design more minimalistic. Also there are not too many unneeded design things. The website uses modern design elements.                                     | On some sites we see mismatches with the color palette of the site. Just for example when we see the profile site. The user has the choice to add a card which has a green button. The next one is on the same site. The remove card button which has red color.   | The colors which are not in the color palette of the site need to be changed.                    |

|           |          |   |   |  |
|-----------|----------|---|---|--|
| <b>9</b>  | <b>0</b> | There were no problems with errors during testing.                            | In high and low-fidelity prototyping it is very difficult to help users with errors due to insufficient resources and inability to code the conditions. | Find possible errors and keep track of them until the programming of the site. |
| <b>10</b> | <b>1</b> | In the prototype, fields are self-describing, i.e. they contain placeholders. | The customer cannot immediately get answers to possible questions related to the functionality of the website   | The faq part should be added to the site.                                      |

## 2.5 High-Fidelity Prototype (2nd iteration)

In the 2nd iteration we mainly changed our design, added the footer, created a logo...etc. Some sites in the previous iteration lacked functionality, so we added some new features. Besides, we tried to make the overall look, and content more realistic.

## ■ Homepage

The screenshot shows a modern website layout for a car wash service. At the top, there is a navigation bar with a logo featuring a blue car and water droplets, followed by links for HOME, ABOUT, PROGRAMS, PARTNERS, and CONTACT. A language switcher shows EN and a login button. Below the navigation is a large banner image of a dark-colored car being washed. Overlaid on the banner is a call-to-action text: "Have your car cleaned wherever you are". To the right of this text is a white button labeled "Explore our programs" with a purple "Programs" link underneath. Below the banner, the heading "Cleaning options" is centered, followed by three rounded rectangular boxes: "Exterior 20 euro" with an "Add to cart" button, "Interior 30 euro" with an "Add to cart" button, and "Full 45 euro" with an "Add to cart" button. Underneath these options is a section titled "What customers say about us", which displays three customer reviews with small car images above them. The reviews are: "„No alternatives for this service. I can just recommend them“ - Andrej", "„Perfect work. I have never had a clean car like this. Keep up the awesome work guys.“ - Zolo", and "„Real professionals“ - Zuzana". At the bottom of the page is a footer with a map of San Francisco, links to Home, About, Programs, Contact, Partners, Login/Register, and a social media icon for @easycarwash. On the right side of the footer is a "Documents" section with links to Privacy policy, Cookie policy, and GDPR.

In the 2. iteration we changed the design, created a logo added some buttons and the footer.

## ■ About



Login

EN



HOME

ABOUT

PROGRAMS

PARTNERS

CONTACT

## Team

For over 10 years we have been cleaning cars for best companies in the field and also the individual persons who care about their cars' state.

### Hans Helmold

Hans Helmold O'Moore is a 38-year-old CEO. One of the founders of our company. He got his MA degree in Economics at New York university. Besides he is a father and husband.



### Andrew Ladies

Andrew is a 50-year-old CEO. Andrew studied market analysis and got his MA degree from business management at UCL.



### Bonita Jewel

Bonita Jewel is a 42-year-old CEO and marketing manager. She is trying to communicate with our users and fulfill their feedbacks.



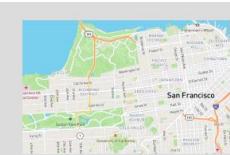
### Edward Daniels

Edward Daniels is a 40-year-old Front end developer. Everything what you see on this site is thanks to him.



### Noah Gordon

Noah Gordon is a 28 Back-end developer. Without him the app wouldn't be functional at all. He is keeping the app stable and functional.



Home  
About  
Programs  
Contact

Partners  
Login/Register

### Documents

Privacy policy  
Cookie policy  
GDPR

Easy car wash @easycarwash

We created actual team members, as in the first iteration there weren't any pictures of them and the members were not differentiated.

## ■ Program



Login

EN

HOME ABOUT PROGRAMS PARTNERS CONTACT

### Cleaning programs

#### Exterior

- Window cleaning
- Cleaning of the wheels
- Tire polishing
- Cleaning and polishing of the exterior

20,- eur



#### Interior

- Vacuuming the whole interior
- Cleaning and polishing the control panel
- Washing the rubber rugs
- Trunk cleaning and vacuuming
- Washing the windows

30,- eur



#### Full

Include everything from exterior and interior programs

45,- eur



### Choose Extras

- |  |   |
|--|---|
| <input type="checkbox"/> Cleaning the glove compartment #1 | <input type="checkbox"/> Changing the engine oil #5 |
| <input type="checkbox"/> Washing the bottom of the car #2  | <input type="checkbox"/> Refilling the gasoil #6    |
| <input type="checkbox"/> Cleaning the engine block #3      | <input type="checkbox"/> Refilling the petrol #7    |
| <input type="checkbox"/> Desinfection of the interior #4   | <input type="checkbox"/> Air refresher #8           |

Final Price

### Where & When?

Where?

Address

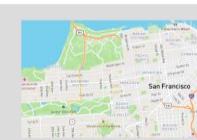
When?

Date and time

Number Plate

XY123XY

Add to cart



Home

About

Programs

Contact

Easy car wash

Partners

Login/Register

#### Documents

[Privacy policy](#)[Cookie policy](#)[GDPR](#)

Here we added a footer and changed the design of the checkboxes.

## ■ Contact



Login EN

HOME ABOUT PROGRAMS PARTNERS CONTACT

### E-mail

info@carwash.com

### Phone

0900 000 000

### Address

Address Line 1, Postal code, City

## Contact

### Name

Your name

### Email

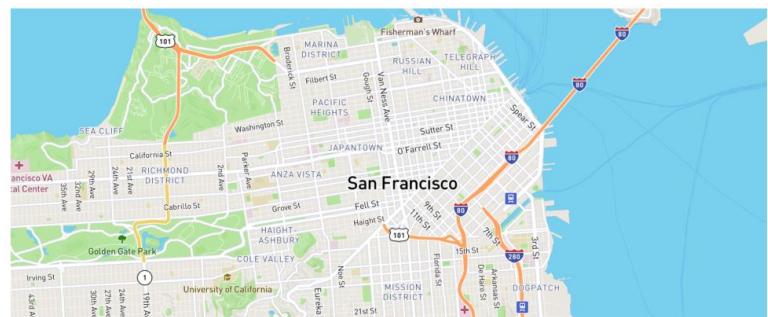
Your email

### Message

Your message



Send



Home  
About  
Programs  
Contact

Partners  
Login/Register

Documents  
Privacy policy  
Cookie policy  
GDPR

Easy car wash @easycarwash

Also, we maintained the abstraction of the footer, as well as the map.

## ■ Cart



Login

[HOME](#) [ABOUT](#) [PROGRAMS](#) [PARTNERS](#)

## Cart

### Summary

|                     |  |         |
|---------------------|--|---------|
| Interior cleaning   | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 20eur,- |
| Vacuuming           | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 30eur,- |
| Leather cleaning    | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 20eur,- |
| Exterior cleaning   | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 10eur,- |
| Waxing              | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 15eur,- |
| Engine bay cleaning | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 20eur,- |
| Cearmic coating     | <input type="button" value="-"/> <input checked="" type="button" value="1x"/> <input type="button" value="+"/> | 30eur,- |

### Summary

|          |          |
|----------|----------|
|          | 145eur,- |
| Discount | -0eur,-  |
| Final    | 145eur,- |

[Proceed to Checkout](#)

By selecting pay you will be automatically redirected to checkout page

[Home](#)[About](#)[Programs](#)[Contact](#)[Partners](#)[Login/Register](#)

Easy car wash

@easycarwash

We added some more items to the car to make its functionality more visible and change the checkboxes.

## ■ Partners



Login

EN

HOME

ABOUT

PROGRAMS

PARTNERS

CONTACT

## Our partners

For over 10 years we have been cleaning cars for best companies in the field and also the individual persons who care about their cars' state.



**I STRONGLY recommend car company to EVERYONE interested in running a successful online business! I could probably go into sales for you. I can't say enough about car company. It fits our needs perfectly**

Hans Helmold, Business Leader of Bitmex

## Become a partner

Number of cars

1, 5, 10,..

How often you want our service?

weekly, monthly,..

