# Evaluating and designing an engaging mobile application feed by using persuasive design

Emma Franzon Joanna Liljedahl Hildebrand

DEPARTMENT OF DESIGN SCIENCES
FACULTY OF ENGINEERING LTH | LUND UNIVERSITY
2022

MASTER THESIS

Vestiaire Collective

# Evaluating and Designing an Engaging Mobile Application Feed by Using Persuasive Design

Emma Franzon
em4536fr-s@student.lu.se

Joanna Liljedahl Hildebrand
nod15jhi@student.lu.se

June 22, 2022

Master's thesis work carried out at
the Department of Design Science, Faculty of Engineering, Lund University.

Supervisor: Günter Alce, gunter.alce@design.lth.se

Examiner: Johanna Persson, johanna.persson@design.lth.se

# Evaluating and Designing an Engaging Mobile Application Feed by Using Persuasive Design



*Published by*
Department Design Sciences
Faculty of Engineering LTH, Lund University
P.O Box 118, SE-221 00 Lund, Sweden

Subject: Interaction Design MAMM01
Division: Ergonomics and Aerosol Technology
Supervisor: Günter Alce
Examiner: Johanna Persson

**Abstract**

The fashion industry is one of the main contributors to humans' carbon emissions. Consequently, the demand for second-hand marketplaces has arisen, and the market has responded accordingly. One company that provides this service is Vestiaire Collective, offering a luxury second-hand marketplace application online. For the application to stand the competition, the need for high usability is essential.

This thesis aims to investigate what engages and encourages users when shopping second-hand, and this is done by designing a feed with the objective of inspiring the user. This was carried out through a user-centred design process with three iterations, each evaluated through a persuasive system design model. The final design prototype was well-received, and the results show that an engaging feed can be implemented using design principles and persuasive design methods.

**Keywords**: User-Centred Design, Usability Testing, Usability Evaluation, Vestiaire Collective, Circular Marketplace, Persuasive Technology

**Sammanfattning**

Modeindustrin är en av de främst bidragande faktorerna till människors koldioxidutsläpp. Följaktligen har efterfrågan på second-hand ökat och marknaden har agerat därefter. Ett företag som tillhandahåller denna tjänst är Vestiaire Collective, som erbjuder en second-hand-applikation online för märkesvaror. För att applikationen ska utmärka sig bland konkurrenter är behovet av hög användbarhet väsentligt.

Syftet med detta examensarbete var att undersöka vad som engagerar och uppmuntrar användare när de handlar second-hand, vilket gjordes genom att designa ett flöde för att inspirera användaren. Arbetet utfördes med en användarcentrerad designprocess bestående av tre iterationer, där varje iteration utvärderades med applicerandet av övertygande tekniker (persuasive system design model). Den slutliga design-prototypen mottogs väl, och resultatet visar att ett engagerande flöde kan implementeras med hjälp av designprinciper och övertygande designmetoder.

# Acknowledgements

First of all, we would like to thank our supervisor Günter Alce at the department of design sciences, LTH, for advising and guiding us throughout this thesis project. Your thoughts and interest in our work have been much appreciated.

We would also like to thank Vestiaire Collective, more specifically Charly Leporc, for this opportunity. Your feedback and guidance have been much valuable during this time.

Lastly, and not to be forgotten, we would like to express our gratitude to all participants involved during the different phases of this process. Your input has been highly appreciated and helpful. This thesis could not have been done without you.

# Contents

# Chapter 1
# Introduction

*This chapter presents the background and purpose of the thesis. Furthermore, Vestiaire Collective is introduced together with both their and this thesis's sustainability approach. This is followed by a section describing the relevant literature and the limitations of the thesis.*

## 1.1 Background

Right now, we can see a widely increasing consumption in society, causing severe consequences, such as higher levels of pollution, overuse of natural resources and negative impact on nature. One of the main contributors to all of this is the fashion industry, being accountable for up to 10 per cent of humans' carbon emissions [8].

> "Production of one cotton shirt requires 2700 Litres of water, the average human water consumption over 2.5 years" [8]

One approach to diminish the overconsumption in the fashion industry is to reuse the already existing resources instead of continuing to produce new products. Circular fashion is one way to achieve this, enabling consumers to buy second-hand products. As consumers are becoming more aware of the sustainability impact of the fashion industry, more people are willing to buy second-hand. As the popularity increases, so have the business possibilities resulting in the emergence of circular fashion marketplaces online [22].

## 1.2 Purpose

This project aims to design a feed for a circular marketplace mobile application that engages and encourages users to interact. In order to do this, we will investigate and answer the following research questions:

- How does a feed influence a user and what are motivating factors when shopping?
- What captures the user in a feed?
- How can a feed be designed that engages and encourages the user?

This thesis will answer the research questions with the circular fashion marketplace named Vestiaire Collective[1] as a foundation.

## 1.3 Vestiaire Collective

Vestiaire Collective is a circular fashion marketplace online where pre-owned clothing and accessories from luxury brands can be purchased and listed in a web and mobile application [4]. The application is global and available to both private customers and companies. Vestiaire Collective aim to transform the fashion industry to become more sustainable and prevent overconsumption. Vestiaire Collective was founded in Paris in 2009 and still has its headquarters in the city [28]. The company provides different tools and features to its users that enables them to be a part of the circular fashion movement. As a user, you can both sell and buy items, browse through listed items by using filters and subscribe to your favourite brands and sellers. However, to influence the fashion industry to become more sustainable

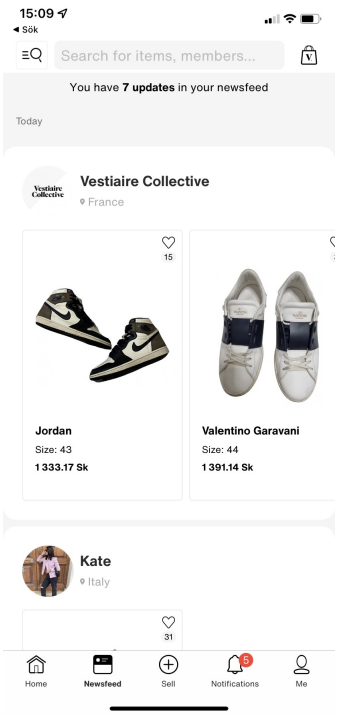


**Figure 1.1:** The newsfeed of Vestiaire Collective mobile application

the application must also be attractive to the user. This stresses the importance of having an application that suits the users' needs and is easy to use. The newsfeed, see figure 1.1, is a component where frequently updated content is presented. Here, the company has the opportunity to inspire the user, promote products and give relevant information.

[1] https://vestiairecollective.com/

## 1.4 Sustainability work

Vestiaire Collective actively works to contribute to a more sustainable fashion industry, this was also proven to be true when Vestiaire Collective was entitled to a B Corp certificate in 2021 [5]. The B Corp certification reviews the sustainability of companies by measuring their social and environmental impact [9]. In order to be entitled to a B Corp certificate, the company has to have a high standard in performance, transparency and accountability throughout the whole production chain.

In addition to this, Vestiaire Collective is a member of the United Nations (UN) Fashion Alliance [4]. This ethical fashion initiative reassures a safe, sustainable and equal environment for fashion industry workers in emerging economy countries. Since the fashion and textile industry dramatically impacts the environment and the working conditions, the UN Fashion Alliance works towards all the 17 UN Sustainable Development Goals (SDG) [16]. The SDGs are universal goals to combat the climate crisis, poverty and inequality before 2030. This thesis aims to contribute to goals number 9 and 12.

**9. Industry, innovation and infrastructure (figure 1.2).** Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation.

**12. Responsible consumption and production (figure 1.3).** Ensure sustainable consumption and production patterns.

With this work, we hope to encourage circular fashion platforms and slow down overconsumption.


**Figure 1.2:** Goal 9


**Figure 1.3:** Goal 12

## 1.5 Related work

The need to persuade others is a fundamental behaviour in humans, one of the first studies of persuasion was done by Aristotle almost 2300 years ago. He divided the field of persuasion into three modes: Ethos, Logos and Pathos. The three modes address the importance of being credible, reasonable and emotional when pursuing others. Today the concept of persuasion has been further developed, and J. Fogg [7] describes persuasion as: “an attempt to change attitudes or behaviours or both (without using coercion or deception)”. Furthermore, J. Fogg coined the term Persuasive Technology, which combines persuasive psychology with human-computer interaction. The art of Persuasive Technology can be seen frequently in today’s

society, one being e-commerce platforms. Since the fundamental objective is to sell products, influencing the customer to purchase is essential.

A. Adib and R. Orji [2] conducted a study investigating 30 mobile e-commerce applications regarding persuasive strategies. The aim was to explore how using persuasive strategies affected the applications' popularity. The result shows that personalisation and social learning (learning by observing other users' behaviour) were the most commonly used strategies. Their crucial takeaway suggests that designing for different user groups is essential to reach a broader target group and increase the popularity of the e-commerce application. This conclusion is considered when writing this thesis.

As the popularity of mobile applications continues to grow, the need to design them appropriately is a crucial factor. L. Panzarella [20] highlights the obstacles and how to overcome them. Consequently, the classic web application design needs to be reconsidered due to the smaller screen. L. Panzarella emphasises the importance of not having too much unnecessary information on each page but presenting the most relevant information. In addition, he mentions the "above-the-fold" space, referring to the space shown on the screen before scrolling. This space, often the landing page, has a significant impact on the user's first impression of the application and should be designed with caution because this is a common design mistake when directly translating a web application design to a mobile application. Furthermore, the sizing of components in mobile application design should be evaluated. The author states the importance of, for example, buttons being big enough not to be fully covered when pressed on. Lastly, the author state that a vast majority use the thumb for navigation and as a consequence, the reachable areas are limited (figure 1.4) [20]. This emphasises the importance of having relevant features accessible within the reachable area. L. Panzarella's work and design recommendations will be of high relevance throughout this thesis.

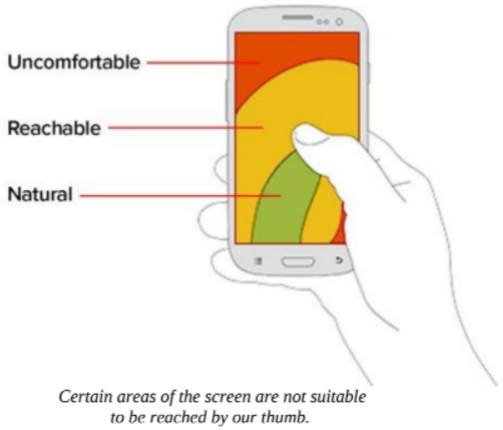


**Figure 1.4:** The Touch Hierarchy [20]. Image courtesy of Luca Panzarella.

H. Li et al. [15] investigated how a layout of a mobile newsfeed could be carried out by analysing Chinese mobile news applications. The analysis was conducted by constructing different newsfeed layouts where user evaluation tests were performed through interviews and eye-tracking. The results showed the importance of high-quality images and how to structure the layout considering how the users browse the feed. This outcome will be of

great value in this thesis. However, the project aims towards a feed presenting news which has to be considered when designing an e-commerce feed instead.

## 1.6 Limitations

Due to the time frame and the expected scope of this thesis work, limitations have been made. Designing the feed will be done isolated from the currently existing Vestiaire Collective mobile application and focus on the function called "Newsfeed". The aim is that the company can use the work in this thesis in their further development of the mobile application.

The thesis will not be based on the application's usage and user data. Instead, data gathering will be done as a part of this thesis work. Since the data measuring only will consider the Newsfeed, the scope will not cover the overall picture of the application. In addition to this, it will not determine the direct effects on the consumer's behaviour and the sales.

Furthermore, the thesis work is limited to 20 weeks in total. Consequently, the design process will be limited to three short and rapid iteration cycles. Preferably, more cycles can be considered in the future application implementation and integration of this work.

# Chapter 2
# Theory

*This chapter introduces the design process and techniques used throughout the thesis, together with design principles for creating good design. In addition to this, methods for ideating, data gathering and evaluation are discussed. Lastly the persuasive system design model is explained.*

## 2.1 The design process

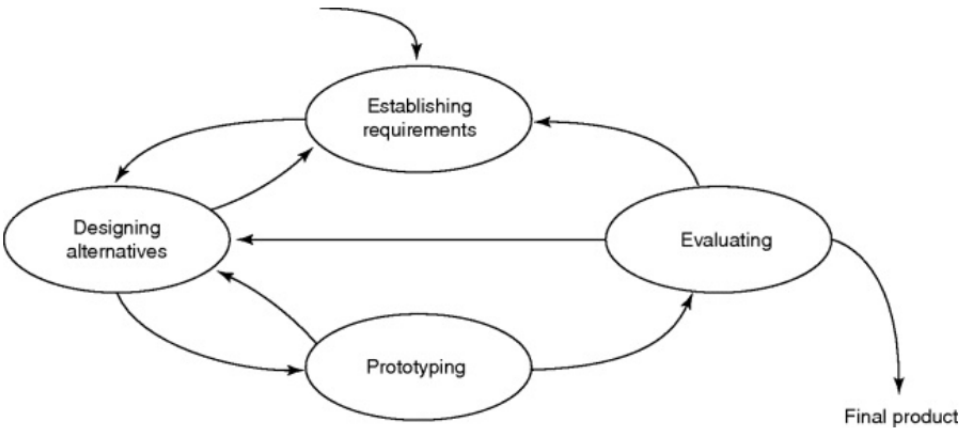


**Figure 2.1:** Preece's Design Process [13]. Image courtesy of Jennifer Preece, Yvonne Rogers and Helen Sharp.

With an increasing number of applications on the market, it is in the best interest to develop an application that stands out from the competing crowd. This emphasises the importance of an application with high quality in both design and performance. One way to accomplish this is by having a user-centred approach when developing, which implies involving the user

throughout the entire process to ensure their needs are met. J. Nielsen [18] also stresses the importance of this and argues that a system with a great design that fails to address the end-users needs will not contribute to a successful product, hence the importance of user-centred design.

There are numerous ways to execute a design process. However, Preece et al. [13] suggest a process consisting of four activities, establishing requirements, designing alternatives, prototyping and evaluating. This four-step process is commonly used and can be applied in various contexts and forms. Since the process is adjustable, it can also vary in complexity. The main goal is to create a product with high usability and provide a foundation for a creative way of working towards that goal.

1. **Establishing requirements** sets a clear foundation for the process. The requirements function as guidelines for both the product and the developers to reach the goals. In order to set the proper requirements and achieve a user-centred process, data should be gathered from the intended user group.

2. **Designing alternatives** is the initial design work that provides a base for future work. The main objective of the design alternatives is to provide a conceptual design that meets the requirements by building an abstract framework for future design.

3. **Prototyping** is an activity where the conceptual design alternatives are concretised into a model of the future product. The main objective is to add a real-life feel to the design, and this work often involves making the prototype interactable realistically.

4. **Evaluating** is the part where the present design will be measured in the aspects of usability and user experience. Therefore, when conducting the evaluation, user participation is vital. In addition to this, the evaluation includes verifying how well the earlier established requirements are met.

All four steps are associated with and somehow dependent on each other, hence the arrows illustrated in figure 2.1 on page 10 [13].

