MUO-E3025 / User Inspired Design Making

Final Portfolio

Team 5

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Team

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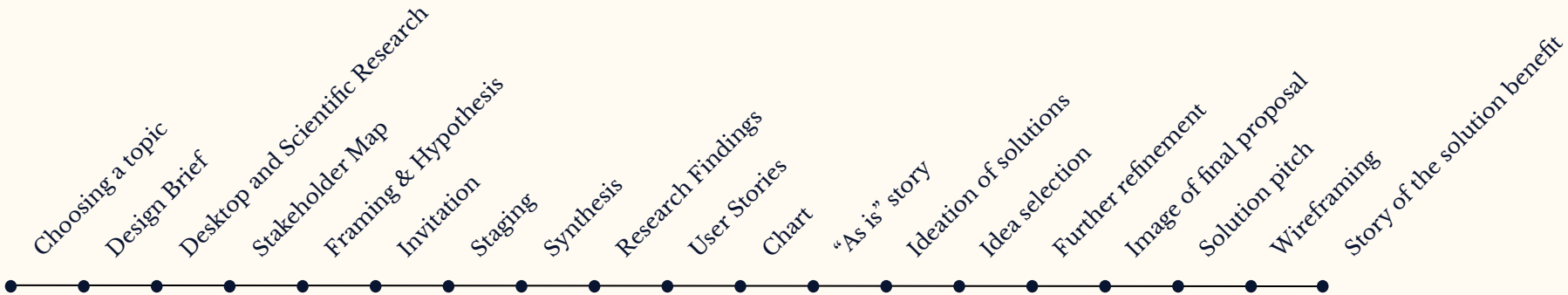
Project timeline



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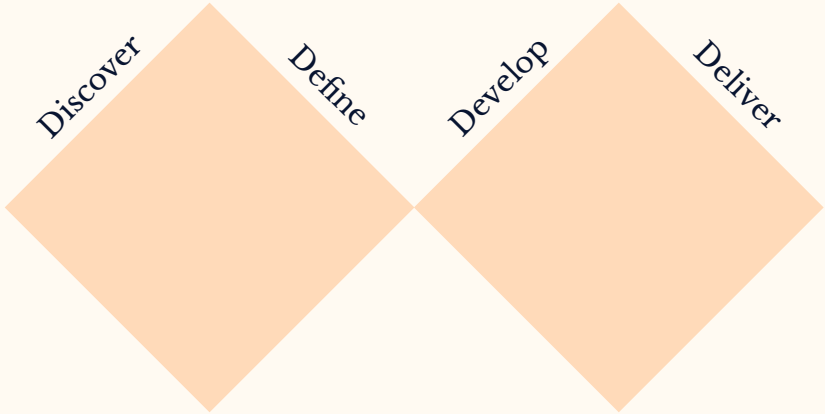
Project approach: Double Diamond

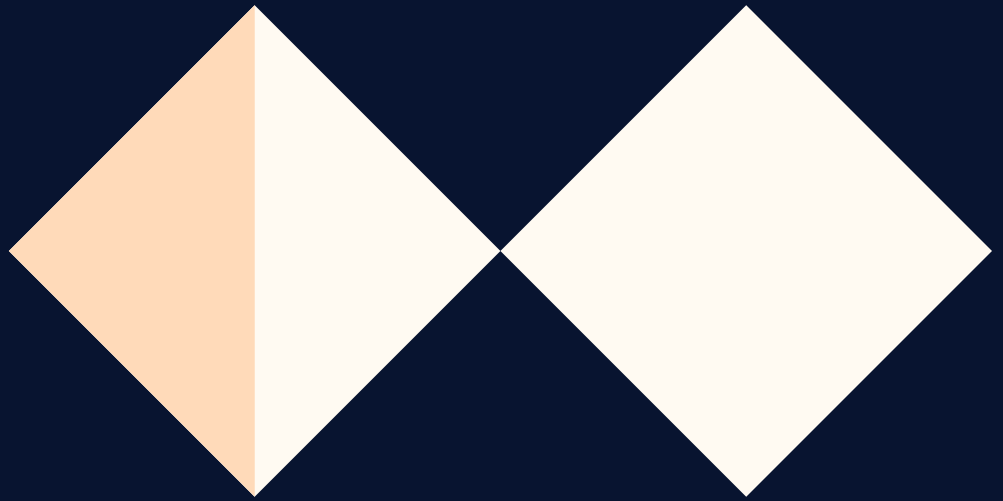
The team decided to follow the Double Diamond process introduced by the UK Design Council. It offers clear guidance, when to have diverging and when to have converging phases within the project and gives more structure within the timeline. Thus, the outcome of the project was to be service-oriented, which the Double Diamond is especially well made for. This portfolio is oriented along the four phases discover, define, develop and deliver.



Source: Design Council

Discover

Design Brief
Choosing a topic
Desktop and Scientific Research
Stakeholder Map
Framing & Hypothesis
Invitation
Staging

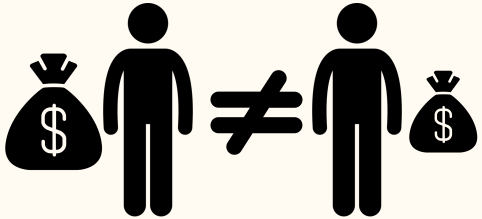


Design Brief

The design brief the team was given within the course “User Inspired Design Making” at Aalto University in the first period of 2022 was the following:

“Identify a practice or situation where people encounter income inequality. Study various stakeholder insights within those practices. Pay attention to the role of designed products and services framing the encounters.
Identify pain points and opportunities for more equal designs.

Propose product or service concept that increases equality or decreases inequality.”



Created by Gan Khoon Lay
from Noun Project

Created by BomSymbols
from Noun Project

Created by Adrien Coquet
from Noun Project

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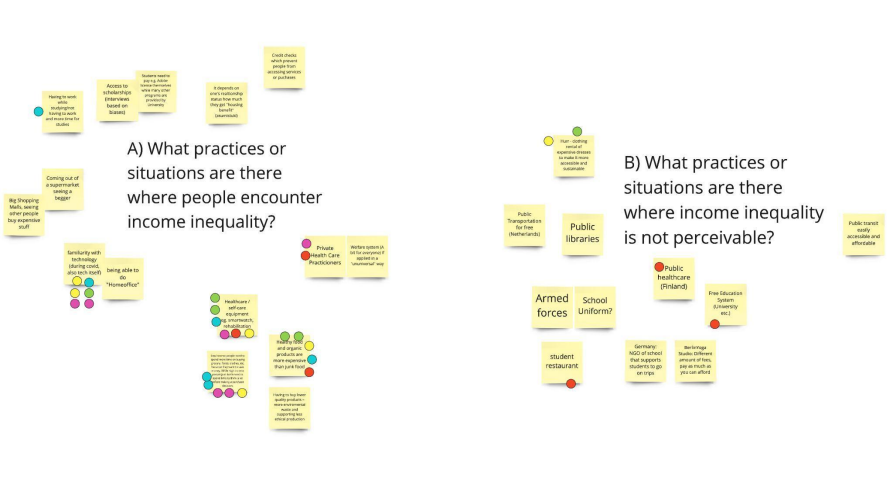
Choosing a topic

The team began with a brainstorming session to collect ideas on A) practices or situations where people encounter income inequality and B) practices where income inequality is not perceivable. We came up with several situations and voted with dots on the one that interest us the most. The topic with the most dots was out part of the group A): online shopping behaviour.