Type of service

Select

Calculate price

### Overall price calculation

Number of cars: 20

Period: Monthly

Service: exterior cleaning

Calculated price: 1200\$



Home

About

Programs

Contact

Partners

Login/Register

Easy car wash

@easycarwash

### Documents

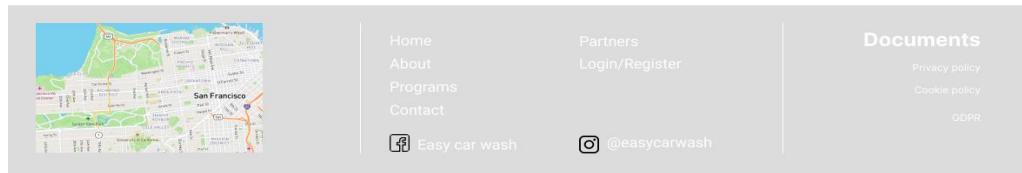
[Privacy policy](#)

[Cookie policy](#)

[GDPR](#)

We came up with some more detailed partners, added some logos to make it more realistic. Lastly we made the summarization of service more clear.

## ■ Registration



There are no major changes. The footer is added, but this change happened almost in all sites.

## ■ Login



## Login

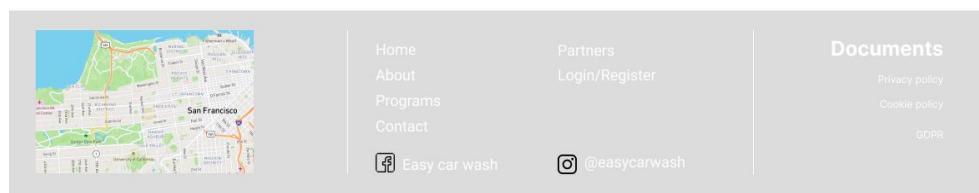
Email

Password

[Login](#)

Don't have an account?

[Create One](#)



There are no major changes. The footer is added, but this change happened almost in all sites.

# ■ Profile



HOME ABOUT PROGRAMS PARTNERS CONTACT



Login

EN



## Profile

### Personal information

#### E-mail

testemail@testemail.com

Your new email

#### Name

Test Subject

Your new name

#### Password

\*\*\*\*\*

Your new password

Repeat your new password

### Default car location

(Can be changed when ordering)

#### Street

Street name 00

Your new street

#### City

Examplecity

Your new city

#### Postal code

000 00

Your new postal code

Save

### Card information

#### Your debit cards

1234 5678 9012 3456      01/23  
123

Remove card

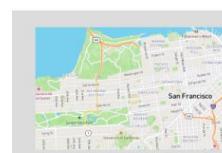
#### Add new card

Your card number

Add card

Expiration date

CVV



Home

About

Programs

Contact

Easy car wash

Partners

Login/Register

### Documents

Privacy policy

Cookie policy

GDPR

At first, it wasn't possible to add a new bank card to the account, so we implemented this option.

## ■ Checkout



Login

EN

[HOME](#) [ABOUT](#) [PROGRAMS](#) [PARTNERS](#) [CONTACT](#)

# Checkout

## Personal information

Name

Phil Luis

Email

phil.luis@gmail.com

## Payment type

 Card Pay G Pay Apple Pay PayPal Pay with Cash[Home](#)[About](#)[Programs](#)[Contact](#)[Partners](#)[Login/Register](#)

Easy car wash

@easycarwash

## Documents

[Privacy policy](#)[Cookie policy](#)[GDPR](#)

These aren't changes, since we didn't have a checkout site. This is the final step before the actual order, where the customer chooses how he/she wants to pay and confirms the order.

# 3 Usability Testing Phase

- Car Wash
- Slovakia, 9. - 27.11.2021

## 3.1 Summary

- Discussion and Analysis

The main problem of the site is that partners' concept is misunderstood - testers and pilot testing has shown that we should find clearer concepts in what being a partner includes. Also, we should separate being a partner from ordering multiple cleanings.

By heuristic tests we found that our site is compatible with some of Nielsen's heuristics but there are areas we should work on. We provide conducted results from Nielsen's heuristics on the bottom of the document.

We should also consider adding more UI parts to show the exact state of the system he is currently in like loading screens. Also, the big part could be adding confirmation buttons to all important actions so the user is confident in making mistakes too. As the project could grow bigger, it might be a good idea to add FaQ section and documentation.

Althgout, users were not lost in the site the majority of the time and they were able to do actions they came for. Overall the task completion rate was not the worst but could use some improvements. In terms of time users spent completing the tasks the results were beyond our expectations.

## 3.2 Test Procedure Description

- User Profiles

Describe the kinds of user the site is trying to attract.

- Test Users

| Test User        | TP0<br>(Pilot) | TP1    | TP2     | TP3    | TP4     | TP5    |  |
|------------------|----------------|--------|---------|--------|---------|--------|--|
| Alias            | Simon          | Katka  | Filip   | Martin | Martin  | Tibor  |  |
| Date of Test     | 9.11           | 27.11  | 27.11   | 27.11  | 25.11   | 26.11  |  |
| Time of Test     | 9:30           | 14:00  | 19:00   | 22:00  | 17:00   | 16:00  |  |
| Language of Test | English        | Slovak | English | Slovak | English | Slovak |  |

|                     |                    |                     |                    |                     |                    |                    |  |
|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|--------------------|--|
| General Information |                    |                     |                    |                     |                    |                    |  |
| Sex                 | male               | female              | male               | male                | male               | male               |  |
| Age                 | 21                 | 20                  | 25                 | 17                  | 22                 | 22                 |  |
| Education           | University student | High school student | University Student | High school student | University student | University student |  |
| Sight Impairment    |                    |                     |                    |                     |                    |                    |  |
| Sight Aid           | no                 | no                  | no                 | no                  | no                 | no                 |  |
| Colour Blindness?   | no                 | no                  | no                 | no                  | no                 | no                 |  |
| Education           |                    |                     |                    |                     |                    |                    |  |
| Education level     | High school        | Elementary school   | High School        | Elementary school   | High school        | High school        |  |

**Table 1:** Overview of the test users.

## ■ Test Environment

| Equipment (TP1)     |                |
|---------------------|----------------|
| Device              | Macbook Air    |
| Operating System    | macOS Big Sur  |
| Web Browser         | Google Chrome  |
| Internet Connection | Wi-Fi          |
| Screen Resolution   | 1,440x900      |
| Screen Size         | 13,3"          |
| Equipment (TP2)     |                |
| Device              | HP Omen 15     |
| Operating System    | Windows 10     |
| Web Browser         | Microsoft Edge |

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Internet Connection</b> | Wi-fi                              |
| <b>Screen Resolution</b>   | 1920x1080.                         |
| <b>Screen Size</b>         | 15.6"                              |
| <b>Equipment (TP3)</b>     |                                    |
| <b>Device</b>              | Mac Book Air                       |
| <b>Operating System</b>    | macOs Monterey 12.0.1              |
| <b>Web Browser</b>         | Safari                             |
| <b>Internet Connection</b> | Wi-fi                              |
| <b>Screen Resolution</b>   | 2560 x 1600 at 227 pixels per inch |
| <b>Screen Size</b>         | 13"                                |
| <b>Equipment (TP4)</b>     |                                    |
| <b>Device</b>              | HP Omen Obelisk                    |
| <b>Operating System</b>    | Windows 10                         |
| <b>Web Browser</b>         | Google Chrome                      |
| <b>Internet Connection</b> | Ethernet                           |
| <b>Screen Resolution</b>   | 1920 x 1080                        |
| <b>Screen Size</b>         | 27"                                |
| <b>Equipment (TP5)</b>     |                                    |
| <b>Device</b>              | PC                                 |

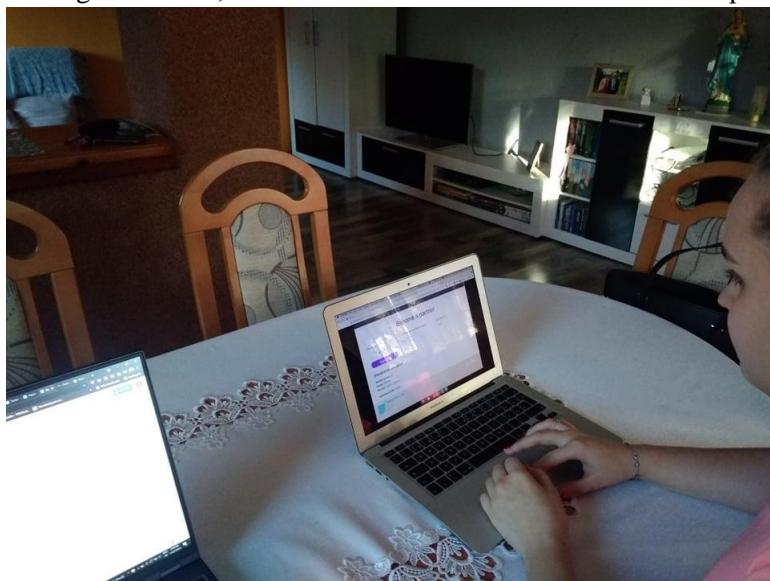
|                            |                          |
|----------------------------|--------------------------|
| <b>Operating System</b>    | Windows 10               |
| <b>Web Browser</b>         | Google chrome            |
| <b>Internet Connection</b> | active Wifi connection   |
| <b>Screen Resolution</b>   | 1920x1080                |
| <b>Screen Size</b>         | 15.6" IPS anti reflexive |