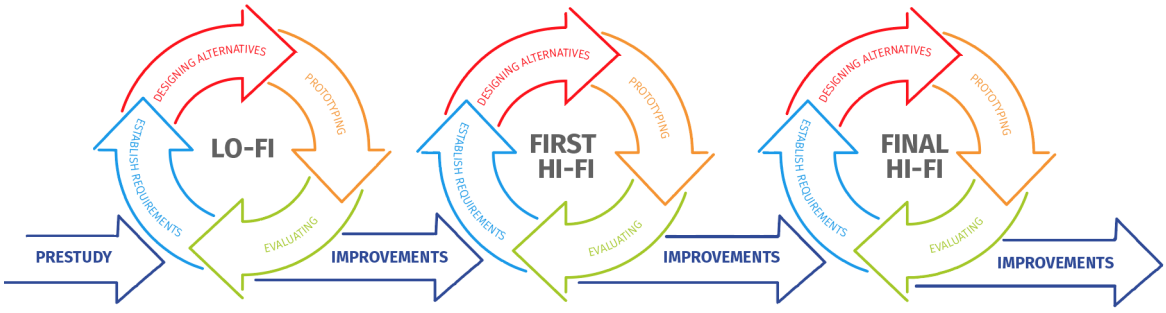


**Figure 2.2:** The design process

This thesis will use Preece's design process in an iterative context, implying that the four activities will be repeated iteratively [13]. In this case, three cycles will be performed, allowing

for further user involvement and refining of the final product. The altered design process is illustrated in figure 2.2 on page 11. First, a prestudy will be conducted, providing a solid foundation for the future stages in the process. After the prestudy, a Lo-Fi prototype will be created, followed by two more extensive iterations with the goal to create a final Hi-Fi prototype.

## 2.2 User experience

Don Norman coined the term user experience, which includes all aspects of interaction design, from the visual design to the brought up emotions when using an interface [19]. A good user experience should provide a seamless interface with high usability and leave the user feeling satisfied and at pleasure. In addition to this, the International Organization for Standardization (ISO) defines user experience as:

> ”User’s perceptions and responses that result from the use and/or anticipated use of a system, product or service” [1]

Again, this underscores the importance of user involvement and how the system is perceived in its whole context.

## 2.3 Design principles

There are many opinions regarding what good design is, and there are numerous rules to follow. J. Nielsen, J. Rubin and D. Chisnell are three, among many, defining how to develop a product with good design and high usability, which are presented below.

J. Nielsen introduces ten design principles that work as broad rules of thumb when designing [17]. The objective is not to apply them straightforwardly. One should instead use the principles as general guidelines.

1. Visibility of system status: The user should be provided with the correct information, and at the right time, relevant feedback should be presented immediately.

2. Match between the system and the real world: Users should be able to relate to and recognise concepts in the system design, resulting in higher learnability and an intuitive feel.

3. User control and freedom: To avoid frustration, the user should be able to undo or cancel an action; this puts the user in control.

4. Consistency and standards: By having a consistent system design, the user’s confusion is minimised; this can be done by following general conventions.

5. Error Prevention: The system design should strive to prevent failures by eliminating risk itself or questioning the user when performing an unexpected action.

6. Recognition rather than recall: The design should not rely on the user’s memory. Vital features should be visible and easily accessible.

7. Flexibility and efficiency of use: A system with high flexibility regarding personalisation and customisation results in a smoother user experience for different users.

8. Aesthetic and minimalist design: Only the relevant information and features should be visible when needed, contributing to an aesthetic and appealing design.

9. Help users recognise, diagnose, and recover from errors: Error messages should be informative and help the user understand and overcome the failure.

10. Help and documentation: Help should be accessible to the user at all times.

J. Rubin and D. Chisnell defines usability as: "the user can do what he or she wants to do the way he or she expects to be able to do it, without hindrance, hesitation, or questions". To achieve this, five attributes are introduced, which should be fulfilled in a usable system [23]. The attributes are listed and explained below:

**Usefulness** is how well the system allows the user to fulfil their goals and how willing they are to do so, underlining the importance of user involvement early in the development to understand the desired user group's needs.

**Efficiency** is how accurately the user can achieve their goal entirely during a given timeframe.

**Effectiveness** is the accuracy and completeness with which the user achieves given goals.

**Learnability** is the user's ability to learn and understand the system, the need for training can vary, and in some cases, it might not be necessary.

**Satisfaction** is the absence of discomfort while using a system and how positive the user's attitude, feelings and opinions are regarding the system.

**Accessibility** is the degree of how accessible the system is for different users in order to achieve their goals.

## 2.4 Personas

A persona is a fictive illustration of a typical product user, which is made up by using data collected from, e.g. surveys and interviews with the target users [13]. The aim of using personas is to understand the user in a larger context and, by doing so, be able to establish a set of requirements for the design. In addition to this, a persona is also a tool used to make the design process user-centred and not biassed by designers, stakeholders and development goals.

### 2.4.1 Scenarios

A persona can be provided with a fictive description of a story containing user activities and tasks; this is called a scenario. The scenario often highlights the user goal and the obstacles the user might need to overcome in order to fulfil it, presented as a story of actions in a natural sequence. The persona combined with the scenario then becomes more relatable

for the designers, developers and stakeholders in further development and discussion of the product requirements [13]. However, one story only provides one perspective, and it is ideal to have multiple personas assigned their scenario that can represent different user groups.

## 2.5 Brainstorming

A common technique used for generating, refining and developing ideas is brainstorming. When brainstorming is used in interaction design, the purpose is generally to produce or improve alternative designs by gathering ideas spawned from the members in the session. Preece et al. [13] suggest some rules to follow when conducting brainstorming. Firstly, all participants must be aware of the purpose and goal of the brainstorming session. Furthermore, having an open mind to produce ideas is a necessity and being non-judgemental and not criticising others' ideas. When the session is done, all the ideas should be discussed and considered when finding new solutions for the product.

The session should occur in a controlled environment. However, it can be either unstructured or structured. In an unstructured brainstorming session, the team members can speak about their ideas directly when they come to mind. In the structured session, all members are asked to present their ideas at the end. For both methods, it is important to write down and document all ideas for the later discussion [29].

## 2.6 Affinity diagram

In order to analyse and structure the data collected from, for example, a brainstorming session, the affinity diagram is a commonly used tool. The affinity diagram is constructed by creating tickets from the collected data and then mapping the associated tickets together, forming different themes [13]. The themes found from the data may relate to aspects such as user behaviour, design features and the targeted group.

## 2.7 Data gathering

In a user centered design process it is vital to gather information and opinions from the intended target group, throughout the entire design process [23]. The data collected can be mapped with four characteristics: qualitative, quantitative, subjective and objective. These characteristics are conjugated into the following categories:

- qualitative/subjective
- qualitative/objective
- quantitative/subjective
- quantitative/objective

It is ideal to cover all of the categories to get an adequate data collection. This can be accomplished through different techniques: surveys, interviews, and observation, which are further described below [23].

### 2.7.1 Survey

Surveys, or questionnaires, are used to collect information about the users and their opinions. It allows reaching out to many people and gathering a greater amount of data. A survey can be composed of open and closed questions, where the latter is most commonly used since it can be analysed efficiently. When asking closed questions, choosing response formats such as ranges, checkboxes or rating scales is preferable. A commonly used scale is the Likert scale, where opinions are measured using either a range from 1-5 or words from strongly agree-strongly disagree [13].

Preece et al. suggest how the questionnaire set-up could be structured [13]. The survey should begin with collecting demographic information, followed by the questions answering the survey's aim. Furthermore, the questionnaire must be self-explanatory since the respondent can not request clarification; this regards both the questions' structure and the wording. Surveys are a typical example of quantitative/subjective data gathering. However, qualitative/subjective data can occur depending on the question asked.

A commonly used questionnaire used when evaluating the usability of a product is the System Usability Scale (SUS) developed by J. Brooke [3]. The author's findings were first published in 1996 and provided a universal tool to measure a system based on the ISO definition of usability, making the SUS relevant to this day. The SUS questionnaire consists of ten questions regarding the system's effectiveness, learnability, satisfaction, and accessibility answered on a Likert scale. A grade is calculated from the result of the survey. The grade stands between 1-100 and represents the system's overall usability, where 0-64 is not approved, 65-84 is acceptable, and 85-100 equals high usability [3]. The average overall SUS score was identified by J. R. Lewis at 68 points, and this implies that a SUS grade higher than 68 points results in overall usability above-average [14].

### 2.7.2 Interview

Interviews are a tool for data gathering and can be applied in various situations throughout the design process [13]. Depending on what kind of data is needed, the interviews can be structured and carried out differently. Two of these interview methods are structured and unstructured interviews. Structured interviews consist of mainly closed questions, while unstructured interviews allow for open debatable questions. The two methods can also be combined and are then called semi-structured interviews. Interviews provide qualitative/subjective data gathering .

### 2.7.3 Observation

A versatile data-gathering technique is observations. It aims to understand the users' intentions which can be useful in many stages of the design process [13]. For example, observation can be useful when evaluating the design by observing the user performing tasks. It is a convenient technique since it complements the vocal and written expressions made by a user. Observation can provide both qualitative/objective and quantitative/objective data.

## 2.8 Prototyping

A prototype is made once data has been collected, the users' needs understood and the requirements established. A prototype is a model of the future product, intending to allow both the developer and the user to explore and validate the product's design from different perspectives. These perspectives could be deciding between different design options or improving the product's usability by letting users interact with it and see how they perform. Since there are different aims with prototyping, there are a variety of approaches to carry them out. Generally, prototypes are divided into low fidelity (Lo-Fi) and high fidelity (Hi-Fi) [13].

### 2.8.1 Lo-Fi prototype

A Lo-Fi prototype is mainly used in the early stages of the design process to investigate the product's conceptual design [13]. It can be made with pen and paper, cardboard and other physical materials. The focus is not to decide on detailed design alternatives but rather on understanding which concepts the product should contain [21].

### 2.8.2 Hi-Fi prototype

A Hi-Fi prototype is more complex and detailed than a Lo-Fi prototype. It should look like the final product and can also have some functionality. Hi-fi prototypes are usually done in the latter stages, and they aim to investigate the usability and identify difficulties and issues [21].

One online prototyping tool is Figma[1]. Figma supports simultaneous editing and allows users to create interactive prototypes that can mimic a real user interface. It is a web-based tool; however, Figma provides both prototyping for web and mobile applications [6].

## 2.9 Usability testing

Usability testing is a technique to evaluate a product concerning its usability [23]. Moreover, testing allows the intended user's involvement, contributing to important and relevant feedback. There are various testing strategies with different purposes that can be applied in the different stages of the design process. These strategies are exploratory, assessment, comparison and validation testing, further explained below.

### 2.9.1 Exploratory testing

Exploratory testing focuses on investigating the high-level design choices rather than the detailed design [23]. The aim is to evaluate the users' perception of the system and its design concepts. The exploratory testing is ideally conducted in an early stage of the development process, typically on a Lo-Fi prototype, since it lays the foundation for further design work.

[1] https://www.figma.com/

It is commonly performed using a test script but carried out as an open discussion in order to capture the user's spontaneous thoughts and intuitions.

### 2.9.2 Assessment testing

One of the most fundamental test strategies is assessment testing, intending to evaluate the product's overall design and the detailed design choices [23]. However, the assessment testing is generally performed in the early stages of the development process after the high-level design concept is set. The test participant is asked to perform test cases, and the users' approach and behaviour are observed. Measurements such as task completion time and error rate are collected as a part of quantitative data gathering. In addition to this, the users' opinions are gathered and valued as qualitative data.

### 2.9.3 Validation testing

To verify the functionality and usability of the product when reaching the end of the design process, a validation test is conducted [23]. The aim is to confirm how well the product meets the set requirements and the intended goals. When performing the test, it is important to state a clear objective beforehand and ensure that measurements are taken to answer this. The measurements should be taken quantitatively to validate the product's overall performance .

### 2.9.4 Comparison testing

When comparing two or more designs, a comparison test can be performed. It can be carried out at any stage of the design process, affiliating the different test strategies [23]. The objective is to evaluate which design performs better in terms of usability. For example, different design alternatives can be compared, or the comparison can be against a competitor on the market. Depending on the stage of the design process and what the aim is, different types of data measurements can be gathered.

The test strategies differ in terms of aim and performance. However, it is important to have a plan when conducting all of them. A test plan should include a clear objective, what data should be collected and how to collect it, and the procedure should be described with the test cases involved. In order to get equivalent results and statistical certainty, the same setup and approach should be applied to all the tests performed. Lastly, it is important to ensure that the group of test participants represents the intended user group [23].

## 2.10 Persuasive System Design model

One way to change a user's attitude or behaviour is through persuasive technology [7], which can be accomplished by introducing a Persuasive System Design (PSD) Model in the development process [2]. The PSD model provides methods for developing persuasive applications by analysing the persuasive contexts, the intent, event and strategy.

### The intent

The intent focuses firstly on finding who the persuader is, the one who intends to change or affect someone's behaviour; usually, this is the application's owners or stakeholders. Secondly, the intent involves what type of behaviour is desired to change. It can either be a one-time behavioural change or permanently change someone's routines, the latter being more complex [2].

### The event

The event's main objective is to understand the user's goal and intentions with the system. The aim is to create an application where the user efficiently and effectively can achieve their goals. It is of great importance to understand the user's motivation, lifestyle, commitment and abilities [2].

### The strategy

Strategy is the way the user is approached in a system which can be carried out both direct and indirect. The direct approach uses informational messages in order to persuade the user, while the indirect approach uses emotional-based messages to achieve the same result [2].

### Persuasive system principles

After analysing the persuasive contexts, the four persuasive system categories are introduced with their corresponding principles to set the requirements the system should fulfil. The first, primary task support, is the most fundamental category since it assists the user in performing the intended tasks. Secondly, dialogue support should ease the dialogue between the user and the system. System credibility support indicates that a credible system is perceived as more persuasive. Lastly, social support means that social influence is a motivating factor that can change the users' behaviour [2]. In addition to this, the influence of the social factors is also proven to impact consumer behaviour when purchasing. Robert P.G. Goedegebure, states that decision-making is often socially influenced, and an item's popularity can trigger the consumers' decisions when shopping [10]. The persuasive system principles used in this thesis are listed and explained in Table 2.1 on page 19.