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Choosing a topic

Low income people need to spend more time on buying grocery, foods, clothes, etc. because they want to save money. While high income people just don't need to spend time to think a lot before making a purchase decision.

Created by Vanness Han
from Noun Project

How might we decreases inequality around this topic?

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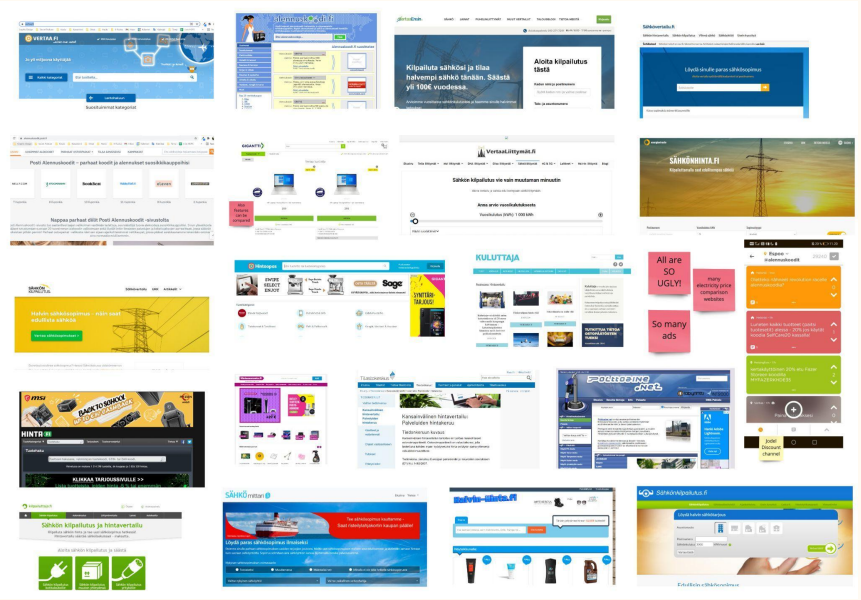
Desktop Research and Related Scientific Research

To dive into the chosen topic, the team quickly conducted some desktop research and specifically looked at existing solutions such as comparison websites.



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Desktop Research and Related Scientific Research

Additionally, a quick research on scientific background was done, where one paper was especially interesting that investigated whether age, gender and income mattered when it comes to online shopping (Hernandez, Jimenez & Martın, 2011). The result of the paper was no influence of these variables on online shopping, but the staty needed to be seen within limitations since the online shopping environment has evolved massively since 2011.

Hernandez, b., Jimenez, J. & Martın, M. (2011). Age, gender and income: do they really moderate online shopping behaviour? Online Information Review, 35 (1), 113-133, DOI 10.1108/14684521111113614.

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The current issue and full text archive of this journal is available at
www.emeraldinsight.com/1468-4527.htm

Age, gender and income: do they really moderate online shopping behaviour?

Blanca Hernández, Julio Jiménez and M. José Martín
Department of Marketing and Business Studies, University of Zaragoza, Zaragoza, Spain

Refereed article received
23 September 2009
Approved for publication
4 May 2010

Abstract

Purpose – The objective of this paper is to analyse whether individuals' socioeconomic characteristics – age, gender and income – influence their online shopping behaviour. The individuals analysed are experienced e-shoppers i.e. individuals who often make purchases on the internet.

Design/methodology/approach – The technology acceptance model was broadened to include previous use of the internet and perceived self-efficacy. The perceptions and behaviour of e-shoppers are based on their own experiences. The information obtained has been tested using causal and multi-sample analyses.

Findings – The results show that socioeconomic variables moderate neither the influence of previous use of the internet nor the perceptions of e-commerce; in short, they do not condition the behaviour of the experienced e-shopper.

Practical implications – The results obtained help to determine that once individuals attain the status of experienced e-shoppers their behaviour is similar, independently of their socioeconomic characteristics. The internet has become a marketplace suitable for all ages and incomes and both genders, and thus the prejudices linked to the advisability of selling certain products should be revised.

Originality/value – Previous research related to the socioeconomic variables affecting e-commerce has been aimed at forecasting who is likely to make an initial online purchase. In contrast to the majority of existing studies, it is considered that the current development of the online environment should lead to analysis of a new kind of e-shopper (experienced purchaser), whose behaviour differs from that studied at the outset of this research field. The experience acquired with online shopping nullifies the importance of socioeconomic characteristics.

Keywords Electronic commerce, Internet shopping, Age groups, Gender, Income, Spain

Paper type Research paper

Introduction

In the last few decades extensive research has been conducted into information technology (IT) adoption, testing a series of factors considered to be essential for improved diffusion. Some studies analyse IT characteristics such as usefulness, ease of use and/or security (Davis, 1989; Yu *et al.*, 2005), others focus on the emotions and experiences of users (Agarwal and Prasad, 2000; Fiore and Kim, 2007) and a third group attempts to determine the importance of socioeconomic user characteristics,

The authors wish to express their gratitude for the financial support received from the Spanish Government CICYT (ECO 2008-04704), the Aragón Regional Government (Generés S-09; DGA 138/08) and Catedra Telefonica of the University of Zaragoza (267-184).

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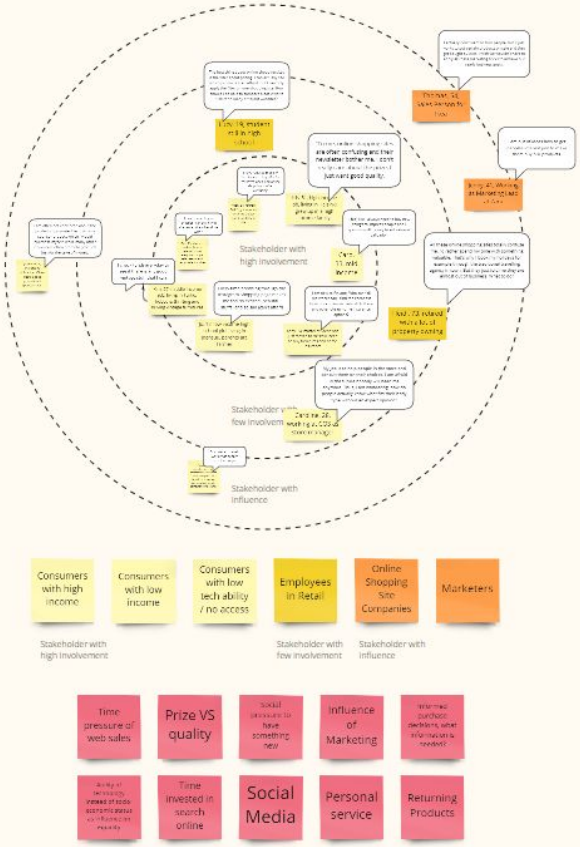
Stakeholder Map

To gain an understanding of the users and stakeholders related to the topic of online shopping, the team mapped those within a stakeholder map. We applied the method of a stakeholder charrette, which means to not only think of stakeholder in categories (see on the left below), but think of representative people with name, age and occupation and write their assumed pain points in quotes. The outcome was not only the feeling of empathy towards the stakeholders of our challenge, but also we identified certain topics (see in red below) that would be interesting to further research on.