**Table 2:** Environment used for the thinking aloud test.

### ■ Recording

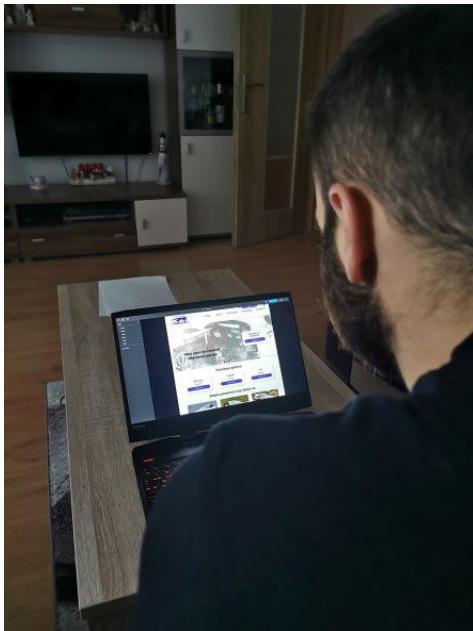
- TP1

With TP1 we conducted the experiment at home. We did not have any technical issues. Perhaps we should point out that the tester had some difficulties of clicking to text fields in Figma simulation which were not clickable. No other problems occurred, in some test scenarios the tester needed a little bit of help. In the testing case 4, the tester tried to click add to cart multiple times and could not find our logic. As well, the tester did not consider “extras” as a separate option but as something extra.



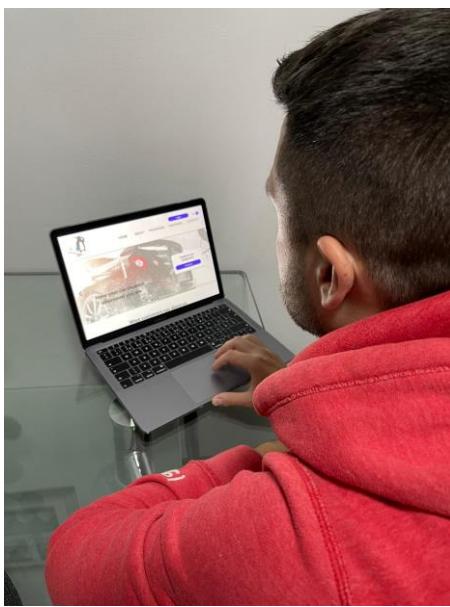
- TP2

I met with TP2 at his home. We took a picture with the Huawei P30 Pro mobile phone. I explained TP2 the persona and the scenario. Before testing I show TP2 our webapp and tell him what it is about. We didn't have any issues.



- TP3

We met with TP3 at his place and executed the test. I have been sitting right next to the subject during the whole test. I explained the concept of our persona to him so he could impersonate it better. We didn't run into any issues. After a small while on the website our test subject was more than greatly oriented and could fulfill tasks easily. The subject was also very familiar with the concept so no issues occurred.

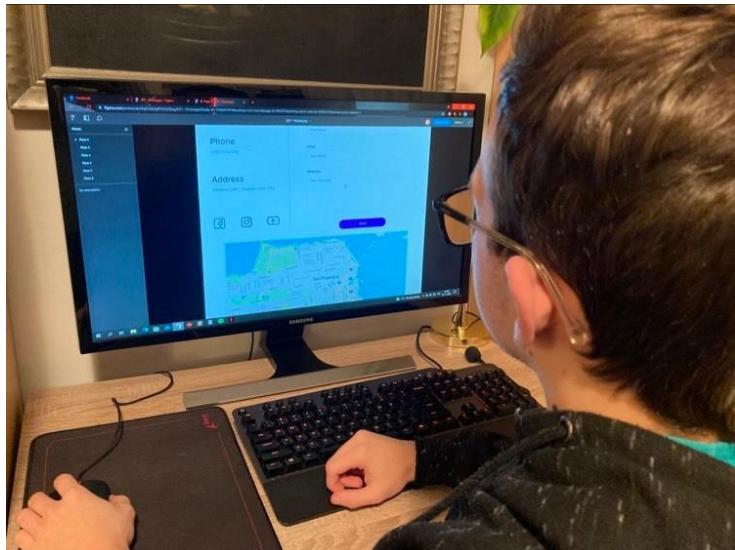


- TP4

Testing with tester 4 took place in the quiet, undisturbed environment of his room at home. During the testing, I was right next to the tester, in case of questions or problems.

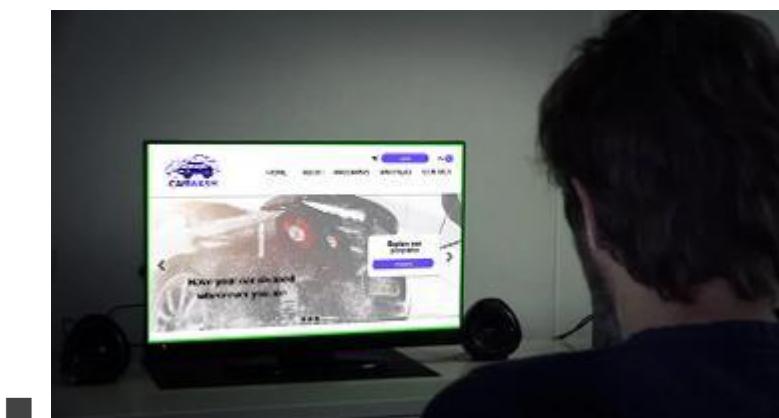
Throughout the process, the tester was concentrated and showed no signs of frustration or dissatisfaction. He had no problems using the application and completing tasks.

If the tester encountered a bug or something that did not appear to him quite clearly, he immediately commented on these issues during the test with suggestions for improvement.



- TP5

TP5 executed our test in his room at home. During the process we were talking, in case he would need any help. I explained to him the scenario and the persona he should impersonate. The most confusing task was the change of the credit card number. Probably because we didn't include any buttons specially for that task. We imagined this process like the user just edits the number by clicking on the corresponding field and saves the changes.



- Tasks

The task list used by the test team is shown in Table 3. Only the description of each task is given to the users.

| Task No. | Description  | Prerequisites  | Completion Criteria  | Max. Time | Possible Solution Path  |
|----------|--|--|--|-----------|---|
| 1        | Order a service based on your needs.   | Web browser opened anywhere on our page.                         | <p>The user successfully orders our service and completes the checkout.</p> <p>The facilitator then asks the user questions:</p> <ol style="list-style-type: none"> <li>Was it hard for you to find the service you were looking for?</li> <li>Was something along the way unclear?</li> </ol>     | 5 minutes | <p>Home</p> <p>-&gt; Click on programs</p> <p>-&gt; Select program and add it to cart</p> <p>-&gt; Click on the cart</p> <p>-&gt; Review items and click "pay"</p>  |
| 2        | The new user is browsing the site and he/she wants to check the prices for different services. | Starts from the homepage.  | <p>The user tries different cleaning configurations until he is satisfied and then puts the cleaning configuration to the cart.</p> <p>The facilitator then asks the user questions:</p> <ol style="list-style-type: none"> <li>Was configuration selection ambiguous or clear for you?</li> </ol> | 2 minutes | <p>Home</p> <p>-&gt; Click on programs</p> <p>-&gt; Selecting configuration</p> <p>-&gt; Putting service to cart</p>  |
| 3        | The user changes his card number from the system.  | <p>The user starts from the homepage.</p> <p>User logged in.</p> | <p>The user sees a success dialog that the profile information was changed.</p> <p>The facilitator then asks the user questions:</p> <ol style="list-style-type: none"> <li>Did you struggle to find a changing card number option?</li> </ol>   | 3 minutes | <p>Home</p> <p>-&gt; Click on the profile</p> <p>-&gt; scroll down if smaller device resolution</p> <p>-&gt; Change card number</p> <p>-&gt; Confirm the change</p> |
| 4        | The user wants to order washing for more than 1 car at   | <p>Starts from the homepage.</p> <p>Order successful.</p>        | The user fills up the form in the partners section and he is confident in what he is doing.  | 5 minutes | <p>Home</p> <p>-&gt; Programs</p>   |

|   |   |  |   |           |   |
|---|---|--|---|-----------|---|
|   | different locations and times.                  |  |   |           | -> Add to cart, continue shopping<br><br>-> Order for another car (where, when, plate)<br><br>-> Add to cart, cart<br><br>-> Checkout<br><br>-> Pay |
| 5 | The user wants to become a partner              | Starts from the homepage<br><br>Order successful       | The user does so by writing mail in the contact section of the site or he orders multiple car cleanings.  | 4 minutes | Home<br><br>-> Partners<br><br>-> Become partners<br><br>->Calculate price<br><br>->Add to cart<br><br>->Proceed to checkout<br><br>->Pay           |
| 6 | The user wants to delete an item from the cart. | Starts from the homepage<br><br>Item delete from cart. | User first orders a service of cleaning of some sort and then navigates to the cart. When he is in the cart, he deletes the item from the cart. | 4 minutes | Home<br><br>-> Programs<br><br>->Add to cart<br><br>->Cart<br><br>-> X  |