**Table 2.1:** Persuasive system principles identified by A. Adib and R. Orji [2].

| Category | Principle | Description |
|---|---|---|
| Primary task support | Reduction | The system should reduce complex behaviour into simple tasks to help the user perform the target behaviour. |
| Primary task support | Tailoring | The system's information should be tailored for its intended user group. |
| Primary task support | Personalisation | The system should offer personalised content for its users. |
| Primary task support | Self-monitoring | The system should keep track and present the user performance. |
| Primary task support | Simulation | The system should present the effect of user behaviour. |
| Dialogue support | Rewards | System should give credit for target behaviour through rewards. |
| Dialogue support | Reminder | The system should provide reminders encouraging target behaviour. |
| Dialogue support | Suggestion | The system should present proper content. |
| Dialogue support | Similarity | The system should remind the user of themselves. |
| Dialogue support | Liking | The system should have an appealing design. |
| System credibility | Trustworthiness | The system should provide trustworthy information. |
| System credibility | Surface credibility | The system should be perceived as credible. |
| System credibility | Real-world feel | The system should provide user and content origin information. |
| Social support | Social learning | The system should provide possibility to observe other users' behaviour. |
| Social support | Normative influence | The system should apply norms that influences users to perform target behaviour. |
| Social support | Recognition | The system should adapt features that the users recognises. |

# Chapter 3
# Prestudy

*This thesis's prestudy includes a comparative analysis of similar applications, and the persuasive system design model is applied to the current application. In addition to this, the data collections and their results are presented. In figure 3.1 the full design process is shown with the prestudy highlighted.*

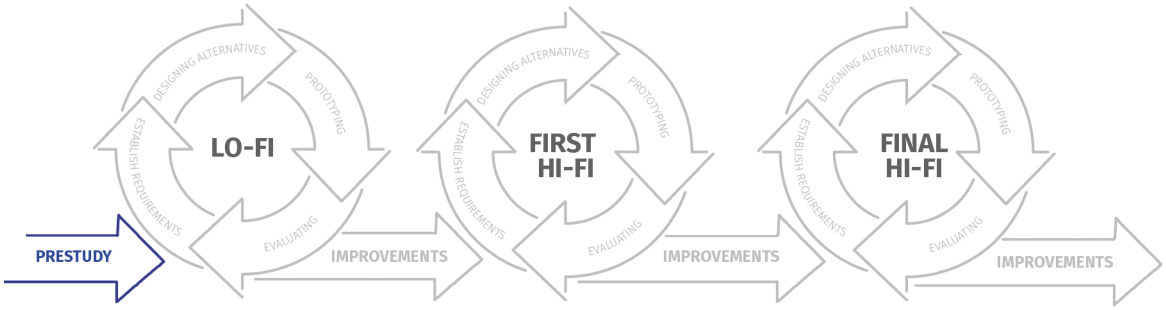


**Figure 3.1:** The design process with the current iteration highlighted.

## 3.1 Similar applications

Today, there are many applications eager to obtain our attention with their infinity feeds. To get a grasp on the current supply, three mobile applications have been selected to benchmark for future design work. The first is one of the leading image feed applications, Instagram. The second one is a Swedish circular marketplace, Tradera. The last one is a classic e-commerce application, H&M. The selection was done to cover different aspects of feed-usage and provide a broad basis for future design work.

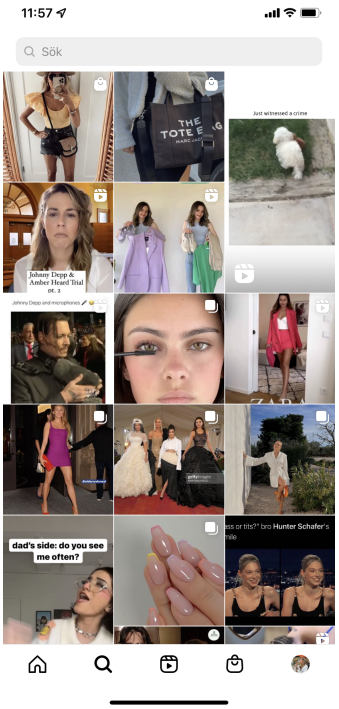


**Figure 3.2:** Instagram feed

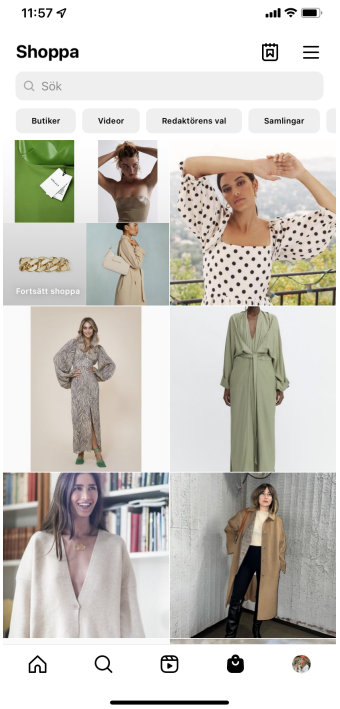


**Figure 3.3:** Instagram commerce feed

### 3.1.1 Instagram

Instagram [1] is a social media platform where users can upload images and video content [12]. Lately, the platform has introduced e-commerce in the application by allowing brands to have business profiles and promote their products in various ways. This analysis has been limited to their explore feed (figure 3.2) and the commerce feed (figure 3.3).

In the explore feed, they maximise the above the fold space, having space for up to 15 images at a time. They combine two different types of content, photos and videos. In contrast, the commerce feed presents larger images, six images at a time and only allows image content. Neither of the feeds allows for filtering, although the commerce feed has shortcuts at the top bar.

### 3.1.2 Tradera

Tradera[2] is the largest circular marketplace in the Nordics, where users can sell and buy second-hand products through either bidding or a fixed price [27] [24]. The products are presented in a feed with images and text information, having room for four products above the fold space, see figure 3.4. The user can like products directly from the feed. However, there is no option to instantly buy a product from this view. In order to make an offer, the user must first click on the product and be navigated to the product's page. The application allows for different ways of filtering, both in a horizontal scroll in the top bar and in a list which can be opened in an overlay, see figure 3.5.

[1]https://www.instagram.com
[2]https://www.tradera.com/

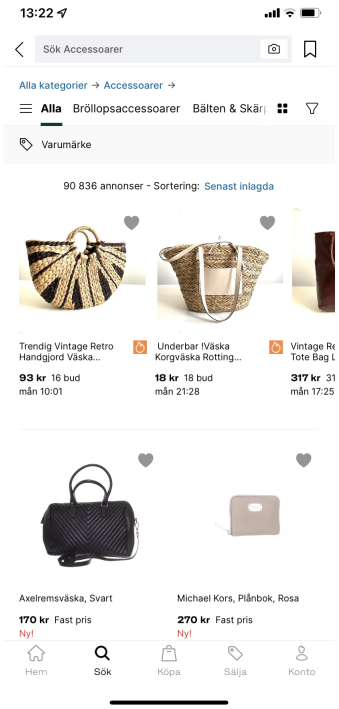


**Figure 3.4:** Tradera feed

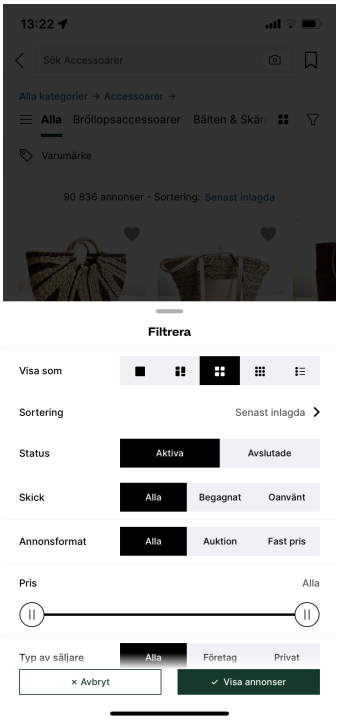


**Figure 3.5:** Tradera filter

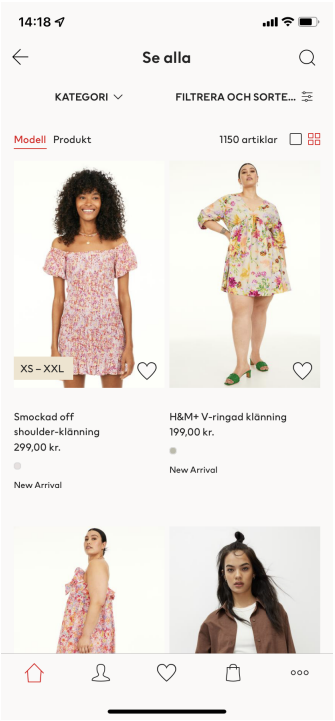


**Figure 3.6:** H&M feed


**Figure 3.7:** H&M feed, single product

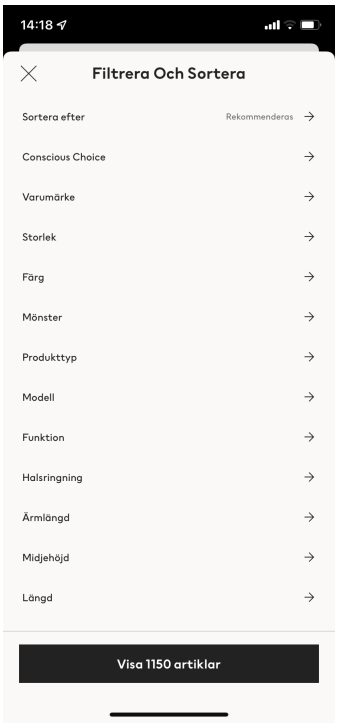


**Figure 3.8:** H&M filter

### 3.1.3 H&M

The Swedish e-commerce brand H&M[3] is one of the world's largest fast-fashion clothing retailers [11] [26]. Each item is presented with image and text information when browsing their products. The information includes product name, price, available colours and additional text. The above the fold space holds two products, and when scrolling, up to four items can be fully visible simultaneously. Each item can also be saved by toggling the heart symbol, placed in the bottom right corner of the image (see figure 3.6).

The user is provided with several view options for the feed; the items can be displayed on a model (see figure 3.6) or alone as a product image (see figure 3.7). The layout of the feed can also be adjusted from two products per row (see figure 3.6) to one large image at a time (see figure 3.7). Furthermore, the user can filter the feed, which is opened up as an overlay when selected (see figure 3.8).

## 3.2 Persuasive System Design model

The PSD model was applied to evaluate how Vestiaire Collective is working with persuasive technology.

#### The intent [2]:

Vestiaire Collective is the main persuader; it is in their best interest to persuade both sellers and buyers to choose their application over competitors'. The sellers should provide the right products with information and qualitative products.

#### The event [2]:

In order to fully understand the user goal and motivation, a user study was conducted, and personas were created.

#### The strategy [2]:

From examining the current newsfeed, the application uses weak direct routes in the form of product information. In addition to this, an indirect route was identified as the seller's information since it could apply emotional persuasion to some users.

After that, the current use of persuasive system principles was identified, see table 3.1 on page 24.

[3]https://www.hm.com/

**Table 3.1:** The identified principles in the current application

| PSD analysis | | |
|---|---|---|
| Category | Principle | Description |
| Primary task support | Tailoring | Different languages and currencies are supported. |
| Primary task support | Personalisation | Feed based on sellers the user follows. |
| Dialogue support | Reminder | Feed is updated when sellers list items. |
| Dialogue support | Suggestion | Suggested seller profile recommendations. |
| System credibility | Real-world feel | Seller image and information. |
| Social support | Normative influence | Number of likes are displayed. |

## 3.3 Data collection

A data collection was conducted to further investigate the objective of the newsfeed and the target user behaviour. This was carried out through both an interview with the stakeholders and a survey with the target users in order to collect an adequate set of data.

### 3.3.1 Interview with the stakeholders

In meetings with Vestiaire Collective, they express that the design of the current newsfeed page does not meet their expectations. Initially, the purpose of the feed was to display seller-accounts the user follows. It was assumed that the users would interact more with sellers and follow their favourite accounts. However, this was not the case, and the feed's goal was not achieved. They emphasise the need for redesigning the newsfeed and its purpose. The new aim is to inspire the user to explore the feed and its products and, later on, make a purchase.

### 3.3.2 User study

To gain more insight into the target user behaviour when shopping, a survey was conducted. The survey's main focus was to investigate what motivates users to purchase, followed by what information they considered most important. The survey was answered by 30 individuals, 90% women and 10% men where the average age was 25 years. Firstly, "what inspires you to buy clothes?" was asked, and the respondents were given a Likert scale from 1 to 5, with 1 being the least important and 5 the most important. The result is shown in figure 3.9. The average score (M) and standard deviation ($\sigma$) for each option was calculated, and the result is presented in table 3.2.

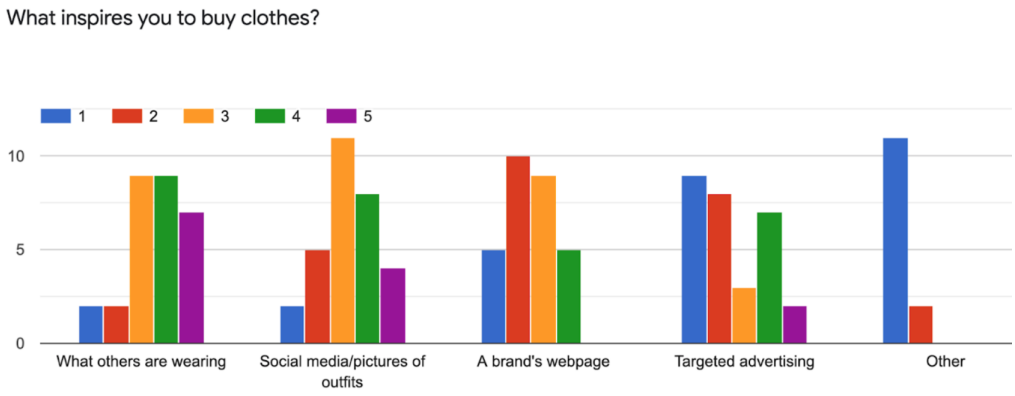


**Figure 3.9:** Question 1

**Table 3.2:** What inspires you to buy clothes?

| Option: | M | σ |
|---|---|---|
| What others are wearing | 3.6 | 1.13 |
| Social media/pictures of outfits | 3.2 | 1.09 |
| A brand's webpage | 2.5 | 0.97 |
| Targeted advertising | 2.5 | 1.33 |

This shows that the most inspiring factor when buying new clothes is what others are wearing, followed by social media/pictures of outfits. Lastly, a brand's webpage and targeted advertising were equally important. Two respondents gave "Other" a 2 on the scale, and one motivated "mood" as a factor that inspires them to buy clothes. The remaining respondents that answered a 1 on "Other" was not considered essential and were not further motivated by the respondents.

When the respondents were asked what information they are interested in when shopping for clothes online, the question was divided into two categories: shopping for new clothes and second-hand clothes. The respondents were asked to pick three options. The results for new clothes show that 93% thought that the price was most important (figure 3.10, page 26). However, when the question was asked regarding second-hand, only 57% chose price and instead, a higher percentage (90%) chose the condition as an essential factor (figure 3.11, page 26).

In order to further investigate how the target group is inspired when shopping, they were asked to choose between two different types of product images; one with a model and one with only the product. The first alternative, shown in figure 3.12 (page 27), was displaying a dress worn by a model and then a photo of only the product, followed by a question presenting a shoe in the same way, shown in figure 3.13 (page 27). As seen in figure 3.14 and 3.15 (see page 27) the results from the two image questions were conflicting. This could depend on the type of product presented and how it is presented; for example, it might be more important to see the fit of a dress rather than a pair of shoes. In this case, the model image presenting the shoes did not solely focus on the shoes, and it might not have been clear what product

of the image was presented. While the model image showing the dress could be perceived as more straightforward.

Lastly, the respondents were given the opportunity to further express their thoughts in a free text question. One respondent answered that a critical factor when shopping second-hand is quality before quantity.

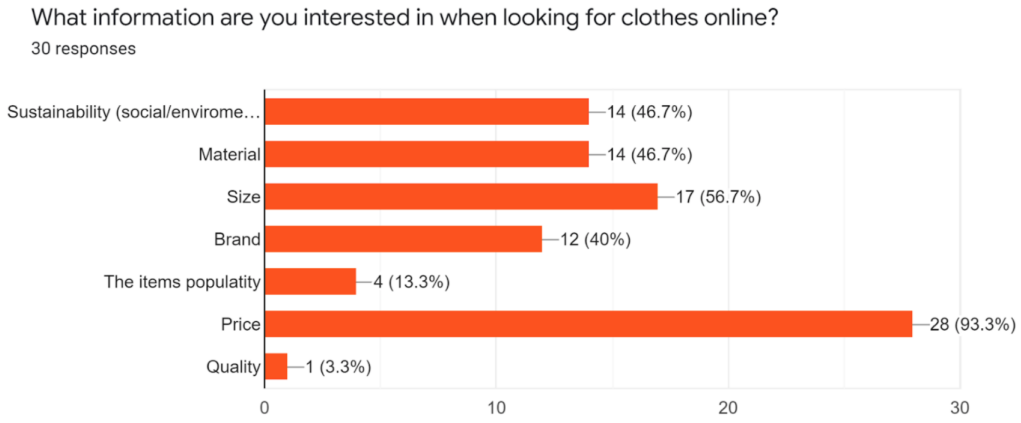


**Figure 3.10:** Question 2


**Figure 3.11:** Question 3

To summarise, the insights from the prestudy provided a foundation on which future design choices could be based. Firstly, a comparative analysis of similar applications was done in order to gain an understanding of how existing applications design their feeds. In addition to this, an analysis of the current Vestiaire Collective application feed was conducted by applying the PSD model. The currently used persuasive principles were identified which clarified the opportunities for improvement. Lastly, the data collection provided great insight into the target user group and their behaviour. The result will be taken into consideration in the forthcoming iterations.