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Framing & Hypotheses

To set a clear scope of the project, the team decided to examine the differences between wealthy and non-wealthy online shopping behaviour, and how it manifests as perceived, and objective income equality.

Team team suspected that lower income people may need to make more sacrifices, for example in time, security, quality, liability of service.

This is why we formulated six clear hypotheses we wanted to test within our research.

1. **The feeling of getting ripped off is generally a pain point for lower income people.**
2. **The feeling of wasting time is generally a pain point for lower income people.**
3. **People with higher income go faster into buying than actually comparing products.**
4. **People with higher income click on ads more easily.**
5. **People with higher income spend less time on online shopping.**
6. **The perceiving that 'time is worth money' when it comes to spending time shopping online differs by income.**

Invitation

As the first task was, to craft an effective invitation, we first tried to answer who we would like to invite in our research. We figured people of our network between the ages of 20 - 35, located in Helsinki and Europe and either on a tight budget because of student life etc. or already in the workforce as young professional having a well-off salary.

To **catch their attention**, we came up with the idea of an interactive GIF, that would highlight the topic of researching a lot on online shopping and afterwards ask them to participate in the study if they could relate to the presented scenario. We **distributed** out the invitation via **social media**, as the people were already in our contacts.

We added a personal message to the GIF, giving a bit of background to who we were as a team and in order to create trust on being a **competent student group**. We indicated the **practicalities** stating that it would be a digital interview within a short amount of time.

We couldn't offer any **participatory benefits**, but were hoping that our network was still eager to help out.

As we were **aiming for 6 to 12 participants**, each of the team member tried recruiting one higher income and one lower income interviewee. The invitation was quite successful as we conducted 10 interviews in total in the end. Have a look at the following page on how the invitation looked like in detail.

Invitation

Created by Kamin Ginkaew
from Noun Project

👋 Hei _____,

Do you also find yourself spending hours on hours researching and comparing products online only to save 5 euros? 💳😓

We, five students from Aalto university are dedicated to unraveling the myths behind online shopping 🖥️ As a team we have identified you out of our network as a frequent online shopper to share your personal experience and perspective with us.

We invite you to join us for an interactive 30 minute interview that is held digitally – any time that suits your calendar in the coming week.

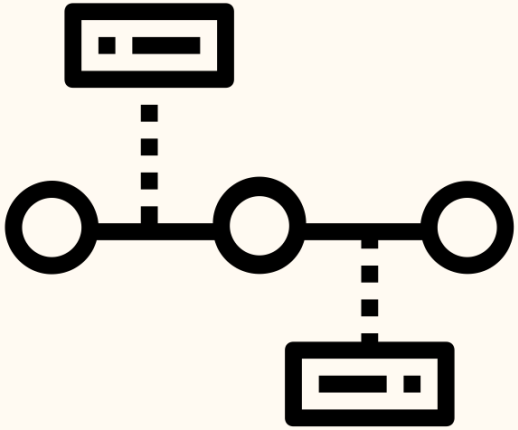
🛒 Would you be up for the ride? Let us know and the whole team is looking forward to meeting you.

Team 5: Inka Mattila, Otto Loikkanen, Francesco Hachen, Ya-Yu Tseng, Miriam Steckl
Course User Inspired Design Making
M.A. Collaborative and Industrial Design, Aalto University

Team 5

Staging

To gain deeper insights during the interviews, the team split the interview into four parts that were staged in a particular way to test our six research hypotheses.
The first one being a Warm Up, the second and third part being particular tasks for the interviewees that needed to be carried out while observing and the last one to discuss a hypothetical situation.



Created by DailyPM
from Noun Project

Staging

For the Warm Up we decided to place five different memes on a digital whiteboard, that the interviewees could access. Their task was to ‘pick a meme that spoke to them’. The Warm Up was chosen as memes were connecting to our invitation and intended to generate findings on the first two hypotheses. The memes addressed topics like getting ripped off (first hypothesis) and feeling like wasting time (second hypothesis). With the help of the Warm Up exercise, the team was able to discuss how the participants spend their money, their attitude towards money and their reasoning for feeling like getting ripped off or spending a lot of time.

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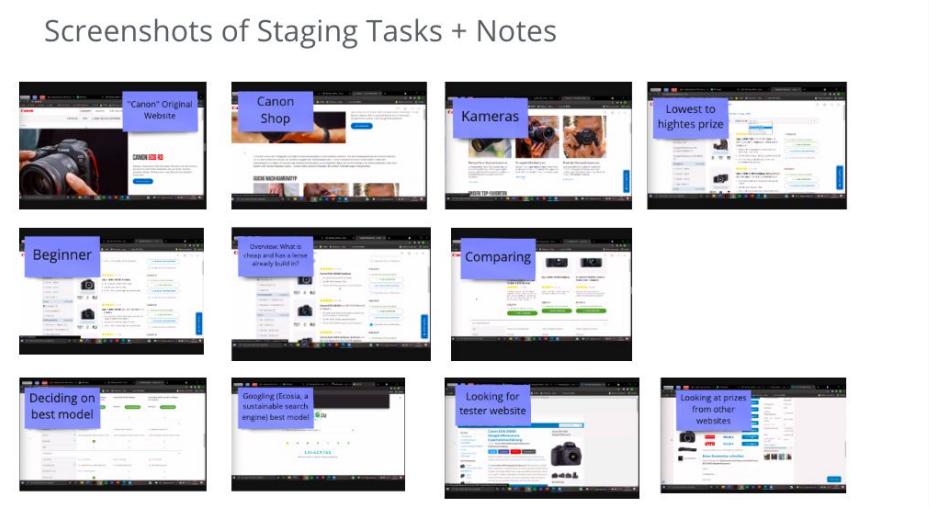
Task 1: Shopping behaviour

In the first task, we asked interviewees to think of a product they wanted to buy for a while. In the image to the right, the interviewee was looking for a camera. We then ask the interviewees to imagine they would now sit down to purchase it. While going online to shop, the interviewees shared their screen and talked out loud.

By staging the task we were able to investigate whether higher income people would go faster into buying (third hypothesis) and whether they would click on ads more easily. The task also brought to light the way interviewees navigated websites, which websites they used, what filters they were using on comparison / shopping sites and what criteria was important to them.