**Table 3:** Task list.

### 3.3 Results

#### ■ Task Completion rate

Task completion rate is a measure, where 0 indicates failure, 1 indicates success, 0.5 indicates assistance.

|     | Task 1     | Task 2     | Task 3    | Task 4    | Task 5    | Task 6    |
|-----|------------|------------|-----------|-----------|-----------|-----------|
| TP1 | 1          | 1          | 0,5       | 0,5       | 0,5       | 1         |
| TP2 | 1          | 1          | 1         | 1         | 1         | 1         |
| TP3 | 1          | 1          | 0,5       | 0,5       | 0,5       | 1         |
| TP4 | 1          | 1          | 1         | 1         | 0,5       | 1         |
| TP5 | 1          | 1          | 0,5       | 0,5       | 0,5       | 0,5       |
| %   | <b>100</b> | <b>100</b> | <b>70</b> | <b>70</b> | <b>60</b> | <b>90</b> |

**Table 5:** Task completion rates ( 0 - not completed, 1- completed, 0.5 - assistance was given.)

### ■ Task Completion time

#### ■ Time measured in seconds

|     | Task 1      | Task 2      | Task 3      | Task 4      | Task 5      | Task 6      |
|-----|-------------|-------------|-------------|-------------|-------------|-------------|
| TP1 | 1:24        | 2:20        | 2:33        | 4:20        | 0:50        | 1:31        |
| TP2 | 1:12        | 0:27        | 2:51        | 2:35        | 0:55        | 0:27        |
| TP3 | 2:34        | 1:59        | 3:14        | 3:37        | 3:44        | 1:41        |
| TP4 | 0:26        | 0:44        | 0:39        | 0:38        | 0:43        | 0:36        |
| TP5 | 2:00        | 0:26        | 2:42        | 1:55        | 3:47        | 2.02        |
| Avg | <b>1:31</b> | <b>1:11</b> | <b>2:24</b> | <b>2:37</b> | <b>2:00</b> | <b>1:15</b> |
| Std | <b>0:43</b> | <b>0:48</b> | <b>0:54</b> | <b>1:18</b> | <b>1:26</b> | <b>0:37</b> |

**Table 6:** Task completion time

### ■ User Interviews - answers to the facilitator

|           |                       |
|-----------|-----------------------|
| <b>Q1</b> | Was the UX intuitive? |
|-----------|-----------------------|

|           |   |
|-----------|---|
| <b>Q2</b> | Were you aware, what were you doing while using the UX?     |
| <b>Q3</b> | Was the UX similar to the other similar sites?              |
| <b>Q4</b> | Did you get all the information in the app that you needed? |
| <b>Q5</b> | Have you had any problems ordering the service?             |

**Table 7:** Questions

■ **User Interviews - answers to the facilitator**

**Table 7a:** User responses to the question:1

|            |   |
|------------|---|
| <b>TP1</b> | 5 / Quite intuitive. Just had a small problem finding how to order multiple cars. |
| <b>TP2</b> | Yes   |
| <b>TP3</b> | Yes   |
| <b>TP4</b> | Yes   |
| <b>TP5</b> | Yes, I think it was.  |

**Table 7b:** User responses to the question: 2

|            |         |
|------------|---------|
| <b>TP1</b> | 6 / Yes |
| <b>TP2</b> | Yes     |
| <b>TP3</b> | Yes     |
| <b>TP4</b> | Yes     |
| <b>TP5</b> | Yes     |

**Table 7c:** User responses to the question: 3

|            |  |
|------------|--|
| <b>TP1</b> | 6 / Yes  |
| <b>TP2</b> | Yes  |
| <b>TP3</b> | Yes  |
| <b>TP4</b> | Yes, there were some classical elements used in websites |
| <b>TP5</b> | Yes, the core functionalities and steps.                 |

**Table 7d:** User responses to the question: 4

|            |  |
|------------|--|
| <b>TP1</b> | 6 / Yes every service and action was described very well.    |
| <b>TP2</b> | Yes  |
| <b>TP3</b> | Yes  |
| <b>TP4</b> | Yes, within the possibilities of the prototyping environment |
| <b>TP5</b> | Yes  |

**Table 7e:** User responses to the question: 5

|             |  |
|-------------|--|
| <b>TP 1</b> | 4 / Had problems with the Partners tab while trying to order cleaning for multiple cars. |
| <b>TP 2</b> | Yes  |
| <b>TP 3</b> | No   |
| <b>TP 4</b> | No, not at all.  |
| <b>TP 5</b> | No   |

## ■ Feedback Questionnaires

Table 8 shows a summary of the ratings given by users in the feedback questionnaire at the end of the test. The neutral scale in the original feedback questionnaire has been mapped to a weighted scale between 6 (best) and 0 (worst)

|    |   |             |               |            |   | TP<br>1 | TP<br>2 | TP<br>3 | TP4 | TP<br>5 | Mean | Std. Dev |
|----|---|-------------|---------------|------------|---|---------|---------|---------|-----|---------|------|----------|
| 1. | Was the UX intuitive?                                       | Very likely | 6 5 4 3 2 1 0 | Not likely | 4 | 5       | 5       | 5,5     | 4   | 4,7     | 0,6  |          |
| 2. | Were you aware, what were you doing while using the UX?     | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 4 | 5       | 5       | 5       | 2   | 4,2     | 1,36 |          |
| 3. | Was the UX similar with the other similar sites?            | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 4 | 4       | 5       | 5       | 4   | 4,4     | 0,49 |          |
| 4. | Did you get all the information in the app that you needed? | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 5 | 3       | 4       | 4,5     | 3   | 3,9     | 0,8  |          |
| 5. | Have you had any problems ordering the service?             | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 3 | 5       | 6       | 5,5     | 3   | 4,5     | 1,26 |          |

#### 8: Summary of user ratings from the feedback questionnaire.



#### ■ List of Problems Found

Aggregated list of all problems observed in the test, in descending order of mean severity.

- Some testers could not have found the option of ordering multiple car cleanings.
- The tester was unable to add multiple car cleanings in the cart option.
- The Extras section was confusing for some testers since it was not considered by them to be a separate option.
- The footer was hard to read - too little contrast between the background and the letters.
- In the Programs section, the program description was confusing, had a lot of text - divide the description into points.

## 4 Mobile Design Phase

### 4.1 Low-Fidelity Mobile Design

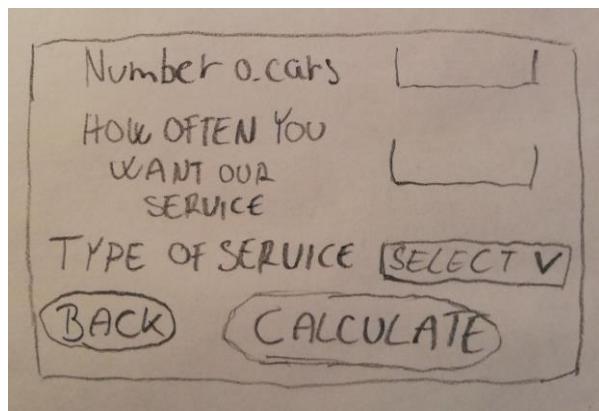
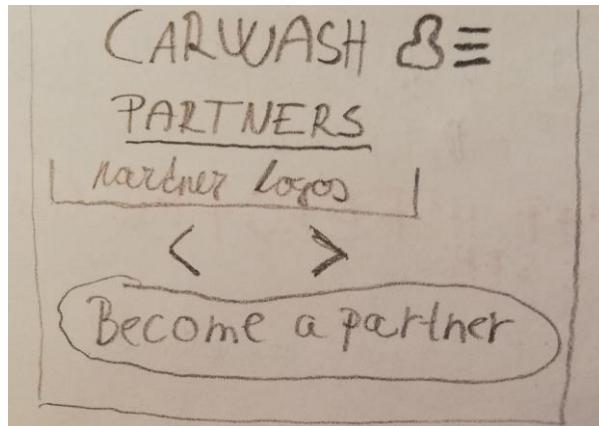
#### ■ Login

On the login frame, we can log in to our account or we can create one(registration).