**Figure 3.12:** Dress presented in two ways

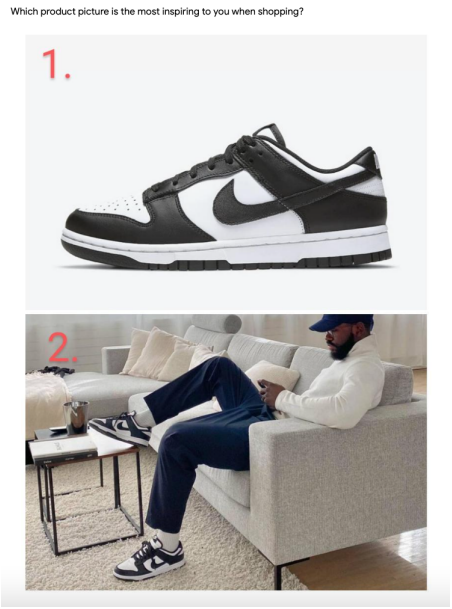


**Figure 3.13:** Shoe presented in two ways

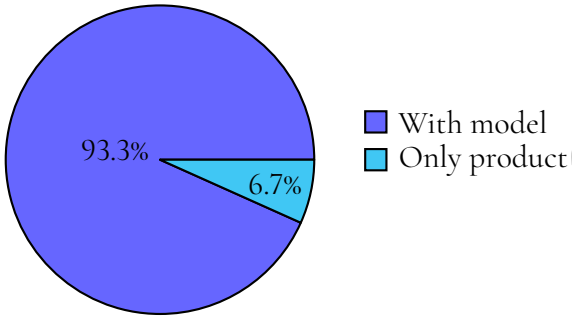


**Figure 3.14:** Results from dress

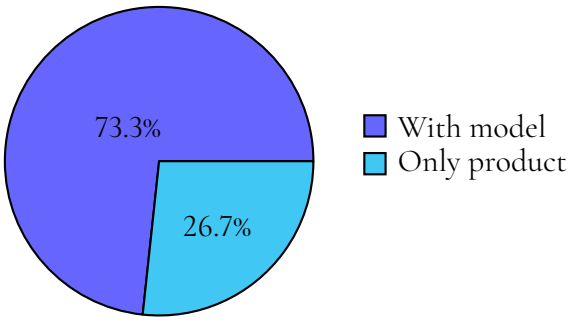


**Figure 3.15:** Results from shoe

# Chapter 4
# Lo-Fi

*This chapter summarises the first iteration, illustrated in figure 4.1. The created personas are presented to establish requirements, followed by a design alternative brainstorming session, Lo-Fi prototyping, and evaluation. This work lies as a foundation for further iterations.*

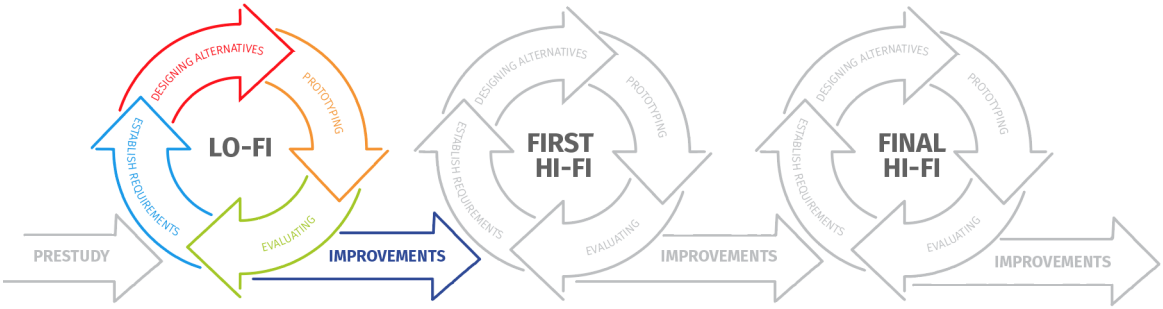


**Figure 4.1:** The design process with the current iteration highlighted.

## 4.1 Personas

To further evaluate what motivates the intended end-user, personas were created in collaboration with Vestiaire Collective, based on the data collected and previous user research from the company. The outcome was four personas: Alice, Anna, Louise and Gabriel. In the user study, 10% of the respondents were men, and therefore the decision was made to have three

female personas and one male persona. The personas are presented in figures 4.2, 4.3, 4.4 and 4.5. Each of the personas represents different user motivations and shopping behaviours. In addition to this, the personas have been given realistic scenarios that reflect a real user's approach and the problems that may occur.

**Impact goal:** Inspire users with different motivators to purchase items through the news-feed

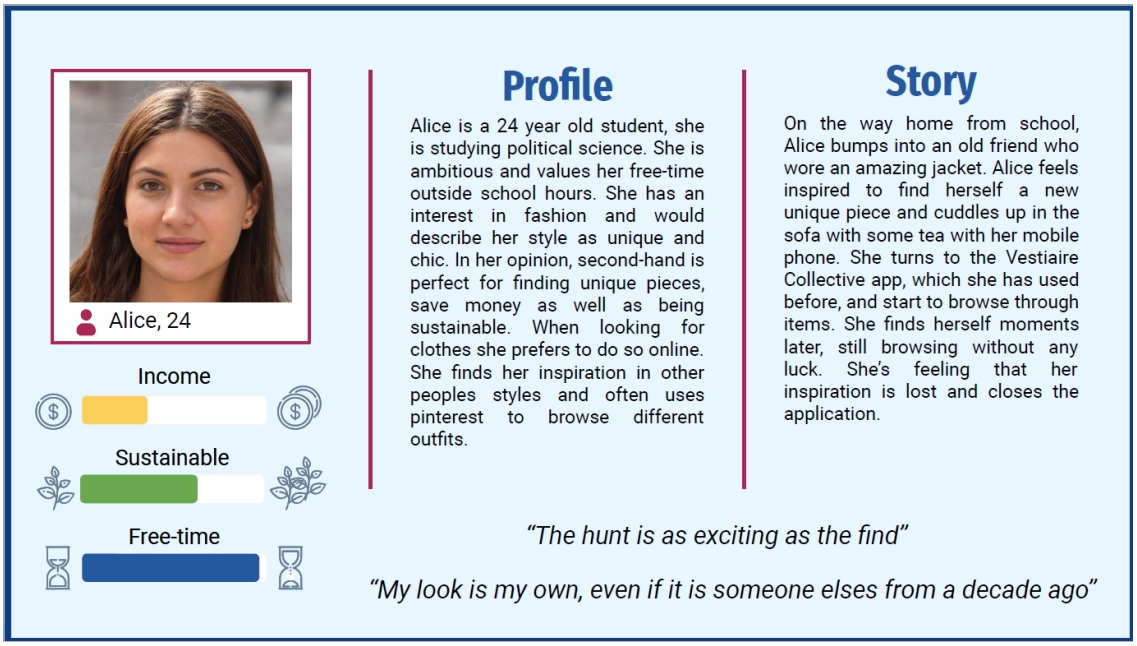


**Figure 4.2:** Persona 1


**Figure 4.3:** Persona 2

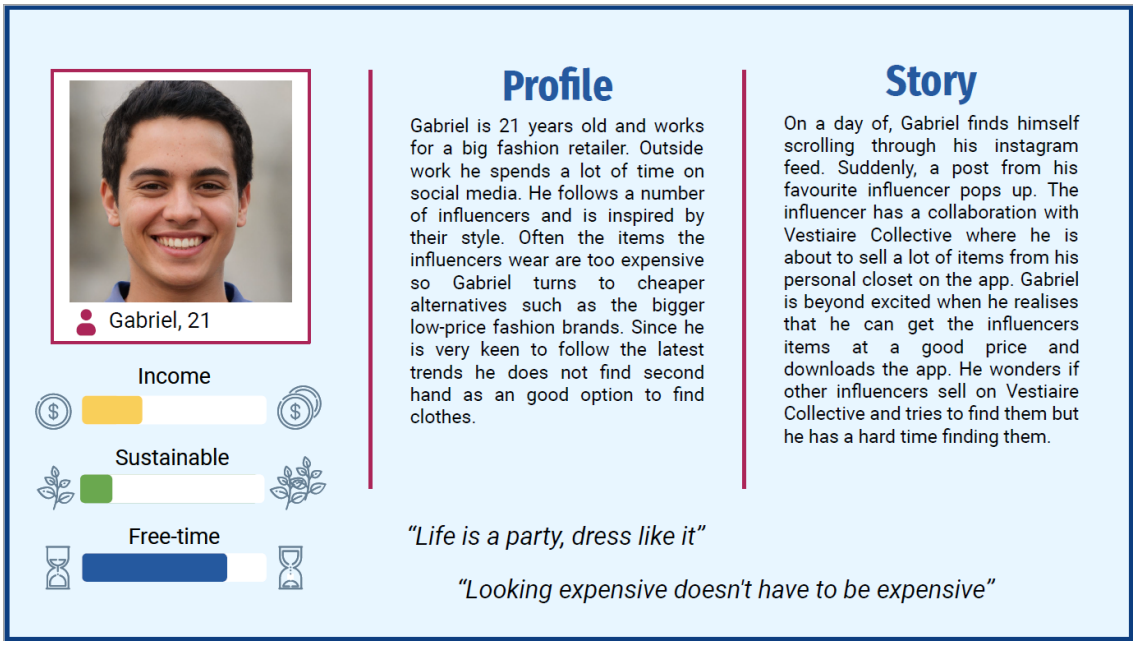


**Figure 4.4:** Persona 3


**Figure 4.5:** Persona 4

## 4.2 Brainstorming

A structured brainstorming session was done to refine the collected data and generate design alternatives and features for the feed. The session started with individual brainstorming. After five minutes, the generated ideas were combined and further discussed and evolved, allowing to build on existing ideas. A digital board tool was used to collect the ideas generated in separate cards. After the session, an affinity diagram was created (see figure 4.6), and

similar cards were mapped together, forming different themes for the application.

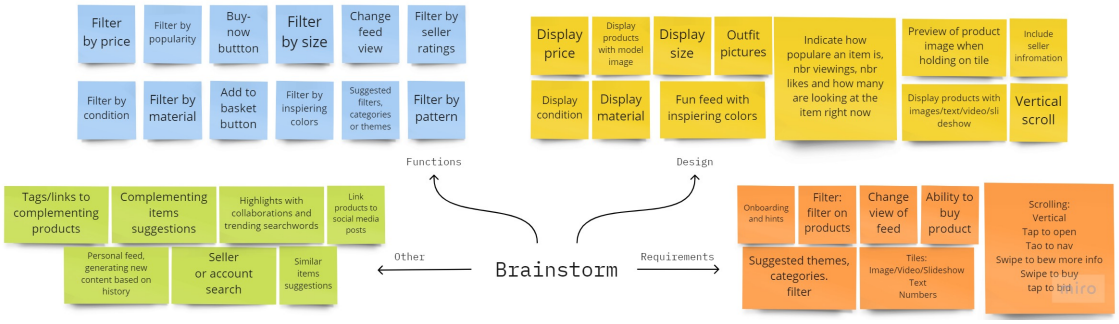


**Figure 4.6:** Affinity diagram

## 4.3 Lo-Fi prototype

Following the brainstorming, seven Lo-Fi prototypes were created using pen and paper; four of them are presented in figure 4.7 to illustrate the work. Here the layout of the feed was explored, and the features that arose during the brainstorming were brought into context. The design of the header and footer in the current application was kept the same since the focus lies within the feed. The feed consists of multiple tiles in a grid, in this case, product images, that vary in size, media type and layout, as seen in the Lo-Fi prototypes (figure 4.7). A filter has been added between the header and feed in three of the prototypes to allow the user to have a more personalised and qualitative experience.

**Figure 4.7:** Lo-Fi Prototypes

Moreover, different ways to present a product were looked into. Examples such as a simple product image, product image with a model and images where the product is in a context can be seen in the Lo-Fi prototypes. The information presented together with the product image differs in detail since the survey showed a spread in the results over what the respondents consider the most critical information (price, condition and seller information), see figure 4.7. In addition to this, two Lo-Fi prototypes with product images containing no information were designed. This is founded on the aim of the newsfeed, which is to inspire rather than inform the user. The company's main objective is to inspire users to purchase; therefore, the opportunity to buy a product directly from the feed was added.

## 4.4 Evaluation

To evaluate the Lo-Fi prototypes, two semi-structured interviews were conducted as a part of exploratory testing combined with comparison testing of the prototypes. The two participants were both females, aged 22 and 26. Neither of them had used Vestiaire Collective's application beforehand, however, both had used similar applications. The purpose of the evaluation was to review the prototypes by having an open discussion regarding the high-level design and concepts of the prototypes. Furthermore, the spontaneous thoughts of the respondents were collected, and the respondents had the opportunity to compare the different prototypes. For each of the seven prototypes, the following questions were asked:

- What impression do you get from the prototype?
- What do you think this section symbolises?
- How do you buy a product?
- How do you find products in your size?
- Which prototype feels most inspiring to scroll through? Why?
- Which prototype did you like the most and why?
- Which prototype did you like the least and why?
- Was it anything that was hard to understand?

To summarise the interviews, the interviewees recognised many design choices and functions from existing mobile applications. Examples of this are the heart symbol used to indicate whether or not the user has liked/saved the item and that the product pictures are clickable to see more information and the filter/options. However, an area of concern was discovered when an interviewee explored the filter/options in the top bar underneath the search bar. In this case, the option "checked" could be perceived as the user's history of previously looked at ("checked") items. How different users perceive information differently will be taken into account further in the design process.

While the respondents experienced high recognition, one prototype deviated from this, the prototype with a mix of three small tiles followed by a large tile. The respondents generally had a more challenging understanding of this design than the other prototypes. One of the respondents expressed that the large tile was dependent on the small ones, as in a larger preview of one of the smaller tiles. The other respondent thought that the small tiles were a separate list from the bigger tiles. One factor pointed out by the interviewees was the number of steps they had to go through before seeing details about the products. An outcome of this was that the respondents generally liked the prototypes with more information displayed on the first page.