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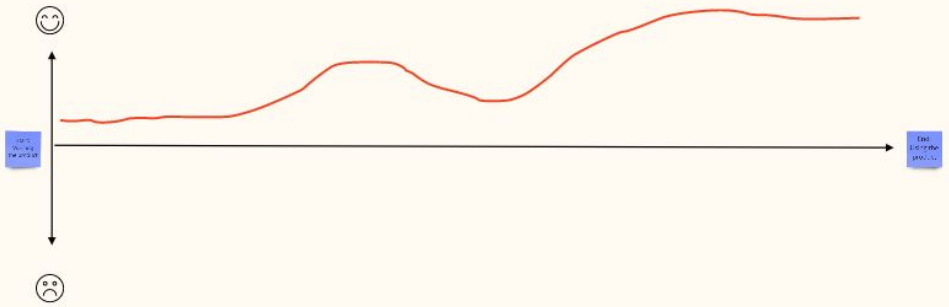
Task 2: Emotional curve during recent purchase

In the second tas, we asked the interviewees to think about one of their last purchases online. They were then invited to draw their emotional curve from your last online purchase from the start of wanting the product over their research and purchase until actual usage at home.

Letting interviewees draw their curves helped the team to talk a bit more about the emotional side of online shopping and less about the factual requirements. Thus the team was able to ask in more depth about certain moments within the experience.



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Task 3: Discuss a hypothetical situation

For the last part of the interview, the team prompted a hypothetical situation to the interviewee. They were shown a mockup of a phone screen that showed the screen time divided by certain categories. The team photoshopped the image so that it would display that the person would have spend roughly 68 hours during their last week on online shopping.

Interviewees were asked to share their thoughts on the screen and discuss whether the screen could have been from their phone. When staging the last task, the team's research focused on on the last two hypotheses. The discussion aimed to reveal whether higher income people would spend less time shopping online and their perception of time is worth money would be more prominent.

After the four parts of the interview, the team wrapped up and thanked the interviewees for their time investment. All data was afterwards anonymised.

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User Research Plan

To divide the workload, the team had a very detailed research plan. Two team members conducted an interview, one being the lead interviewer and the other one observing and taking notes.

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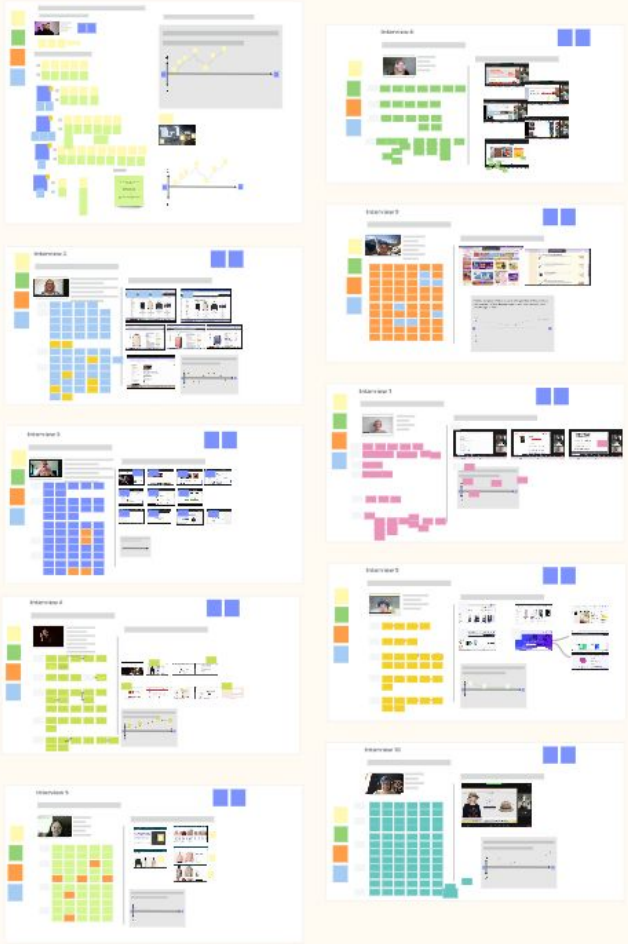
Interviews

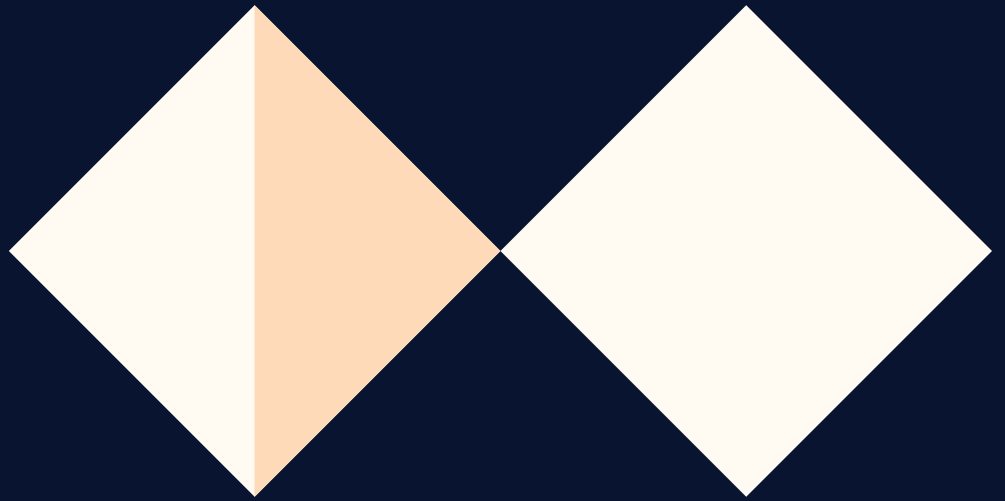
As we had 10 interviews, each team member were involved in a total of 4 interviews, being the note taker in the interviews were the team member would personally know the interviewee. The team was able to gain extensive knowledge and findings on the topic.



Team 5

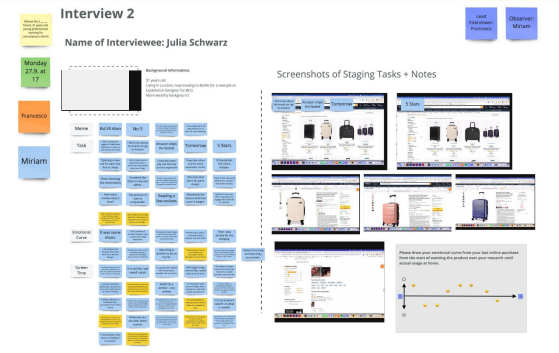
Define

Synthesis
Research Findings
User Stories
Chart
“As is” story



Synthesis

First off, the team thoroughly documented the interviews and with the team member that partnered up in the interview, looked through each interview to highlight the five most surprising / emotional / insightful quotes.



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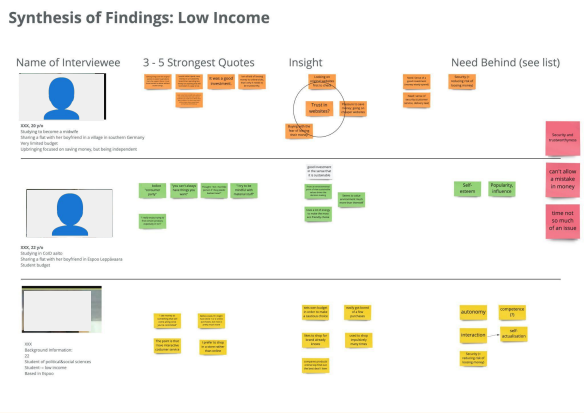
Afterwards, the team came together and presented each interview in the following manner:



We first presented the background information of the interviewee, then the 3 - 5 strongest quotes, the findings we got from the interview and what we assumed were the underlying needs behind. The needs were based on the ‘Basic Psychological Needs’ by Sheldon 2001 that got presented in the UID Knowing lecture on User Experience.