#### ■ Partners

In these frames, we show our partners, and an option to be one of our partners. In this case, you need to fill in some information and we calculate the price for you. This is a kind of subscription.



## ■ Register

These frames show us the process of user registration. The user first needs to fill in personal information, then the user can proceed to the next part of the registration. Where the user needs to enter the default car location. This can be the user's home address. The next step is to add a card to the user account. After these steps, the application shows the new user a preview of his profile which will be created. The user can step back to edit the profile information or can confirm the creation of the account.

Logo

Register

Personal information

Email  
Name  
Password

Next

Logo

Register

Default car location

Street  
City  
Postal code

Prev Next

Logo

Register

Card information

Card number  
Expiration date  
CVC

Prev Next

**Profile preview**

Personal Information

Email  
Name  
Password

Default Car Location

Street  
City  
Postal Code

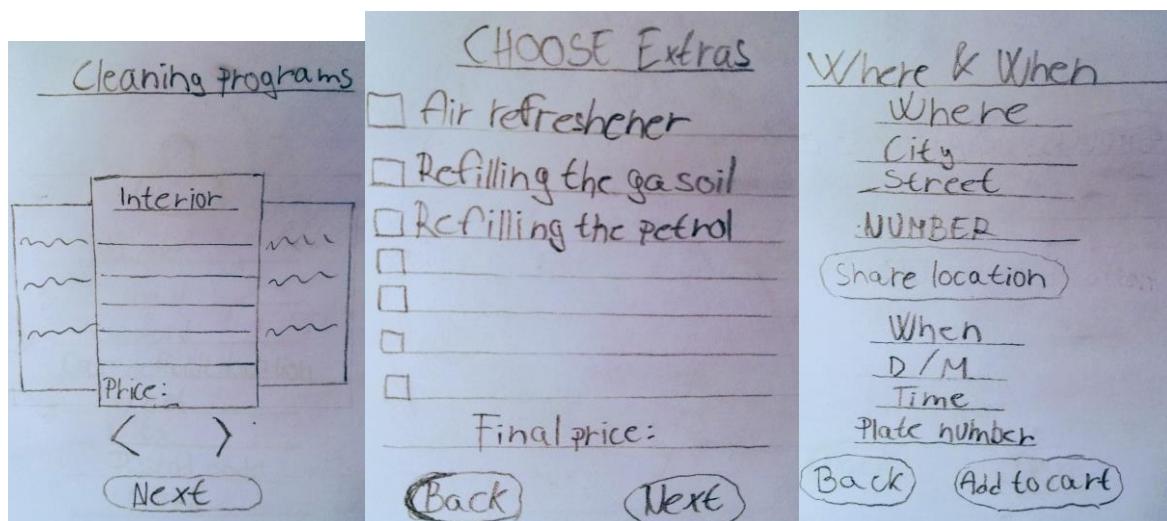
Card information

card01 1234 5678 9012 3456 01/23 \*\*\*

Create  
Back

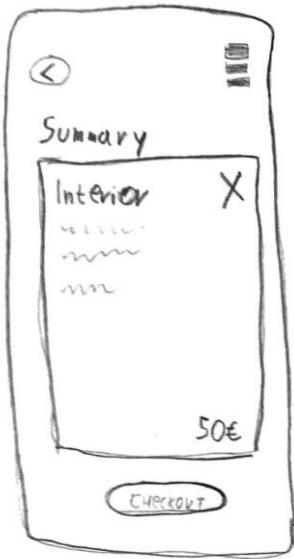
## ■ Programs

In these sketches, we show you our programs. The user should choose one of these and click on the Next button which will take the user on to the second frame. On the second frame, the user can choose some extras if wants to. The user can go back to choose a different program or go to the next frame. The last frame is where the user adds the car information such as location and plate number. In this last frame, the user needs to fill in the date and time of the cleaning too.



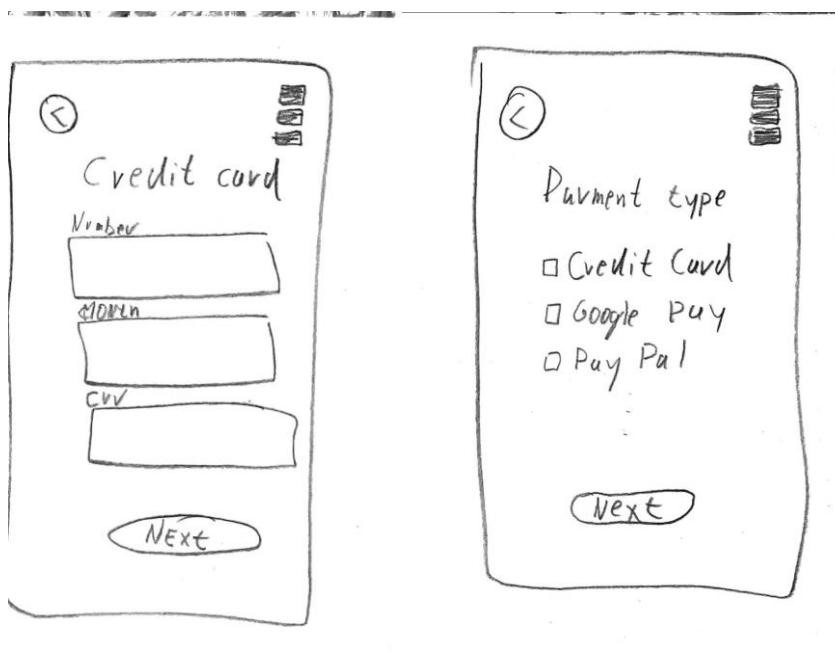
## ■ Cart

This frame shows us our cart and orders/items in it. From the cart, we can proceed to checkout.



## ■ Checkout

On frames, under this text, we can see what our checkout process should look like.



## ■ Profile

The frames under show us what we can see and do on our profile frame. On our profile, we can edit our personal information, default car location and we can see, delete or add our credit/debit card details.

The image displays three wireframe screens for the Profile feature:

- Profile:** Shows fields for Personal Information (Email, Name, Password) and Default Car Location (Street, City, Postal Code). It includes an "Edit" button for each section and a "Card information" section with a card entry (card01 1234 5678 9012 3456 01/23 \*\*\* [Delete]) and an "Add new card" button.
- Edit Profile:** Similar to the Profile screen, but with "Save" buttons instead of "Edit". It also includes a "Default Car Location" section with "Save" buttons.
- Add new card:** A form for adding a new card, requiring Card number (0123 4567 8901 2345), Expiration date (01/23), and CVC (123). It has a "Save" button.

## ■ Contact

On this screen, you can send us an email if you have any questions or if you have any difficulties with using this app.

The image displays a wireframe screen for the Contact feature:

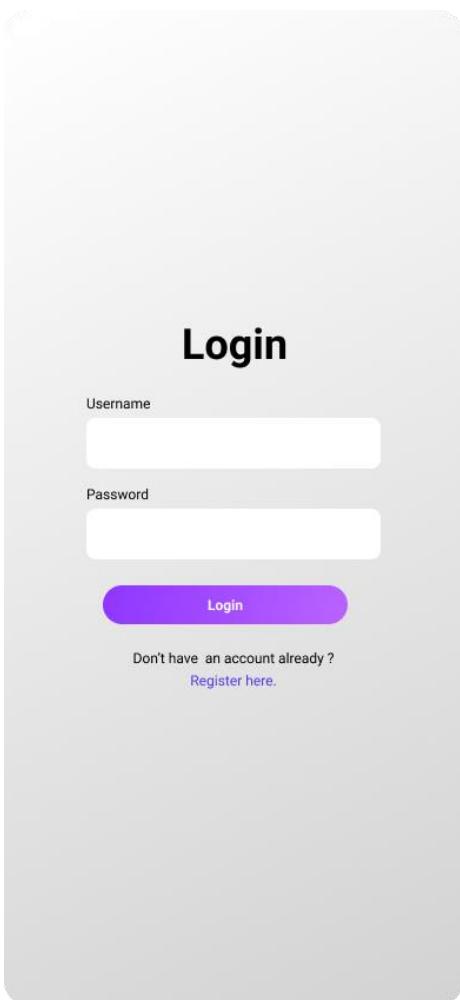
- Contact:** Fields for Name, Email, and Message, followed by a "Send" button.
- Other Contact Information:** Links to external contact details:
  - Email: info@example.com
  - Phone: +421 900 000 000
  - Address: Address Line 1, Postal code, City
  - Facebook: Carwash
  - Instagram: Carwash
  - YouTube: Carwash

## 4.2 High-Fidelity Mobile Design

We have created a user friendly mobile design with light background tones and dark text so the user can clearly see all content regardless of lightning conditions. Interactive buttons and important content is highlighted by bold pink and purple gradients with light text color and creates a significant contrast - this is also focused on proper visibility. We have tried to improve our low fidelity designs and improved many aspects according to Nielsen's heuristics. Our app is focused on IOS devices so we count on all functionality that Apple devices provide.