# Chapter 5
# First Hi-Fi

*This chapter summarises the second iteration, illustrated in figure 5.1. Firstly, the established requirements are presented, followed by different design alternatives used as a framework for the Hi-Fi prototyping. Finally, the two Hi-Fi prototypes are presented and compared in the evaluation.*

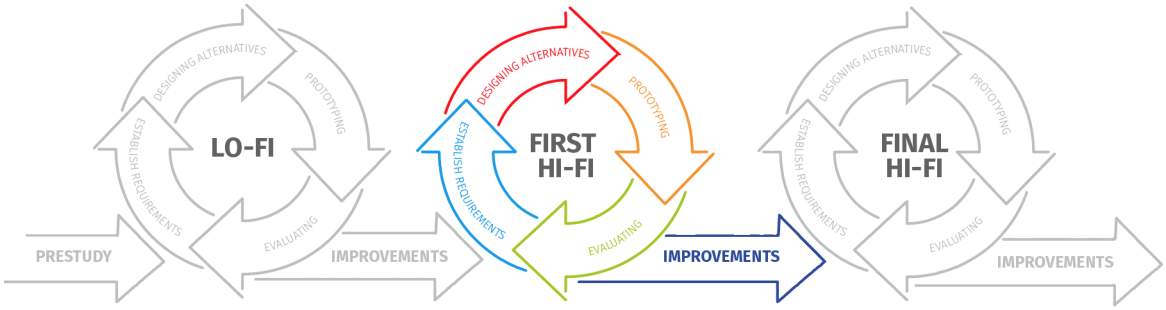


**Figure 5.1:** The design process with the current iteration highlighted.

## 5.1 Requirements

With the data collection, brainstorming and Lo-Fi evaluation as a foundation, several requirements have been set up. The requirements represent both the functionality and design of the feed that later on will be developed.

**REQ 1: Product tile** – Presenting the product in a satisfying way.

**REQ 1.1: Preview tile** – Presenting the product with more detailed information.

**REQ 2: Filter** - Users should be able to filter the feed.

**REQ 3: Purchase** – It should be easy to buy a product from the feed.

**REQ 4: Categories** – Suggestions of categories/themes to make the feed more manageable.

**REQ 5: Navigation** – A simple yet effective user flow.

## 5.2 Design alternatives

After the requirements were established, designing a conceptual model was initiated, functioning as a framework for future design work. The feed component considers that images should be large enough, of good quality and not contain any unnecessary information [15]. In addition to this, the amount of whitespace in the current application was reduced. This resulted in two conceptual feed models; the main difference is how many tiles are presented in the above the fold-space (here marked as a dashed line); see figures 5.2 and 5.5 [20].

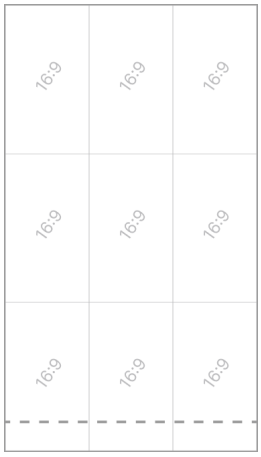


**Figure 5.2:** Feed 9:16 ratio


**Figure 5.3:** Tile 9:16 ratio

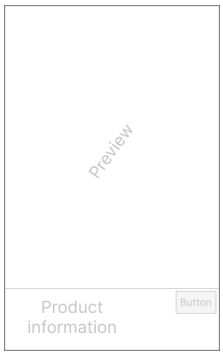


**Figure 5.4:** Preview

The two feed models require two different tiles with different sizes and proportions. The first focuses on presenting images rather than text using a 9:16 ratio since that is the standard ratio used on smartphones; see figure 5.3. The second feed model combines images with the most relevant text information, and a 3:4 ratio was chosen for the images to make the most of the space above the fold. Together with the text information, the tile ratio becomes 9:16, see figure 5.6. In order to provide the user with information in the first feed model (figure 5.2), the option to add a preview was investigated in figure Preview (figure 5.4). Lastly, the possibility of having filtering options was investigated. A static option and a horizontally scrollable alternative were considered, see figures 5.7 and 5.8.

## 5.3 First Hi-Fi prototype

The Lo-Fi evaluation highlighted the need for different design alternatives, and it was decided to investigate this in two different Hi-Fi prototypes. The prototyping was carried out in

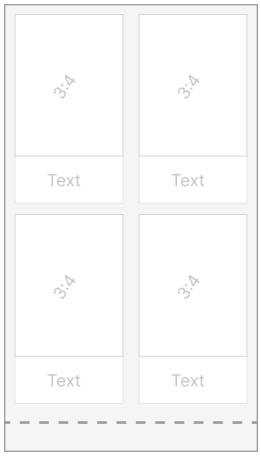


**Figure 5.5:** Feed 3:4 ratio


**Figure 5.6:** Tile 3:4 ratio

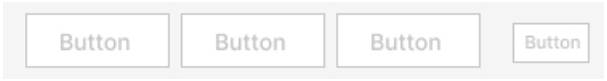


**Figure 5.7:** Static filter

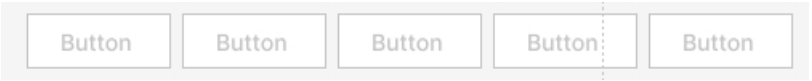


**Figure 5.8:** Horizontally scrollable filter

Figma to create a realistic experience for the user. A meeting was held with the stakeholders at Vestiaire Collective, and a review was done. The need for the newsfeed to be consistent with the existing application to create a cohesive user experience was highlighted. Below both designs, a Hi-Fi with 9:16 ratio and a Hi-Fi with 3:4 ratio, are presented. The design shown in figures 5.9, 5.10, 5.11, 5.21 and 5.22 is identical to the Hi-Fi prototypes. Figures 5.9, 5.10 and 5.11 were added to create a complete user experience.

Figure 5.9 shows the home screen, which is also the application's landing page. Apart from the bottom bar navigation, no further interaction was implemented on this screen since this was outside the scope of this thesis. Figure 5.10 and 5.11 shows the current design of the product page and the negotiation area. In the same way as figure 5.9, these screens have no other interactions and only mimic the existing behaviour of the application.

### 5.3.1 Hi-Fi 9:16

In this Hi-Fi the Feed 9:16 ratio in design alternatives (see figure 5.2) was considered in combination with the top navigation static filter. When the user navigates to the newsfeed in the bottom navigation bar, figure 5.12 is shown. The main objective of the feed is to be inspiring, and therefore the focus is on presenting vivid images rather than text and information. The user is given the option to save an item for later by liking the product. Figure 5.13 shows an example of that, where the trenchcoat has been liked, and feedback is given to the user by a drop-down notification. The number of likes is presented as a social influence to increase the users' interest [10]. This was not proven to be important in the User study conducted.

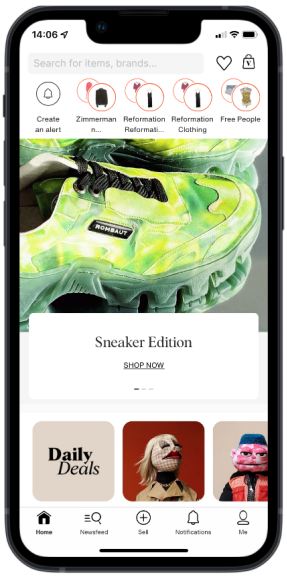


**Figure 5.9:** Home page

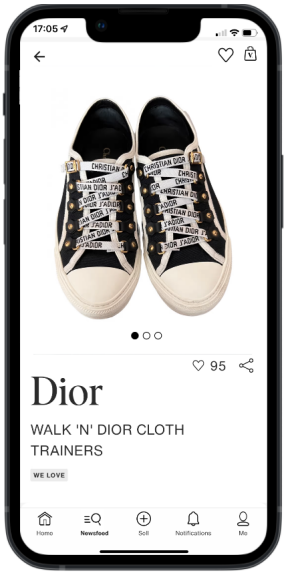


**Figure 5.10:** Product page

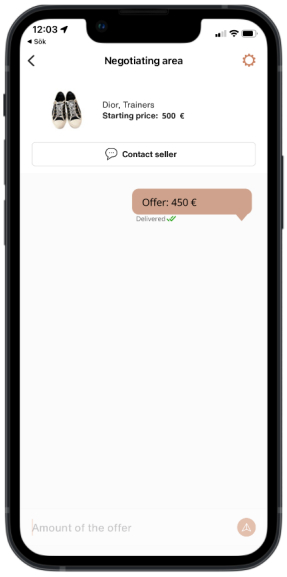


**Figure 5.11:** Negotiation area

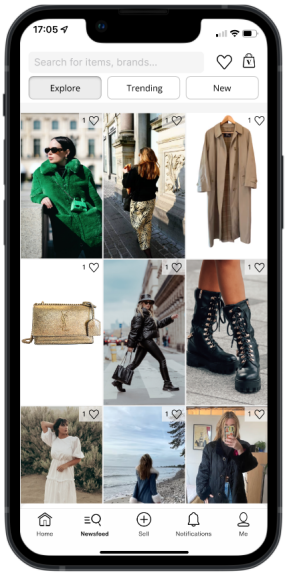


**Figure 5.12:** Newsfeed

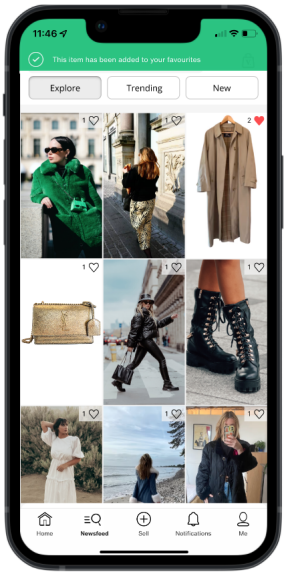


**Figure 5.13:** Like feedback

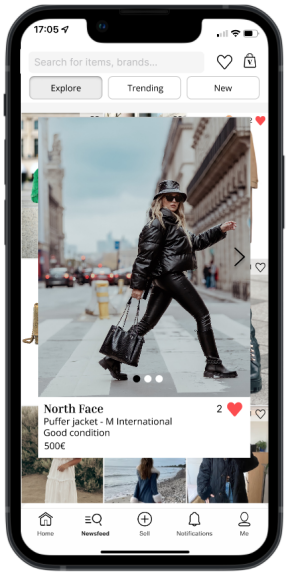


**Figure 5.14:** Preview

However, Goedegebure, Robert P.G., states the opposite, and it was therefore implemented to evaluate further. A preview was designed to provide the user with the relevant information about the item when needed, this considering Nielsen's Usability Heuristics law, *Aesthetic and minimalist design*, shown in figure 5.14 [17]. Here the user can navigate through a slideshow of product images and read more about the product. In addition, the preview adds to the visibility of system status when providing feedback immediately when the user requests information [17].

The user needs to click on the product information to purchase and is then directed to the product page, similar to figure 5.10. The user can either press outside the overlay or swipe

the preview downwards to exit the preview, giving the user control and freedom [17]. The top navigation bar provides the user with quick options to filter the feed.

### 5.3.2 Hi-Fi 3:4

In this Hi-Fi, a 3:4 ratio was applied for the image. Together with the product information, they compose a tile with a 9:16 ratio (see figure 5.5 in design alternatives for further details). The screen in figure 5.15 is shown when navigating into the newsfeed. In contrast to Hi-Fi 9:16, the focus is to provide more direct information about the products, leading to larger tiles for the user to read the information provided comfortably. This also eliminates the need for a preview since the information necessary is provided in the feed, approaching Nielsen's Usability Heuristics law, *Aesthetic and minimalist design*, differently [17].

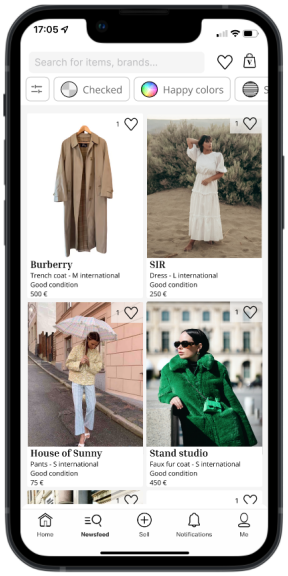


**Figure 5.15:** newsfeed

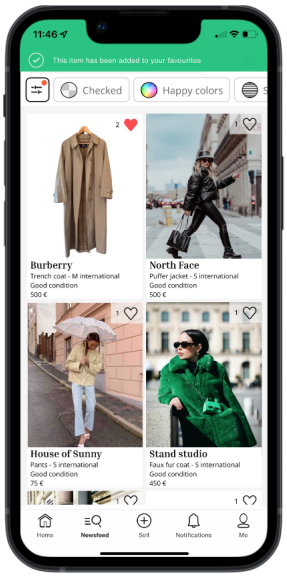


**Figure 5.16:** Like feedback

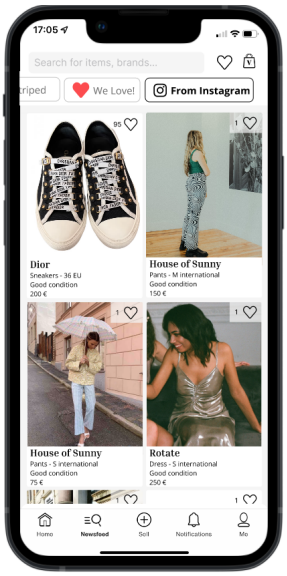


**Figure 5.17:** Filter on

Similarly to Hi-Fi 9:16, items can be saved by liking them, see figure 5.16. The design of the filter bar is based on the horizontally scrollable filter in design alternatives and provides the user with more extensive filtering options than Hi-Fi 9:16. Figure 5.17 is an example of category-based filtering; the suggestion here is that the feed could be connected to other platforms such as Instagram. Each category was mapped with a symbol to empathise the meaning and help the user put it into context. This follows Nielsen's Usability Heuristics law; *Match between the system and the real world* [17]. However, this is not an existing feature in the current application.

The user also has the possibility to apply more personalised filtering to the feed, which increases the flexibility and efficiency of the system [17]. The filter overlay is opened from the left-hand side by clicking on the far left filter button, see figure 5.18. The user already has some pre-chosen size preferences that can be toggled on or off, see figure 5.19. If applied, the far left filter button is marked to indicate that a filter has been chosen, see figure 5.20.

A common feature for both Hi-Fi prototypes is the shortcut to saved items, placed next to the search bar, symbolised as a heart. Here the user can navigate all the saved items and

filter among them, see figures 5.21 and 5.22.

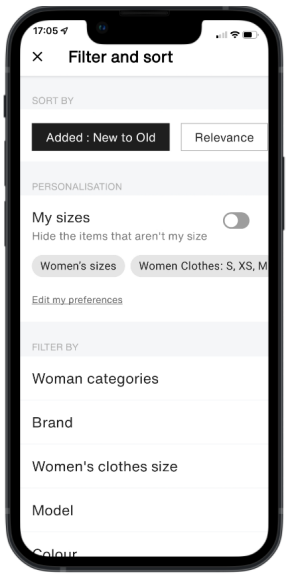


**Figure 5.18:** Filter page

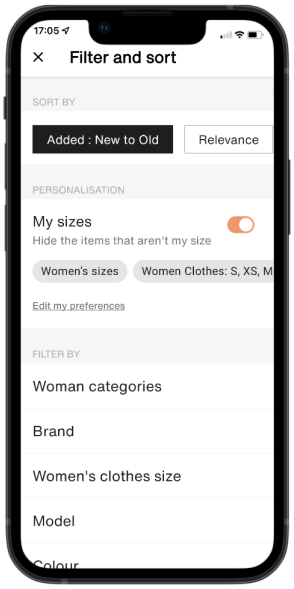


**Figure 5.19:** Filter page

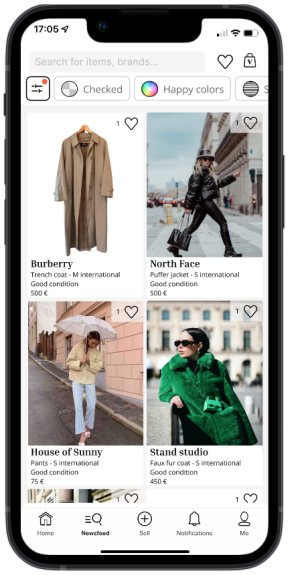


**Figure 5.20:** Filtered feed

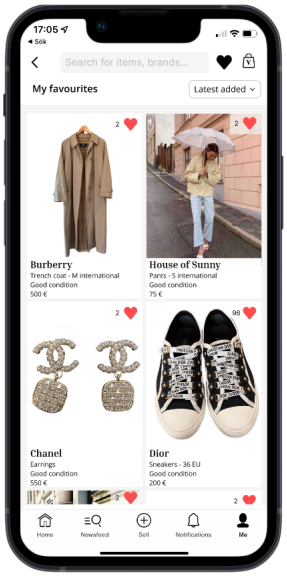


**Figure 5.21:** Favourites page

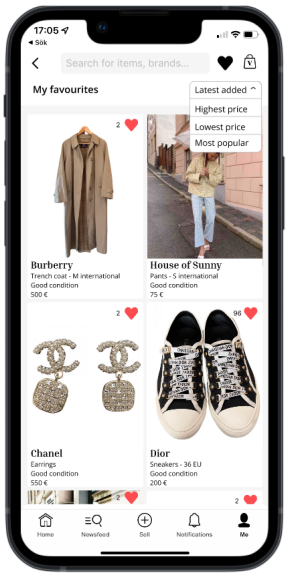


**Figure 5.22:** Sorting on favourites page

## 5.4 Evaluation

An evaluation with three goals was conducted. The first one is to understand the users' behaviour and examine the usability of the application. Secondly, it aims to compare the two

Hi-Fi prototypes to see which one had the most satisfying user experience. Lastly, the evaluation should also gather more information that could contribute to answering the research questions.