Research Findings

Finding 1: Because lower income people can't afford buying from original websites that come with insurance, they go to secondary websites that lack security and trustworthiness.

Quotes from interviews that support the findings:

"Getting things over the original website is easier to get advice from the support there. I trust those brands to deliver without broken things. But it is hard to afford."

"I am afraid of losing money to online tricks, that's why it needs to be trustworthy."

Underlying need the team synthesized:
Feeling of Security

Finding 2: Higher income people enjoy the process of online shopping lightheartedly while lower income people are worried whether their money is invested well.

Quotes from the interviews that support the findings:

"I sometimes buy just for fun."

"I used the product for a long time. It was a good investment."

Underlying need the team synthesized:
Feeling of pleasure

Finding 3: Time of research is not an issue neither for higher nor lower income people.

Quotes from the interviews that support the findings:

"It's like treasure hunting"

"I spend a normal amount of time shopping online, I never go just to look, I think it is a waste of time."

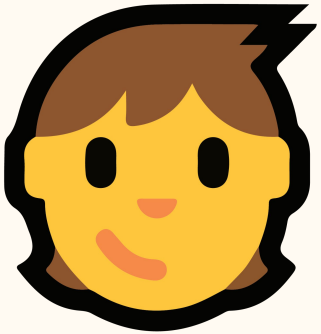
The team therefore had to disprove most of their hypotheses (see page on Framing).

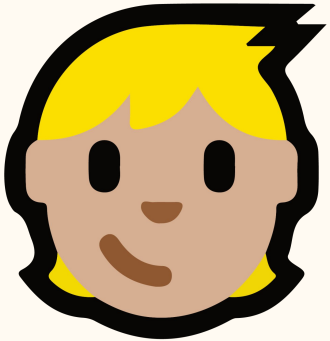
Team 5 ● = lower income people

User Stories

The team decided to create user stories in order to empathize with both users more and contrast the two perspectives. The team was able to discuss the pain points and assumed needs in more depth and had to frame it in a precise way to represent a cohesive and realistic persona.

While crafting the user stories, the team discussed in depth the potential of replicating stereotypes within the usage of personas. We therefore carefully reviewed our own stories and made sure they were based on actual quotes and findings from our research.





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User Story: High income person

Name and Age of Person: Alex, 26 y/o

Occupation: Software developer

Income: 5K + dividends

Location: Helsinki Center

Growing up: Upper median family, with some wealthier relatives

Attitude towards money: Using it to generate a lifestyle, making money work for you

Favourite store to shop online: The brands flagship store

Goals when online shopping: Saving time ("time is money"). Convenience ("fast delivery"). Having unique meaningful products.

Online shopping habits: Doing some research for informed decisions, however looking more onto the time of delivery than price. Always able to buy from original website and allowing themselves to make impulsive purchases. When he doesn't actually like the ordered stuff, packages often accumulate at home needed to be brought back to the post office.

Last item purchased online: Gucci hat

Digital device they own: iPhone 13 Pro, MacBook Pro, multiple other devices

Underlying Needs / Motivations: Self-actualization. Autonomy.

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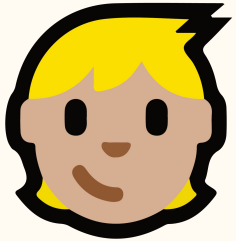
User Story: Low income person



Name and Age of Person: Taylor, 21 y/o

Occupation: Full time student

Income: Student budget

Location: Espoo

Growing up: Lower median family, more towards working class, growing up in a rural area

Attitude towards money: Money needs to be saved whenever possible. If you spend money, only when necessary and making sure it is worth the prize.

Favourite store to shop online: Tori

Goals when online shopping: Saving money but still making a good investment. Avoiding leaking personal information to the fake websites.

Online shopping habits: Checking out original website for product information, then going to comparison website / second hand website to buy. Trying to be environmentally conscious in her choice.

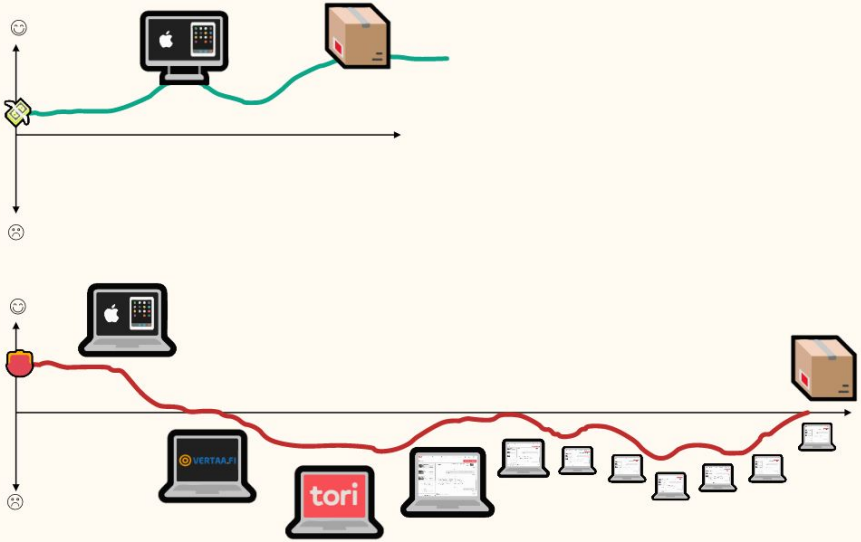
Last item purchased online: a plant

Digital device they own: one plus 7, asus laptop

Underlying Needs / Motivations: Security (money good investment, risk of losing money because of bad quality or fake website).

Chart

In the chart, the team refers to the emotional curve used in task 2 during the interviews and visualizes the differences not only in time (higher income people need less time), emotions (lower income people have more negative feelings towards online shopping), but especially the insight on the use of secondary shopping sites and effort spend when searching online. The chart helped not only communicate our insights and differences by income, but aligned the team on the reframed challenge we had to solve with our solution.