### ■ Login

Our app starts with a login page where the user can type his credentials or start the registration part. Anyone can register.



## ■ Register

Register part consists of three parts which are clearly marked and the user can go back how many times he wants and correct his mistakes. According to Nielsen these steps are very important and we tried to focus on these. After successful registration, the user is informed and can go to the homepage of our whole app.

The image shows three mobile application screens for a registration process, each with a header labeled "Register" and a "BACK" button.

- Personal Information:** Contains fields for Full name, Username, E-Mail, Password, and Confirm Password. It includes a "Next Step" button and a progress indicator showing Step 1/3 with one purple dot and two white dots.
- Address:** Contains fields for Country, City, Street, Building Number, and Postal Code. It includes a "Next Step" button and a progress indicator showing Step 2/3 with two purple dots and one white dot.
- Payment Method:** Contains fields for Card Number, Expiration Date, CVV, and Holder Name. It includes a "Finish Registration" button and a progress indicator showing Step 3/3 with three purple dots. A link "Skip this step." is also present.

**Registration completed**



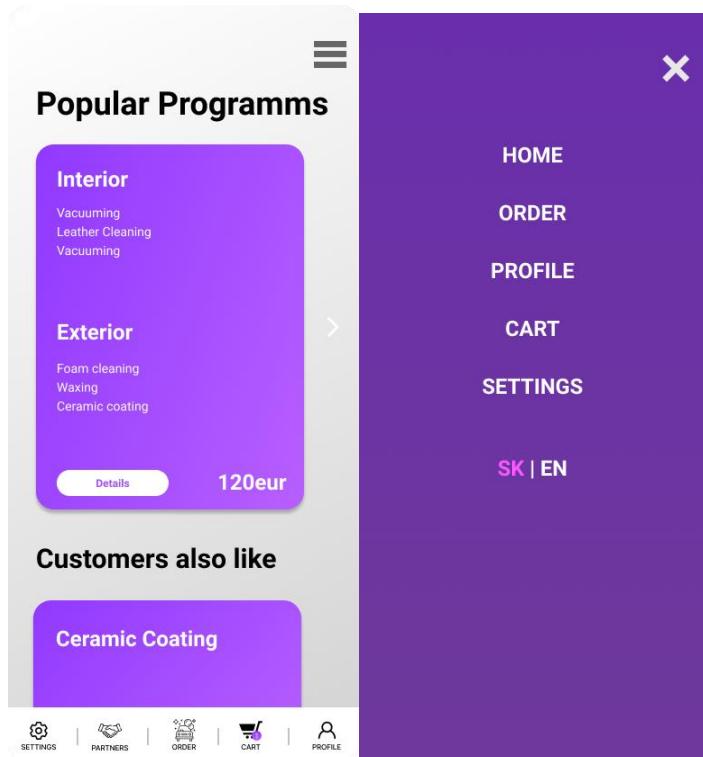
Thank you for your  
registration !

[Order Carwash](#)

Finished

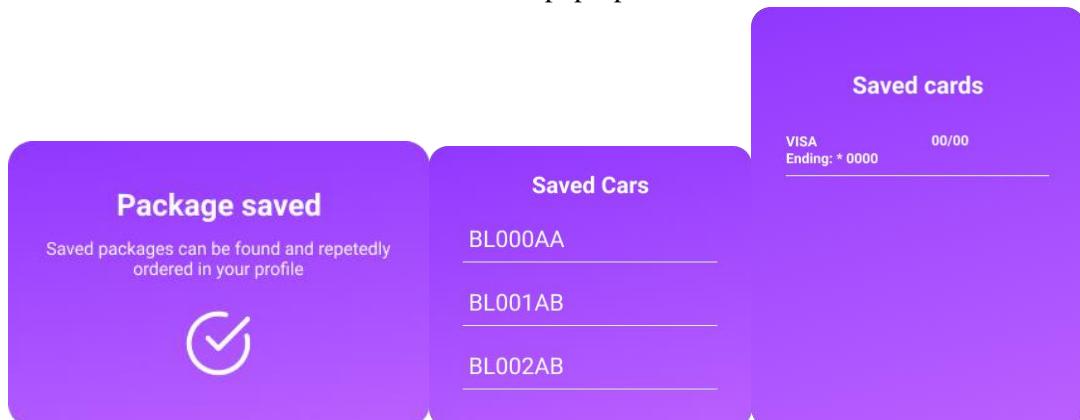
## ■ Homepage

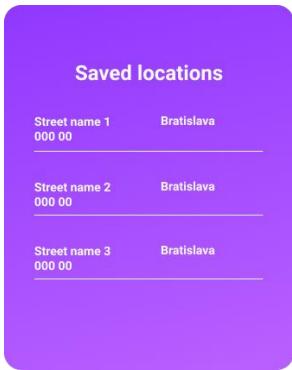
Homepage is the main part of our app and users can go basically anywhere from here. We have created a simple navigation bar at the bottom with popular icons that users can easily recognize. For future expansion we have created a popup menu icon in the top right corner which includes several more links and language selection. Next to the homepage you can see a pop-up menu that shows up after the user clicks on the menu icon.



## ■ Pop-ups

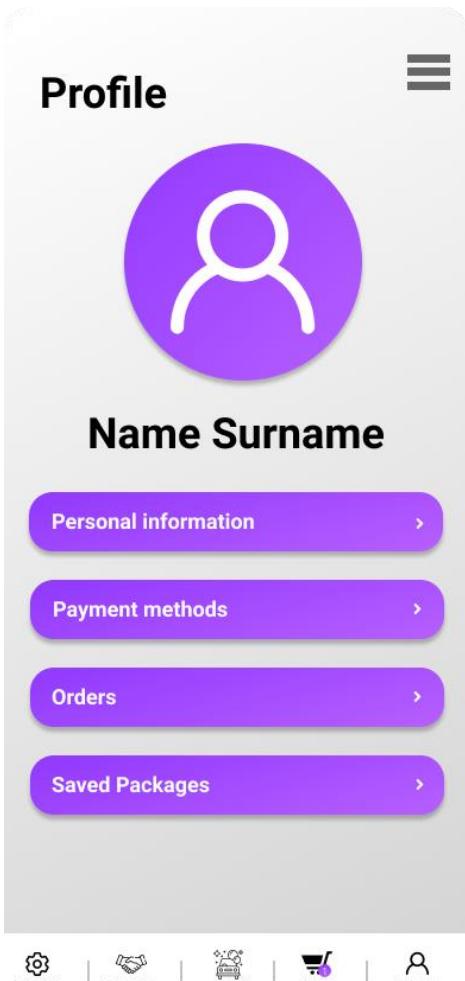
We have created a few pop-up icons that inform users and let users choose from saved credit cards, vehicles and locations. These pop-ups show when certain action is done.





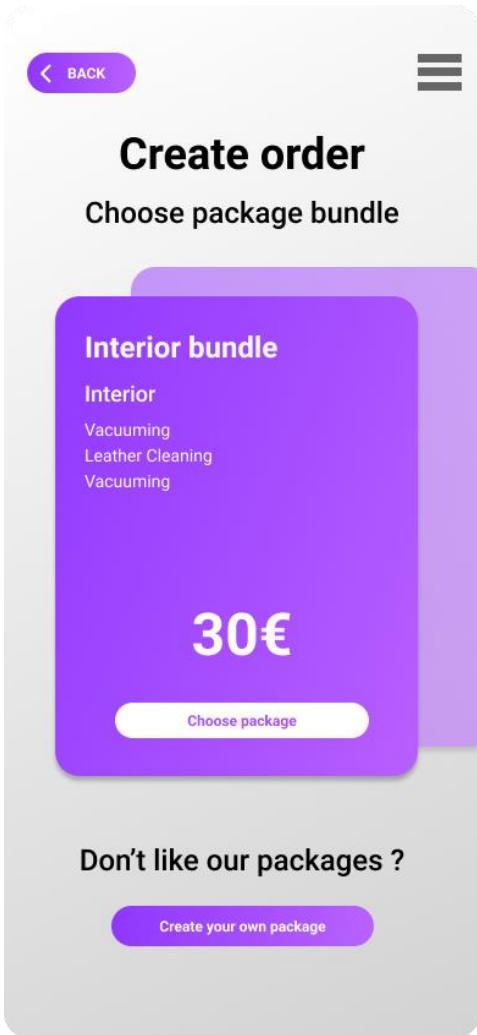
## ■ Profile

Profile section includes every information about the user himself. All saved vehicles, orders, credit card information and many more are stored in this section and can be changed anytime the user wants.