### 5.4.1 User testing

The evaluation was conducted through assessment testing in conjunction with comparison testing with five participants. The selection of users was based on the target group of the application and to reflect the personas. However, the selection was limited due to being situated in Paris, where the demographic network of contacts was narrowed. The participants were between the ages of 20 and 34, and gender was distributed between two male and three female candidates. The participants' prerequisites differed from no previous experience in second-hand shopping using mobile applications to very experienced, where one of the participants was working for Vestiaire Collective at the time.

To imitate a realistic use of the application, the prototypes were installed on a mobile device, and test scenarios were used when performing the tests. The scenarios were read out to the participants, and they were asked to think aloud when executing the test. The prototypes had eight scenarios each, and since having a comparative approach, the respondents were divided into two groups. The first group tested Hi-Fi 9:16 followed by Hi-Fi 3:4, and the second group vice versa. The test scenarios for both prototypes were similar in order to create equivalent tests and included finding the newsfeed, browsing through and saving items. Furthermore, the scenarios tested the users' ability to find the saved products and make an offer on an item. Time was measured while performing each scenario, and all the scenarios can be found to their full extent in appendix B.

The main goal of this test is not to gather a large amount of statistical data but rather to have an open discussion with the participants about their opinions and feelings about the application and its feed, focusing on subjective and qualitative data gathering. However, some objective and quantitative measurements were taken regarding the task completion time and task success to compare the numbers with future iterations.

After testing each prototype, questions were asked, evaluating the separate Hi-Fi prototypes individually. When both tests were completed, a set of comparative questions were asked before ending the test session.
Prototype specific questions:

1. What are your spontaneous thoughts after finishing the test?
2. Was there something you thought was very difficult?
3. Was there something you thought was very easy?
4. What did you think of the application's design and esthetics?
5. Would you consider continuing using the Vestiaire Collective application?
6. Was there any feature that you thought was redundant?
7. Was there any feature that you thought was very good?
8. Do you think that any help and/or introduction to the application is needed?

Comparative questions:

1. Which version do you prefer?
   (a) Why?
2. Which version gave you the most inspiration?
3. Which version was the hardest to understand and why?
4. Which version had the nicest design?
5. Was there any feature you liked very much?

### 5.4.2 Result

The following section intends to summarise the results of the testing. Firstly, both prototypes were appreciated by the participants but for different reasons. Hi-Fi 9:16 was generally considered more inspiring, while Hi-Fi 3:4 provided a better view of products when shopping. Some of the participants expressed that they preferred the design of Hi-Fi 9:16 since they thought it was neat and cleaner in appearance. However, all participants stated that more information is needed to have a well-functioning shopping feed. Price, brand and type of item were all desirable information to the participants, but it should be emphasised that price was the most crucial information. In Hi-Fi 9:16, this information was presented in the preview and led to divided opinions. Three participants thought that the preview gave an excellent opportunity to get information and see more product pictures without leaving the feed. The other two participants thought that the preview introduced unnecessary steps to reach the negotiation area. All the participants thought that the tile sizing was reasonable for both prototypes.

All the participants appreciated the like feature; they had no problem understanding its meaning and found it accessible. However, finding the saved items page was harder. Most of the participants navigated to the profile page in the bottom navigation bar and did not use the saved item's shortcut. When removing a saved item, one participant wished for additional confirmation to prevent accidental deletion. It was also found that the items' popularity and number of likes were not conspicuous.

The design of the filter divided the participants' opinions. The participants' opinions were generally more neutral regarding the Hi-Fi 9:16 filtering compared to the filtering in Hi-Fi 3:4. The category-based filtering in Hi-Fi 3:4 gave rise to more diverse opinions, some disliked it, and others found it interesting. However, the overall conclusion was that it was slightly confusing and that the categories were hard to understand. Despite that, the far-left filter button united all participants' opinions; they all found it useful. In addition to this, they all agreed that no help or introduction to the application was needed.

Lastly, the quantitative/objective data, task completion time, was analysed. The median time was plotted in the graphs 5.23 and 5.24. Due to the variation in the measured task completion time, the median was calculated and used instead of the mean [23].

A pattern was identified where the task completion time was significantly lower when similar tasks were performed again. Three of the participants tested Hi-Fi 9:16 first, and when conducting similar test cases on Hi-Fi 3:4, the times decreased. This indicates that

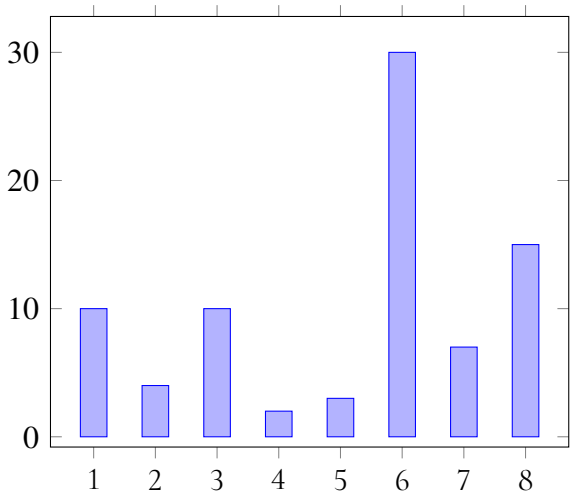


**Figure 5.23:** The median time for each test tasks in Hi-Fi 9:16. The X-axis represents the tasks and the Y-axis the time required in seconds.

| Hi-Fi 9:16 | |
|---|---|
| Number | Task Description |
| 1 | Navigate to newsfeed |
| 2 | Like a product |
| 3 | Open preview |
| 4 | Close preview |
| 5 | Navigate to a category |
| 6 | Make a bid |
| 7 | Navigate to saved products |
| 8 | Sort the saved products, remove item |

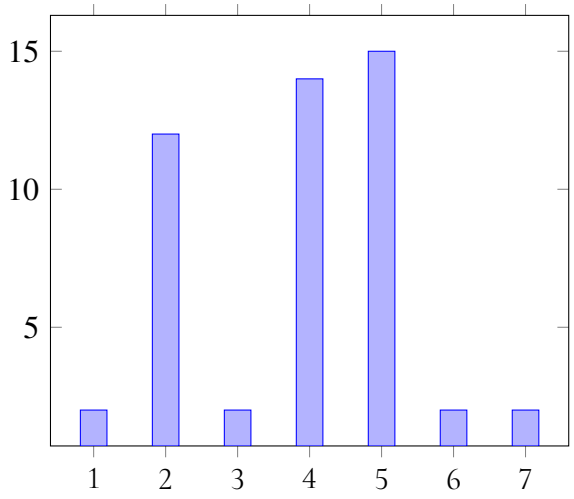


**Figure 5.24:** The median time for each test tasks in Hi-Fi 3:4. The X-axis represents the tasks and the Y-axis the time required in seconds.

| Hi-Fi 3:4 | |
|---|---|
| Number | Task Description |
| 1 | Navigate to newsfeed |
| 2 | Personalise the feed |
| 3 | Like a product |
| 4 | Navigate to a category |
| 5 | Make a bid |
| 6 | Navigate to saved products |
| 7 | Sort the saved products, remove item |

the design could support high learnability. However, it could also be a consequence of using comparison tests since the participants tested both prototypes.

It is shown in graph 5.23 that task 6 required more time than the other tasks. This could be because of the user journey and the number of actions performed before completing the task. In Hi-Fi 9:16, the user needs to navigate through the preview, product page, and lastly, the negotiation area to fulfil the assignment, resulting in a median time of 30 seconds. The time is halved when comparing this with the same task (task 5) in Hi-Fi 3:4. Underlying factors could be the previously stated learnability and that Hi-Fi 3:4 requires one less step in order to complete the task.

### 5.4.3 Persuasive system design model

Furthermore, the PSD model was used to evaluate the Hi-Fi prototypes. In this case, the intent and event are similar to before; however, the strategy is slightly different. Since Hi-Fi 9:16 solely focuses on the appearance rather than information of the products, both the direct and indirect routes were deprioritised in the feed. The direct route, the product information, was relocated to the preview, and indirect routes can be recognised in categories where items can be filtered, e.g. by popular and trending. In Hi-Fi 3:4, the direct route was maintained in the feed where product information is shown. While the indirect route, similar to Hi-Fi 9:16, can be recognised in the filters, e.g. filtering by Instagram.

The use of persuasive system principles in Hi-Fi prototypes 9:16 and 3:4 was identified; see table 5.1.

**Table 5.1:** The identified principles in Hi-Fi prototypes 9:16 (X) and 3:4 (Y)

| PSD analysis | | | |
|---|---|---|---|
| Category | Principle | Description | Prototype |
| Primary task support | Tailoring | Different languages and currencies are supported. | X & Y |
| Primary task support | Tailoring | Filtering options. | X & Y |
| Primary task support | Tailoring | User can filter on their saved sizes using "My sizes". | Y |
| Dialogue support | Suggestion | Filtering options. | X & Y |
| Dialogue support | Similarity | Products presented with outfit/model images. | X & Y |
| Dialogue support | Liking | User centered design. | X & Y |
| System credibility | Real-world feel | Seller image and information. | X & Y |
| Social support | Normative influence | Number of likes are displayed. | X & Y |
| Social support | Recognition | Users recall features from similar applications. | X & Y |

# Chapter 6
# Final Hi-Fi

*The last iteration of this design process is described in this chapter. New requirements are presented based on the previous iteration's evaluation as well as updated design alternatives. After that, the final Hi-Fi prototype is presented with the evaluation and its results. All phases of the iteration are illustrated in figure 6.1*

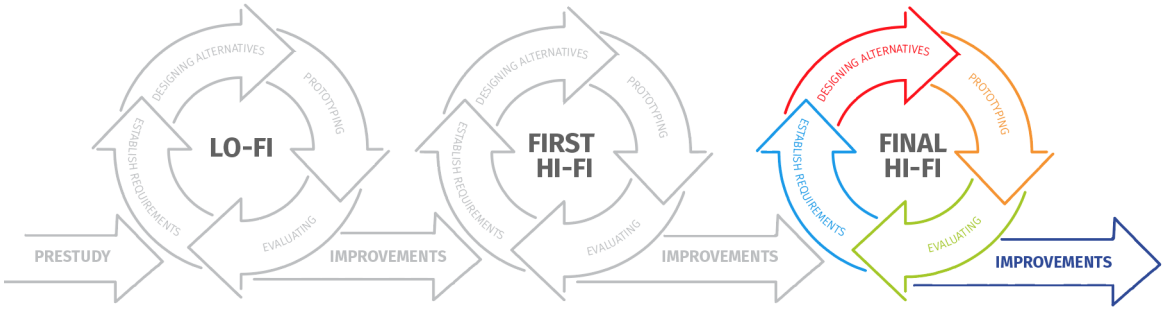


**Figure 6.1:** The design process with the current iteration highlighted.

## 6.1 Requirements

The requirements set in the previous iteration remain and will be further developed. In addition to this, four new requirements were added (REQ 6, 7, 8 and 9). REQ 1.1 from the previous iteration regarding the preview tile was removed because it added an excessive step

in the user journey. The new set of requirements is based on the evaluation and feedback from the previous iteration. The key takeaway from the evaluation was that the users' opinions are diverse, highlighting the need for personalisation; this will be considered in further development. Features such as changeable feed view, filtering and categorisation will be overlooked and redefined. Furthermore, after evaluating the previous prototypes with the PSD model, the use of persuasive techniques will be further investigated. Examples of persuasive techniques are emotional, such as environmental impact when buying a product, and credibility, when purchasing from an unknown private seller. Lastly, additional feedback will be considered to introduce, for example, error prevention.

**REQ 1: Product tile** – Presenting the product in a satisfying way.

**REQ 2: Filter** - Users should be able to filter the feed.

**REQ 3: Purchase** – It should be easy to buy a product from the feed.

**REQ 4: Categories** – Suggestions of categories/themes to make the feed more manageable.

**REQ 5: Navigation** – A simple yet effective user flow.

**REQ 6: Feed layout** – The possibility of changing the layout of the feed.

**REQ 7: Emotional factors** – Engage the user emotionally by rewarding behaviour.

**REQ 8: Credibility** – Introduce seller information to increase credibility.

**REQ 9: Feedback** – Motivate the users by introducing feedback and preventing errors.

## 6.2 Designing alternatives

Based on the new requirements and the evaluation, the conceptual models from the previous iteration were updated. Both feed and tile layouts with 9:16 and 3:4 ratio were preserved, see figures 5.2-5.5 on page 34-35. However, the preview was removed and the filters adjusted. Both the static filter (figure 5.7 on page 35) and the horizontally scrollable filter (figure 5.8 on page 35) were appreciated but for different reasons. Therefore, it was decided to combine the two into one new filter module, figure 6.2. The three buttons from the static filter were complemented with two smaller buttons to increase the possible functionality. The majority of the users navigate with their thumb, making the top bar inaccessible and hard to reach. The top bar interaction is simplified by removing the horizontal scroll, making the functionality always visible and accessible to the user [20].


**Figure 6.2:** Filter module

## 6.3 Final Hi-Fi prototyping

From evaluating the first Hi-Fi prototypes, design improvements were made to meet the requirements and feedback that arose from the previous iteration. The decision was made to deliver a final prototype and relinquish the comparative approach. In the following section, the design choices will be presented to their extent.

### 6.3.1 Feed layout

In figures 6.3 and 6.5, the feed is shown. The top bar presents different interaction options: three categories together with two ways to customise and personalise the feed. To the far left, the filter button was kept from the previous iteration's Hi-Fi 3:4 design. To the far right, a layout button was added according to REQ 6 regarding the possibility of changing the layout of the feed. It was shown in the evaluation that both feed layouts were appreciated for different reasons; therefore, it was decided to seize both. This also correlates with Nielsen's Usability Heuristics law: *Flexibility and efficiency of use* [17]. The symbol chosen symbolises the layout of the feed; the products are either presented in two or three columns. However, to clarify the use of the feature, a hint was introduced to help the user understand the meaning, see figure 6.4. The hint is displayed once the user enters the feed and can be dismissed by either clicking the background or the "Got it" text.