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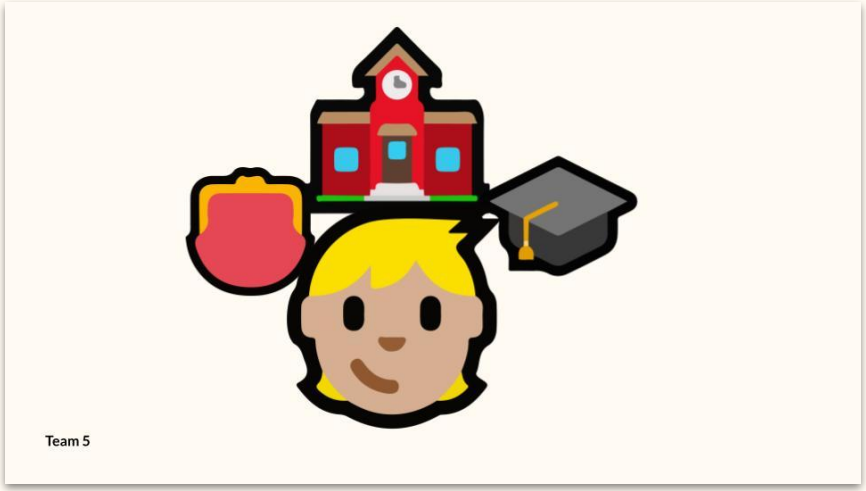
“As is” story

https://www.youtube.com/watch?v=N02-Xy66cOg

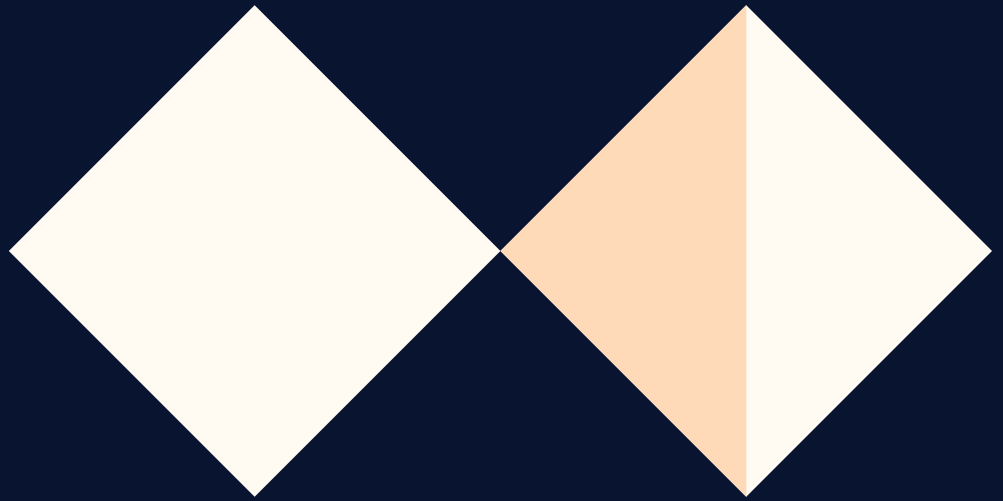
This video visualizes the initial situations of higher and lower income people and explains the pain points when shopping online, that the team found out during research.



Team 5

Develop

Ideation of solutions
Idea selection
Further refinement



Ideation of solutions

When entering the solution space of our design process, we did an extensive round of brainstorming. The three ‘how might we’ questions should cover the main insights from our synthesis.

How might we reduce **the fear of the risk of making a bad purchase** of lower income people when shopping online?

How might we increase **the enjoyment / the feeling of self-actualization** for low-income people when they are looking for a product in a limited budget?

How might we increase the **feeling of security** of a good investment of lower income people when shopping online?

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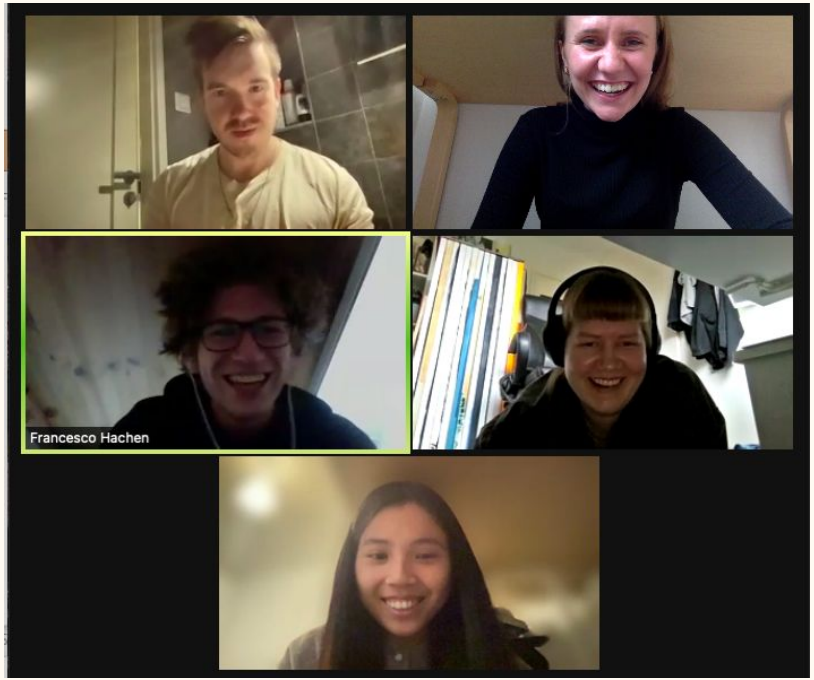
As a way to change our perspective from looking at problems to finding solutions, the team changed their physical location and conducted the first brainstorming session under their desks. This gave us a boost in creative energy:



Idea selection

For each how might we question, the team gathered a lot of solutions to solve them. Before voting on the ideas, the team clustered them into the following categories:

Idea, a solution that covers the format, the main functions and the deliverables

Function, a certain purpose of a solution

Feature, a single characteristic of a possible solution.

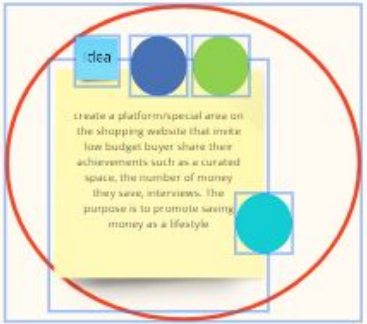
This helped the team get an overview of what could be selected and what could be still integrated into a main idea. We afterwards did a round of ‘dotmocracy’ so voting democratically with dots.

Team 5

Further refinement

There were two main ideas with the most dots:

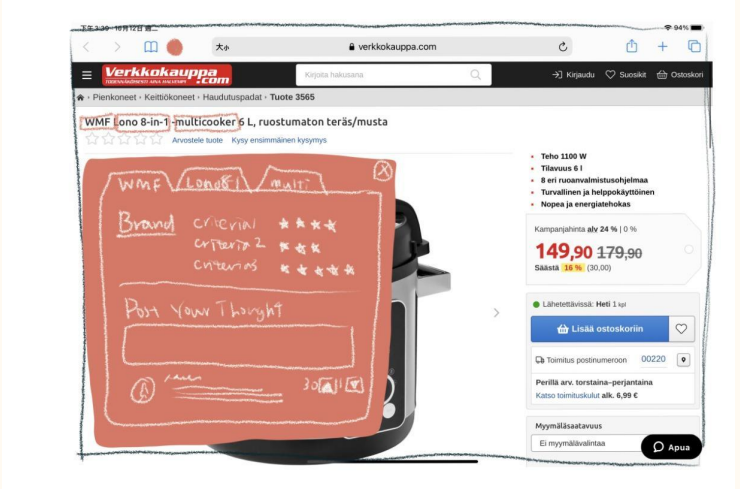
- The first one was to add security by having a secure payment system like Paypal is providing.
- The second one was the idea of a Knowledge Sharing community where achievements could be shown with the power to make shopping online fun for lower income people.