## ■ Order

In this section the user can select from washing packages that our company provides or can create his own custom package.



## ■ Create a custom package

In this section a user can create his own package by following a very easy process. The user can choose services that he wants to order from three categories - interior, exterior and extras. These steps are clearly marked for better user experience and the user can go back and correct his mistakes anytime he wants. Package can be also saved for future usage.

**Create your package**

Interior options

- Vacuuming
- Leather cleaning
- Leather cleaning
- Leather cleaning
- Leather cleaning

**Next step**

Step 1/3

**Create your package**

Exterior options

- Vacuuming
- Leather cleaning
- Leather cleaning
- Leather cleaning
- Leather cleaning

**Next step**

Step 2/3

**Create your package**

Extra options

- Vacuuming
- Leather cleaning
- Leather cleaning
- Leather cleaning
- Leather cleaning

**Go to summary**

Step 3/3

**Create your package**

Summary

**Interior**

Vacuuming  
Leather Cleaning  
Vacuuming

**Exterior**

Vacuuming  
Vacuuming  
Vacuuming

**Extras**

Vacuuming

**90€**

**Add package to cart**

**Save package**

**Finished**

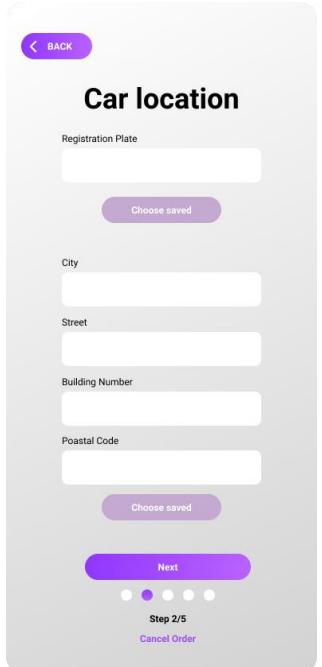
## ■ Cart

This section just summarizes the whole order and users can cancel order or continue in checkout.

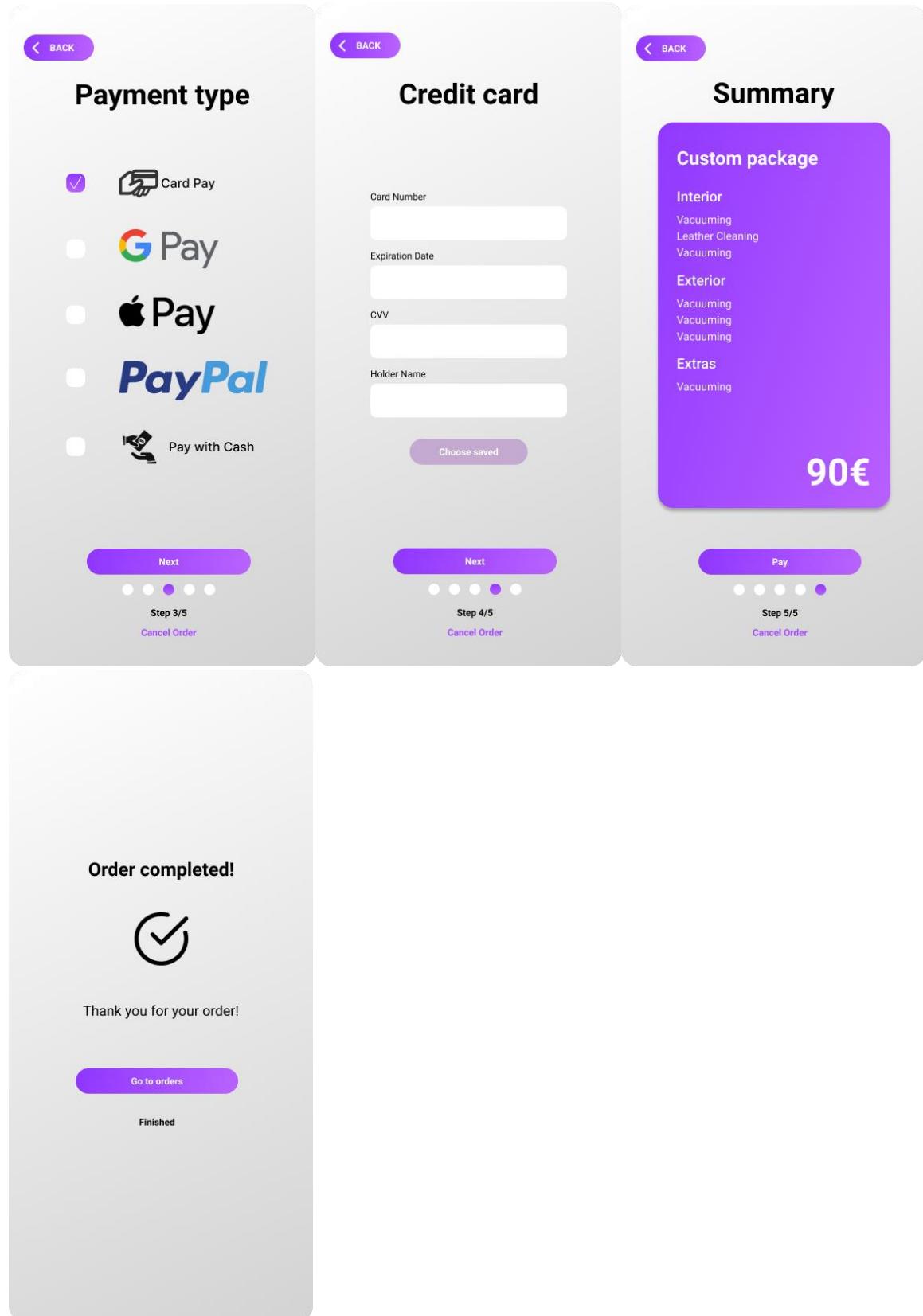


## ■ Checkout

Checkout consists of 5 steps that are again clearly marked and designed with focus on Nielsen's heuristics. Users can go back anytime or cancel the whole order. First user types car location and car identification number - user can also choose from saved ones.



User then chooses the payment method and fills out needed information. Afterwards the user clicks pay and the whole checkout process is done. The user has successfully ordered washing for his car. After order completion the user is redirected to a profile page where he can find order history.



## 4.3 Usability Testing of Mobile Design

### ■ User Profiles

Describe the kinds of user the site is trying to attract.

### Test Users

| Test User           | TP0<br>(Pilot)      | TP1                 | TP2                | TP3                 | TP4                | TP5         |  |
|---------------------|---------------------|---------------------|--------------------|---------------------|--------------------|-------------|--|
| Alias               | Simon               | Katka               | Filip              | Martin              | Martin             | Tibor       |  |
| Date of Test        | 10.12.2021          | 12.12.2021          | 9.12.2021          | 9.12.2021           | 10.12.2021         | 12.10.2021  |  |
| Time of Test        | 14:00               | 12:10               | 19:20              | 18:00               | 15:30              | 14:40       |  |
| Language of Test    | English             | English             | Slovak             | Slovak              | English            | English     |  |
| General Information |                     |                     |                    |                     |                    |             |  |
| Sex                 | male                | female              | male               | male                | male               | male        |  |
| Age                 | 21                  | 18                  | 25                 | 17                  | 22                 | 22          |  |
| Education           | University student  | High school student | University student | High school student | University student | University  |  |
| Sight Impairment    |                     |                     |                    |                     |                    |             |  |
| Sight Aid           | no                  | no                  | no                 | no                  | no                 | -           |  |
| Colour Blindness?   | no                  | no                  | no                 | no                  | no                 | -           |  |
| Education           |                     |                     |                    |                     |                    |             |  |
| Education level     | High school student | High school student | High school        | Elementary school   | High school        | High school |  |

**Table 1:** Overview of the test users.

### ■ Test Environment

| Equipment (TP1)  |               |
|------------------|---------------|
| Device           | Macbook Air   |
| Operating System | macOS Big Sur |
| Web Browser      | Google Chrome |

|                            |          |
|----------------------------|----------|
| <b>Internet Connection</b> | Wi-fi    |
| <b>Screen Resolution</b>   | 1440x900 |
| <b>Screen Size</b>         | 13,3"    |