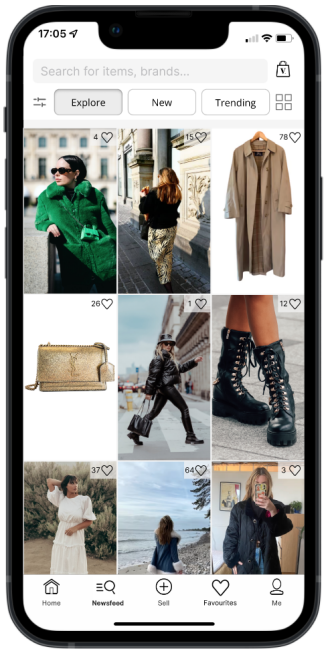


**Figure 6.3:** newsfeed without image description

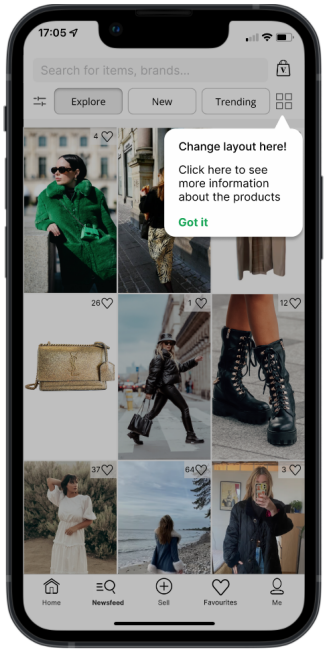


**Figure 6.4:** newsfeed with hint displayed

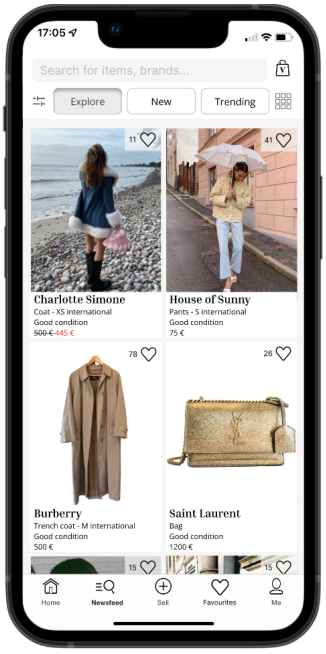


**Figure 6.5:** newsfeed with image descriptions

### 6.3.2 Like features

When the user likes an item, the item is placed in a saved items list found by navigating through the heart shortcut. Previously, the button was located in the header; however, it is relocated from the header to the footer in this iteration. The decision was founded on the evaluation from the previous iteration and from wanting to reduce the excessive interaction in the header. The footer placement makes the shortcut more accessible and easy to reach for the user [20]. Feedback is received through a green notification with informative text in the top bar when an item is liked, see figure 6.6. In addition to this, a notification symbol was added to the heart shortcut to accentuate the location of the saved items. This is in alignment with Nielsen's Usability Heuristics law: *Recognition rather than recall* as well as *Help and documentation* [17].

Furthermore, in line with REQ 9, the need for error prevention regarding removing a saved item from the list was expressed in the evaluation and further investigated. A prompt to confirm the action was added to the design to cater to the need expressed, see figure 6.7. Nielsen also underlines the need for error prevention in the Usability Heuristics laws [17].

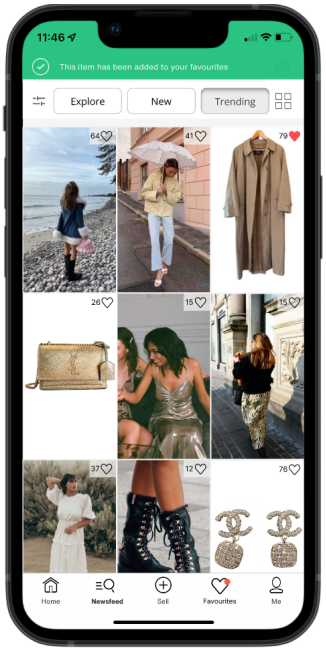


**Figure 6.6:** Item liked

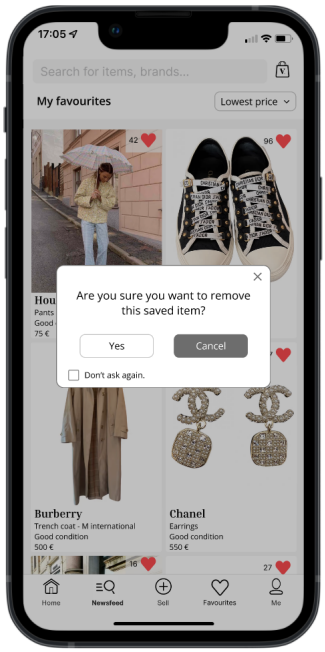


**Figure 6.7:** Confirm removal

### 6.3.3 Product page

The product page was redesigned to meet REQ 7 and 8 regarding emotional factors and credibility. To increase credibility, the seller information from the current application was extended and put in the above the fold space, see figure 6.8, making it more accessible. Furthermore, a seller rating was introduced, allowing the user to learn more about the seller. The user can also access seller reviews directly by navigating to "Read reviews", which presents the most recent reviews in a fold-out section, see figures 6.9 and 6.10.

A sustainability section was added to engage the user with emotional factors. The user is provided with information regarding the CO2 emissions saved by purchasing the item second-hand rather than new. The numbers used are approximated and figurative. The sustainability section also includes a badge, see figure 6.9. Badges are an already used feature in the current application; however, they only target sellers. To include the user, additional badges were added and made more visible. The badges reward desired behaviour and motivate the user. To inform the user about the meaning of the badges, an overlay is presented when clicked, similar to the one in figure 6.16.

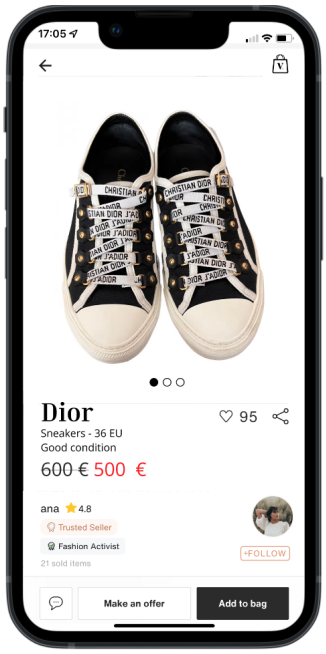


**Figure 6.8:** Product page

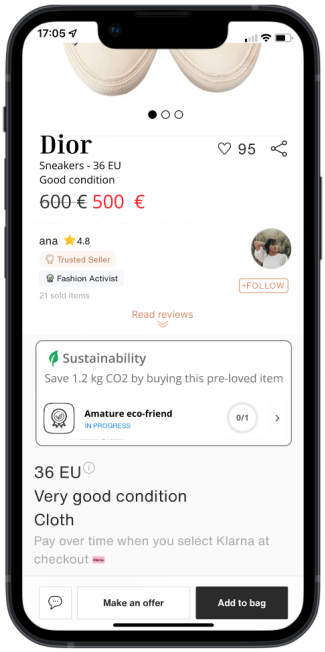


**Figure 6.9:** Product page scrolled

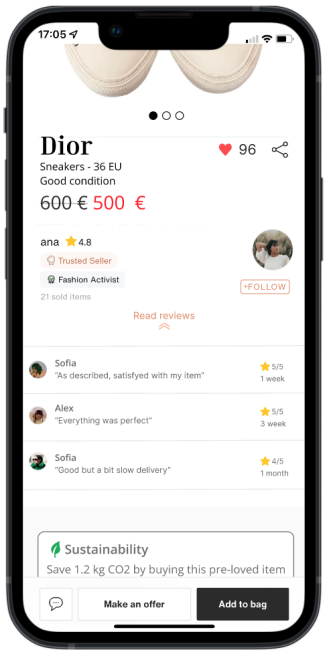


**Figure 6.10:** Reviews fold out

## 6.3.4 Purchase

In the previous iteration, the process of making a bid for a product was investigated. However, in this iteration, it was desirable to instead look into the process of making a purchase. When the user clicks “Add to bag” on a product page (figure 6.8), a notification appears at the top of the page to confirm the action, similar to when a product is liked, see figure 6.11. In addition, the shopping cart icon in the far right corner at the top is marked with the number “1” to indicate that one item has been added, see figure 6.12. The user can then click on the “View your bag” button in the bottom bar or the shopping cart icon to navigate to their selected order. The feedback given is ought to fulfil REQ 9 concerning feedback as well as Nielsen Heuristic law: *Visibility of system status* [17].

Once navigated to the bag, the user should click “Buy now” and confirm their order, see figure 6.13. The confirmation dialogue adds to Nielsen’s heuristic law: *Error prevention* and is particularly important when handling payments [17]. After confirming, the user is navigated to the “My orders” page with the purpose of summarising every placed order. Furthermore,

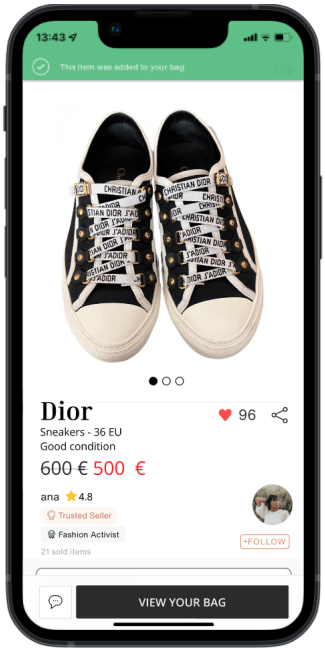


**Figure 6.11:** Add to bag

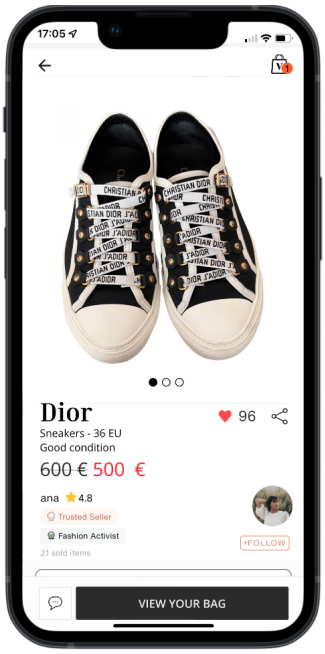


**Figure 6.12:** Add to bag

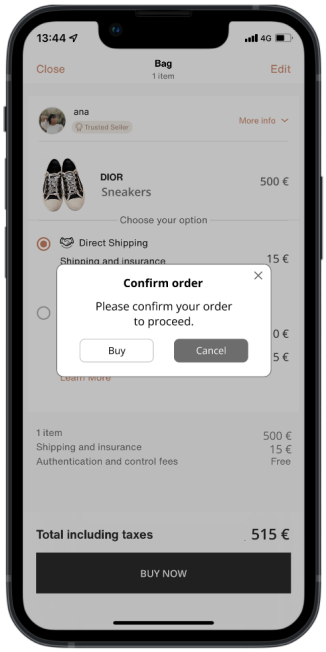


**Figure 6.13:** Confirm order

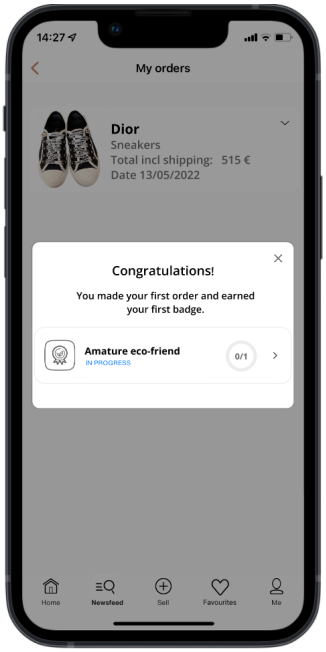


**Figure 6.14:** Order complete prompt

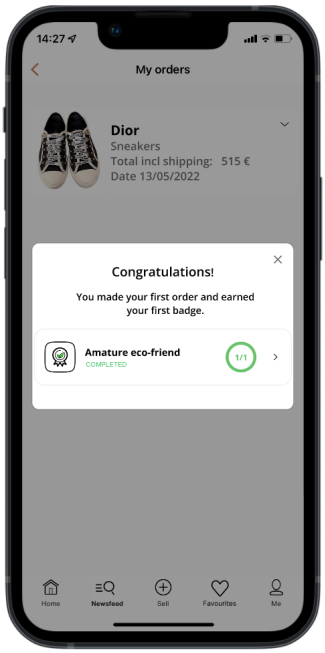


**Figure 6.15:** Order complete prompt

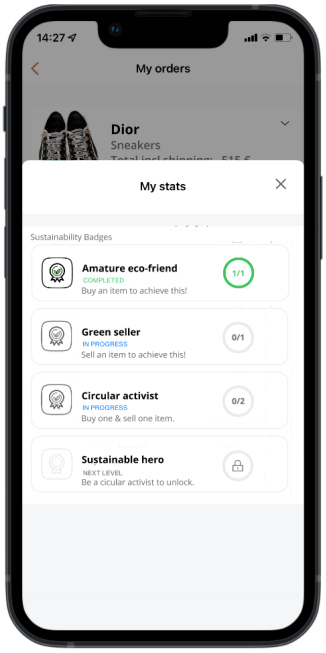


**Figure 6.16:** Badge information overlay

to meet REQ 7 and 9 regarding emotional factors and feedback, a prompt appears when the order has been settled, see figure 6.14. The prompt contains a commendation for the user for making their first purchase and receiving a badge. As seen in figures 6.14 and 6.15, the circle next to the badge is first unfilled and then filled in through an animation. This is supposedly giving the user a positive feeling of being rewarded. Lastly, the user can either

close the prompt or learn more about the badges by clicking on it; this will open an overlay showing information about the badges, see figure 6.16.

## 6.4 Evaluation

A usability test was conducted to evaluate the final Hi-Fi. Similar to the evaluation of the first Hi-Fi iteration, the objective was to examine the application's usability and explore how well the result can answer the stated research questions. However, in this iteration, the main focus is on verifying the usability and validating against the set requirements rather than comparing two prototypes against each other.

### 6.4.1 User testing

A validation test was set up to perform the evaluation. A test plan was written in order to perform equivalent and consistent tests with the users, see appendix C. The plan included the aim, the selection of users, which data to gather, and the test cases to perform. Moreover, different data gathering techniques were used in order to gather an adequate set of data, see figure 6.17. This included techniques such as a pre-test survey, observation, task completion time, debriefing interview and a SUS survey were used.