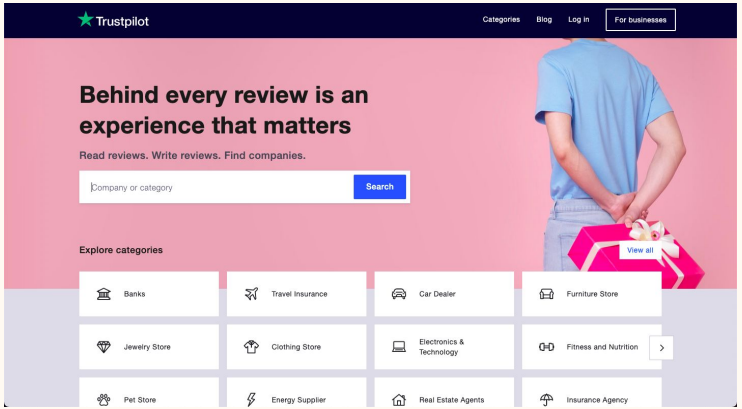


Further refinement

To combine those two main ideas, the team sketched some solutions making them functions of an overall plugin. More onto that idea in the next section.

At this point it needs to be added, that the team initially wanted to create more trust about brands as well and call their solution ‘Trust Plugin’. However, after a consultation session with Nils, the team got to know about the website “Trustpilot” in which brands could be rated based on verified comments. This is why the team pivoted and focused more on the aspect of reducing risk of payment and the seller (could be also an individual person on a second hand website).





Team 5

Deliver

Image of final proposal
Solution pitch
Wireframing
Story of the solution benefit

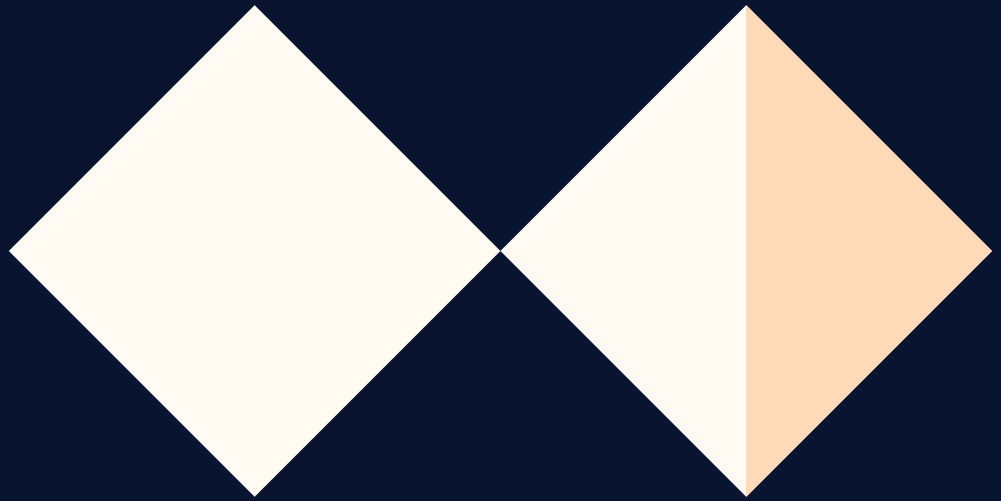
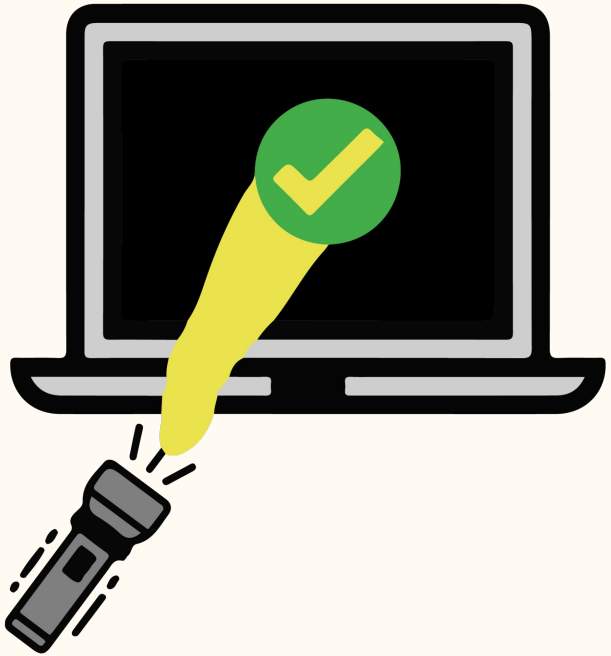


Image of final proposal

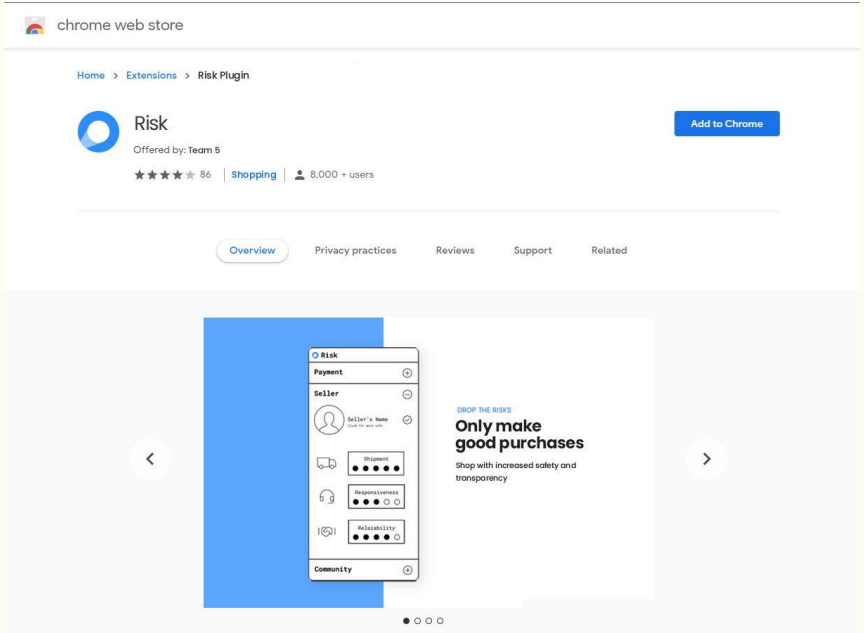
“To bring light into the darkness of secondary online shopping sites”



Our solution pitch

To solve our identified problem, the needs of lower income people and reduce the income inequality when shopping online, we developed the Risk Plugin (working title). It is a plugin that is to download for the browser, see right side and has three main functions:

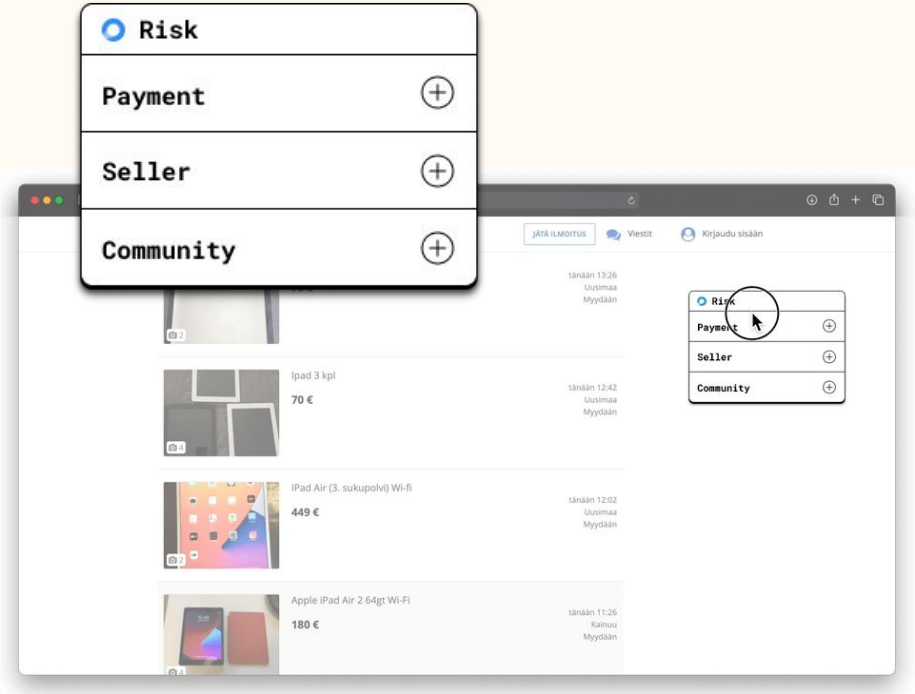
- **Transparency and risk evaluation of the seller**
  → To solve the identified need for a ‘good’ investment of the money
- **Secure Payment through verified partners**
  → To solve the identified need for security
- **Knowledge Sharing Community**
  → To enable lower income people to enjoy the process of online shopping



Team 5

Wireframing - Overview

- As a plugin that can be applied across websites, we want to make it as lightweight as possible. Users can drag the plugin to anyplace on the screen. The contents of the website always stay visible.
- The three major functions of the plugin are storage in the stretchable tabs. The functions are easy to find and approach.
- Users can easily manage the tabs and have a sense of control, instead of being overwhelmed by irrelevant information.



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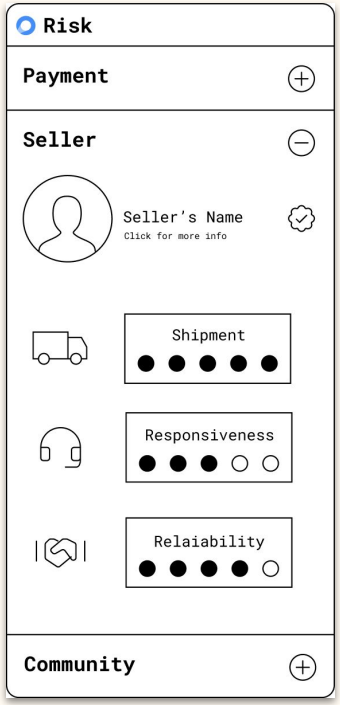
Wireframing - Seller

This section provides useful reviews to the buyer based on an average of other buyers reviews:

- Overall quality and efficiency of the shipment
- Responsiveness of the sellers (e.g how long does the seller takes to reply, availability, troubleshooting...)
- Reliability

Since platforms like Tori.fi work through a verification-based system, contact information are always stored and made available to customers

- Address
- Contact and business information
- Sales count (helps with knowing the numbers of reviews)



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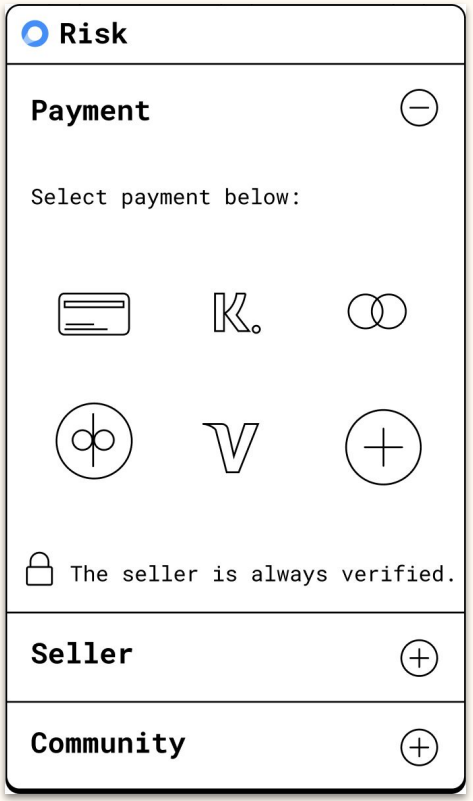
Wireframing - Payment



The payment wireframe is meant to let the user decide which form of payment to use.

Giving more choices makes the user more comfortable, specially when it comes to spending money.

The most popular payment forms are

- Credit/Debit card (Visa and Mastercard)
- Online banking system (OP, Nordea, Etc…)
- Klarna checkout (buy now, pay later)

Stating that the transaction and the sellers are always verified add another layer of safety to the whole experience.

Team 5

Wireframing - Community

- The main purposes of creating a community function are to provide emotional support and peer knowledge sharing for individual online shoppers, and to promote a safe and transparent online shopping culture.
- Inside the community, users can explore other people's purchase on the certain website, brand or item:
    - The plugin automatically generates the keyword tags according to the current webpage contents.
    - By clicking on the tags or doing manual search, users can view pictures, reviews and unboxing videos from social media.
    - Users won't have to only rely on the images provided by the seller.
- On the Contribute page, there are instructions about how to tag and share your purchase.

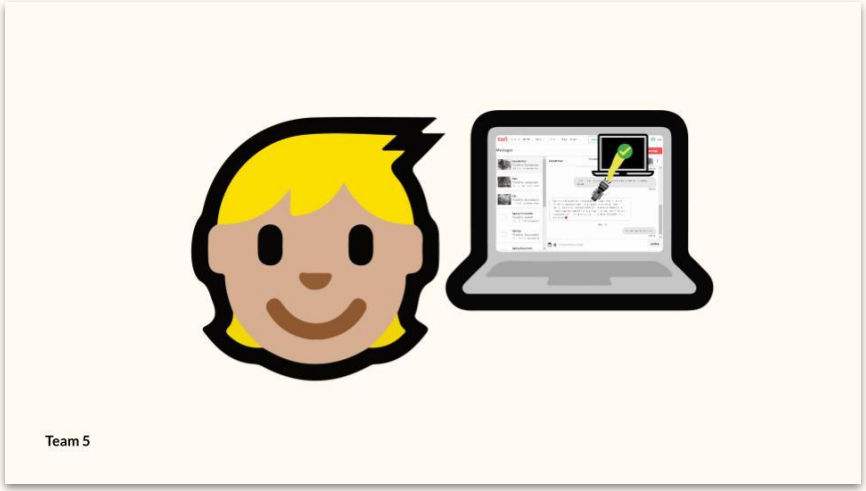
Team 5

Story of the solution benefit

https://www.youtube.com/watch?v=LYWuYbCIHSE

This video shows our assumed benefit of the solution that lower income people would experience when using our proposed “Risk Plugin”.

As a next step, the team would go out actually testing the solution and gather feedback from potential users.



MUO-E3025 / User Inspired Design Making

Final Portfolio

Team 5

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