#### Equipment (TP2)

|                            |                |
|----------------------------|----------------|
| <b>Device</b>              | HP Omen 15     |
| <b>Operating System</b>    | Windows 10     |
| <b>Web Browser</b>         | Microsoft Edge |
| <b>Internet Connection</b> | wi-fi          |
| <b>Screen Resolution</b>   | 1920 x 1080    |
| <b>Screen Size</b>         | 15.6"          |

#### Equipment (TP3)

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Device</b>              | Mac Book Air                       |
| <b>Operating System</b>    | macOs Monterey 12.0.1              |
| <b>Web Browser</b>         | safari                             |
| <b>Internet Connection</b> | Ethernet                           |
| <b>Screen Resolution</b>   | 2560 x 1600 at 227 pixels per inch |
| <b>Screen Size</b>         | 13                                 |

#### Equipment (TP4)

|               |                 |
|---------------|-----------------|
| <b>Device</b> | HP Omen Obelisk |
|---------------|-----------------|

|                            |                          |
|----------------------------|--------------------------|
| <b>Operating System</b>    | Windows 10               |
| <b>Web Browser</b>         | Chrome                   |
| <b>Internet Connection</b> | Ethernet                 |
| <b>Screen Resolution</b>   | 1920*1080                |
| <b>Screen Size</b>         |                          |
| <b>Equipment (TP5)</b>     |                          |
| <b>Device</b>              | PC                       |
| <b>Operating System</b>    | Windows 10               |
| <b>Web Browser</b>         | Chrome                   |
| <b>Internet Connection</b> | Wi-fi                    |
| <b>Screen Resolution</b>   | 1900*1080                |
| <b>Screen Size</b>         | 15.6" IPS anti reflexive |



## ■ Tasks

The task list used by the test team is shown in Table 3. Only the description of each task is given to the users.

| Task No. | Description                          | Prerequisites                            | Completion Criteria  | Max. Time | Possible Solution Path  |
|----------|--------------------------------------|--|--|-----------|---|
| 1        | Order a service based on your needs. | Web browser opened anywhere on our page. | <p>The user successfully orders our service and completes the checkout.</p> <p>The facilitator then asks the user questions:</p> <ol style="list-style-type: none"> <li>1. Was it hard for you to find the service you were looking for?</li> <li>2. Was something along the way unclear?</li> </ol> | 5 minutes | <p>Home</p> <p>-&gt; Click on order</p> <p>-&gt; Choose package</p> <p>-&gt; Control your order and click on order</p> <p>-&gt; Fill in the requirements flow</p> <p>-&gt; Click on pay</p> |

**Table 3:** Task list.

## 4.4 Results

### ■ Task Completion rate

Task completion rate is a measure, where 0 indicates failure, 1 indicates success, 0.5 indicates assistance.

|  |        |
|--|--------|
|  | Task 1 |
|--|--------|

|            |           |
|------------|-----------|
| <b>TP1</b> | 1         |
| <b>TP2</b> | 1         |
| <b>TP3</b> | 0,5       |
| <b>TP4</b> | 1         |
| <b>TP5</b> | 1         |
| <b>%</b>   | <b>90</b> |

**Table 5:** Task completion rates ( 0 - not completed, 1- completed, 0.5 - assistance was given.)

- **Task Completion time**

- **Time measured in seconds**

|            | <b>Task 1</b> |
|------------|---------------|
| <b>TP1</b> | 78            |
| <b>TP2</b> | 83            |
| <b>TP3</b> | 100           |
| <b>TP4</b> | 94            |
| <b>TP5</b> | 91            |
| <b>Avg</b> | <b>89.2</b>   |
| <b>Std</b> | <b>7.83</b>   |

**Table 6:** Task completion time

**■ User Interviews - answers to the facilitator**

|           |   |
|-----------|---|
| <b>Q1</b> | Was the UX intuitive?                                       |
| <b>Q2</b> | Were you aware, what were you doing while using the UX?     |
| <b>Q3</b> | Was the UX similar to the other similar sites?              |
| <b>Q4</b> | Did you get all the information in the app that you needed? |
| <b>Q5</b> | Have you had any problems ordering the service?             |

**Table 7:** Questions

**■ User Interviews - answers to the facilitator**

**Table 7a:** User responses to the question:1

|            |                       |
|------------|-----------------------|
| <b>TP1</b> | Yes, quite intuitive. |
| <b>TP2</b> | Yes, it was alright   |
| <b>TP3</b> | Yes                   |
| <b>TP4</b> | I think so            |
| <b>TP5</b> | Yes it was            |

**Table 7b:** User responses to the question: 2

|            |                         |
|------------|-------------------------|
| <b>TP1</b> | Yes, I had no problems. |
| <b>TP2</b> | Without any problems    |
| <b>TP3</b> | I was, most of the time |
| <b>TP4</b> | Yes mostly              |
| <b>TP5</b> | Yes I was               |

**Table 7c:** User responses to the question: 3

|            |   |
|------------|---|
| <b>TP1</b> | I cannot compare since I don't use such services.           |
| <b>TP2</b> | I think most operations are similar, in most moft the apps. |
| <b>TP3</b> | Yes.  |
| <b>TP4</b> | Yes, the basic composition and the structure was.           |
| <b>TP5</b> | Most of the features were.                                  |

**Table 7d:** User responses to the question: 4

|            |   |
|------------|---|
| <b>TP1</b> | I did not find a need to search for much information. I just ordered the service I liked. |
| <b>TP2</b> | As the sites were informative, I didn't need any help.                                    |
| <b>TP3</b> | Yes, most of the time, needed help 1 time   |
| <b>TP4</b> | I got.  |
| <b>TP5</b> | Yes, it was quite informative.  |

**Table 7e:** User responses to the question: 5

|                 |                           |
|-----------------|---------------------------|
| <b>TP<br/>1</b> | No, it was okay.          |
| <b>TP<br/>2</b> | It was alright            |
| <b>TP<br/>3</b> | No                        |
| <b>TP<br/>4</b> | No, it went as it should. |
| <b>TP<br/>5</b> | Not at all.               |

■

## Feedback Questionnaires

Table 8 shows a summary of the ratings given by users in the feedback questionnaire at the end of the test. The neutral scale in the original feedback questionnaire has been mapped to a weighted scale between 6 (best) and 0 (worst)

|    |   |             |               |            |   | TP<br>1 | TP<br>2 | TP<br>3 | TP4 | TP<br>5 | Mean | Std. Dev |
|----|---|-------------|---------------|------------|---|---------|---------|---------|-----|---------|------|----------|
| 1. | Was the UX intuitive?                                       | Very likely | 6 5 4 3 2 1 0 | Not likely | 6 | 5       | 5       | 5       | 5   | 5.2     | 0.4  |          |
| 2. | Were you aware, what were you doing while using the UX?     | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 6 | 5       | 4       | 6       | 6   | 5.4     | 0.8  |          |
| 3. | Was the UX similar with the other similar sites?            | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 3 | 5       | 4       | 5       | 5   | 4.4     | 0.8  |          |
| 4. | Did you get all the information in the app that you needed? | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 5 | 6       | 4       | 6       | 5   | 5.2     | 0.74 |          |
| 5. | Have you had any problems ordering the service?             | Very easy   | 6 5 4 3 2 1 0 | Very hard  | 6 | 6       | 5       | 6       | 6   | 5.8     | 0.4  |          |

## 8: Summary of user ratings from the feedback questionnaire.



### ■ List of Problems Found

Aggregated list of all problems observed in the test, in descending order of mean severity.

1. **UX was not similar to other similar applications** - users found our app slightly different to other popular IOS apps. The distribution of content and system of ordering was very clear to our users but the cart system and package creation was sometimes a little bit confusing for them.

This system would need a slight rework to make it more pleasant for users. Even without reworking users were able to complete order without any bigger mistakes

Mobile design of our application was taken very seriously and with great focus. We have been determined to create a design that is fully compatible with Nielsen's heuristics and that will bring great user experience. We have taken into account every problem that we encountered during high fidelity testing of our desktop app and we tried to solve it in the most efficient way. We have noticed that these problems are easily solvable by compliance of Nielsen's heuristics and that's the way of designing we chose. We have been trying to emphasise every single heuristic and connect it with simple minimalistic design with clear and easy to follow screen hierarchy.

Our app was mostly praised by our testing subjects and their experience using our app was mostly positive. Even with slight differences between our app and widely used applications all users were able to complete the ordering process and would love to use our app more frequently. By solving differences between our app and widely used ones we can see our app being very user friendly and compatible with Nielsen's heuristics. Furthermore, full completion of our app would greatly improve usage as users would be able to explore the app's full potential.

We can declare that we have created a successful and functional mobile app design that is going to be compatible with any user.