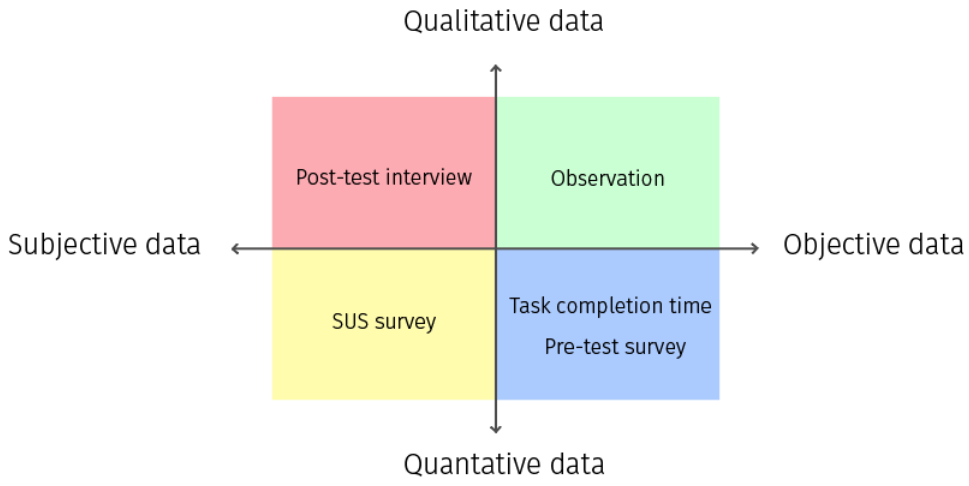


**Figure 6.17:** Data gathering techniques

The selection of users was based on the intended user group of the application. In order to get statistical certainty, ten people were chosen to perform the tests. The gender and age distribution both reflected the target group. Eight females and two males in the ages of 15-44+, with the majority in the ages 25-34, participated (see figure 6.18). Among the participants, 50% had previous experience shopping for second-hand clothes on a mobile application, whereas two of them had used Vestiaire Collective. In addition, three of the participants had a background in UX design, covering both the marketing and engineering fields.

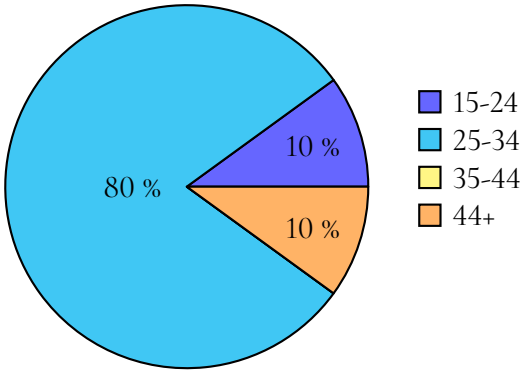


**Figure 6.18:** Age distribution

All the participants followed the same procedure, as stated in the test plan (appendix C), consisting of a pre-test survey where demographic information was collected. Similar to the previous testing, it was intended to provide a realistic experience, therefore, the application was installed on a mobile device and tasks were presented as scenarios. The scenarios included finding the newsfeed, browsing, filtering and changing the feed layout. In addition to this, saving and purchasing an item were tested as well as reading seller reviews and badge information. The scenarios are described to their full extent in appendix D. The participants' actions and behaviours were observed, and the task completion time was measured. This was followed by a debriefing interview containing the following questions:

1. What are your spontaneous thoughts after finishing the test?
2. Was there something you thought was very difficult?
3. Was there something you thought was very easy?
4. What did you think of the application's design and esthetics?
5. Would you consider continuing using the Vestiaire Collective application?
6. Was there any feature that you thought was redundant?
7. Was there any feature that you thought was very good?
8. Do you think that any help and/or introduction to the application is needed?
9. Do you feel motivated to buy second-hand?
10. Do you feel like the application is credible and trustworthy?
11. What are your feelings toward the badges?

Finally, the test session was rounded off with the participant answering a SUS survey.

### 6.4.2 Result

The result of the evaluation and user tests will be presented in the following section. Firstly, the outcome of the test scenarios will be stated together with a compilation of the task completion time. Secondly, the post-test debriefing interviews will be summarised, and the SUS score will be presented.

#### Scenarios

The following section intends to address each test scenario and the data gathered from the observations done. A total of 13 scenarios will be presented in the list below.

1. *You need to update your wardrobe but have realised how bad the clothing industry is for the environment, so you decide to check out Vestiaire Collective. You do not know exactly what you want and want to be inspired…*

   **Completed when:** Newsfeed is shown.

   All the participants began by exploring the landing page in order to be inspired. The exclusion method was used among most users to complete the task and find the newsfeed. In some cases, a hint from the test moderator was needed to complete the task. One participant stood out from the others with a much faster task completion time and concluded that the start page displayed recently viewed products and other features based on previous activity within the application. A common opinion expressed was that the name newsfeed was associated with being inspired.

2. *You want to see what is popular right now.*

   **Completed when:** Changed category from Explore to Trending.

   The majority finished the task quickly, however, three participants struggled. One thought the words trending and new were confusing since news can also be trends. One tried the exclusion method since the button New was not clickable in the prototype. The last person went back to the home page to find what was trending there.

3. *You immediately see a trenchcoat you like and want to save it so you can easily find it later.*

   **Completed when:** Item is liked.

   No one struggled with liking an item. However, three participants wanted to click the product first and read more before liking it. When realising it did not work, they liked it immediately from the feed. Overall, the task completion time was quick.

4. *You want to see more information about each product.*

   **Completed when:** The feed layout is changed to a 3:4 ratio.

   The majority of the participants struggled to find the layout button and found it by exploring and clicking around on the page. Six participants tried clicking on the products to see more information about them. A lot of the participants used the exclusion method to find the feature. Only one participant said they read the hint but forgot the meaning of it. The rest of the participants said they did not read the hint and that it was usual behaviour for them.

5. *You see that your sizes are not displayed and want to change this.*

   **Completed when:** The "My sizes" filter is toggled on.

   Half of the participants wanted to click the list underneath the toggle, and the other half saw the toggle immediately. One person clicked on the profile to change filters but was redirected back to the feed by the test moderator, resulting in a significantly longer task completion time and being identified as an outlier. The other participants found the filter button straight away. Overall, there were no more significant struggles with the task.

6. *Dior is your favourite brand, and you want a pair of shoes from there. You, therefore, only want to show products from Dior.*

   **Completed when:** Dior is selected in the brand filter list.

   Again, there were not many issues with the filtering. The majority of the participants chose Dior from the list, while the others searched for the name. Two persons went back to the newsfeed to search for the brand instead of using the filter and were redirected back to the filter overlay by the test moderator. This resulted in one participant having a longer task completion time and was considered an outlier.

7. *You immediately see a pair of shoes that you like, and they are also on sale! You want to see what material they are made of before saving the product.*

   **Completed when:** Product page is shown, and item liked.

   All participants navigated directly to the product page and scrolled down to see more information without any difficulties. However, the task completion time differs a lot because of struggles finding the item's material. It was a language barrier for some since they had trouble understanding the word "cloth". Lastly, there were no problems with liking the product.

8. *You see information about sustainability and want to read more about it.*

   **Completed when:** The badge overlay is shown.

   There was a fast task completion time among all of the participants. The common opinion was that the arrow next to the badge encouraged interaction, hence the fast completion time.

9. *Now, you want to look at the items you saved earlier.*

   **Completed when:** Navigated to the favourites page.

   Everyone found the saved products immediately except one participant. The latter browsed the product page followed by the feed, top to bottom, before finding the favourites page button in the bottom navigation bar.

10. *You now want to sort the list by price, lowest first.*

    **Completed when:** The favourites page is sorted by price.

    There was a fast average task completion time and no more considerable difficulties when performing the task.

11. *You realise that the earrings you previously saved are slightly over budget and want to remove them from the list.*

    **Completed when:** The product is removed from the favourites page.

    Like the previous task, the participants had no issues completing this task, and the task completion times were fast.

12. *You are still interested in the shoes and want to see if the seller is reliable.*

    **Completed when:** The review fold-out on the product page is shown.

    No one had difficulties finding seller information and considering the seller reliable. Six participants read the reviews, and the remaining four needed a hint to complete the task. Some wanted to read more reviews by going to the seller's profile. Among the participants receiving a hint, two had longer task completion times and was considered as outliers.

13. *Everything looks good, and you decide to buy the shoes!*

    **Completed when:** The "Order complete" prompt is shown.

    There were no difficulties in navigating through the purchase flow. However, the time differs due to how people navigate and read the information on the page resulting in one identified outlier. Two participants clicked the bag while the remaining chose "view your bag" in the footer to initiate the purchase. It was observed that positive emotions were expressed when receiving the badge.

The task completion time for each scenario was measured during all tests conducted. The times will first be presented in a table format where the tasks are summarised and presented next to the average completion time and standard deviation, see table 6.1 on page 55. In addition to this, the time distribution will be graphically presented with a box plot, see figure 6.19 on page 54. The lower and upper boundary represents the min and max values, and the box itself represents the lower and upper quartile of the values, with the median, ideally, marked in the middle. The potential outliers, referring to the times that deviate significantly from the set, are marked as points next to the scenario box plot.

Nine outliers were identified in four of the ten test sessions. Four of the detected upper outliers (in scenarios 1, 5, 12 and 13) originate from the same test session, resulting in this session being overrepresented with outliers. Additionally, two test sessions have two identified outlying times each. One regarding scenario 1 (lower outlier) and 12 (upper outlier). The other regarding scenarios 1 and 6, both upper outliers. The last outlying time was identified in scenario 7 and is a lower outlier measured in a test session with no other significantly deviating times.

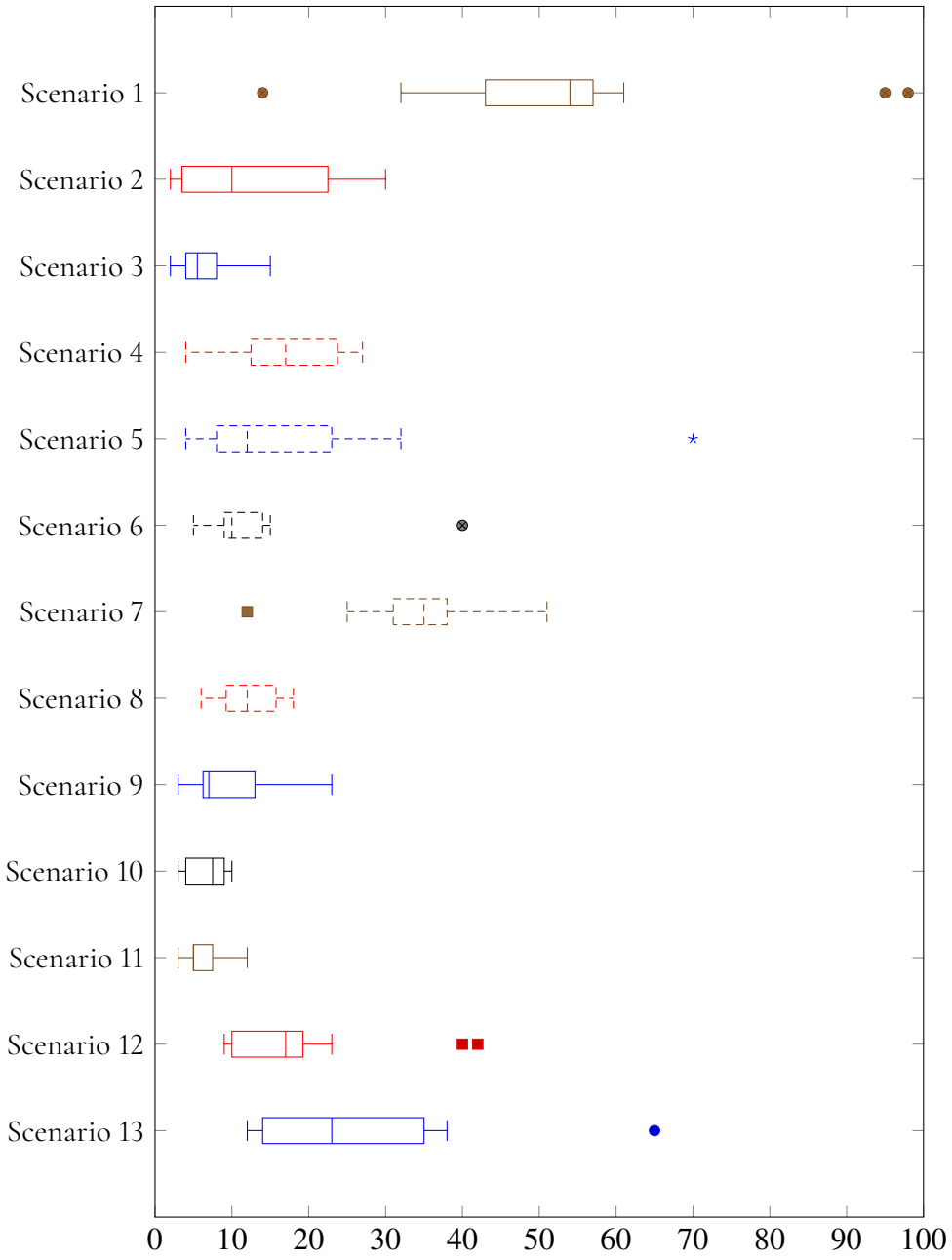


**Figure 6.19:** Box plots over the time required per scenario. The X-axis has the unit seconds and the Y-axis represents the different test tasks. Potential outliers has been marked as points next to each scenario box plot

**Table 6.1:** The average task completion time and the standard deviation per task

| Nbr | Task | μ | σ |
|---|---|---|---|
| 1 | Navigate to newsfeed | 55.4 | 24.48 |
| 2 | Navigate to a category | 13 | 10.33 |
| 3 | Like a product | 6.5 | 3.70 |
| 4 | Change the feed layout | 17.4 | 6.99 |
| 5 | Personalise the feed | 20.9 | 18.48 |
| 6 | Filter the feed | 10.7 | 3.68 |
| 7 | Navigate to a product | 33.4 | 10.23 |
| 8 | Read more about badges | 12.2 | 3.79 |
| 9 | Navigate to favourites page | 9.7 | 5.90 |
| 10 | Sort favourites page | 6.7 | 2.76 |
| 11 | Remove item from the favourites page | 6.4 | 2.62 |
| 12 | Read the seller reviews | 20.9 | 11.09 |
| 13 | Purchase a product | 28.7 | 15.18 |

## Post-test debriefing interview

The section aims to summarise the answers given by the participants in the post-test debriefing interview. The 11 questions provided subjective opinions about the application from the users, presented below.

1. *What are your spontaneous thoughts after finishing the test?*

   The majority of participants thought that the application was similar to other e-commerce and social media applications, and it was logical to navigate through. The layout function was appreciated since the first feed was inspiring, and the second feed had more of an e-commerce approach, even though the layout button was somewhat complex to understand. Furthermore, the participants expressed the feed as clean and with good design.

2. *Was there something you thought was very difficult?*

   Half the test group brought up the difficulties regarding the badges and their meaning. Two participants expressed the mapping between the feed, the word inspiration and "newsfeed" to be baffling when performing the first task. Three participants thought the layout feature was hard to understand while using it for the first time but thought further use would not be difficult. Lastly, three participants could not recall anything to be complicated.

3. *Was there something you thought was very easy?*

   All of the participants thought saving items was easy. Furthermore, a majority perceived the purchase flow and filter function to be easy.

4. *What did you think of the application's design and esthetics?*

   All participants expressed that the design was appealing, neat, exclusive and clean. All the essential functionalities were accessible. Both feeds were appreciated, the first one being more inspirational and the second one more informative. In the latter, one participant highlighted the information to be presented nicely. One of the participants with previous experience with the current application perceived the design as cohesive and expressed that it felt like the current application.

5. *Would you consider continuing using the Vestiaire Collective application?*

   All the participants agreed that they would consider continuing using the application.

6. *Was there any feature that you thought was redundant?*

   Six participants did not express any feeling of redundant features. Three of the remaining participants thought the mapping of the newsfeed and category names could be more assertive. Two of the participants had difficulties understanding the different changeable feeds.

7. *Was there any feature that you thought was very good?*

   Four participants mention the favourite and filter features as very good. Two of the participants found the sustainability box to be to their liking. One of the participants highlighted the confirmation prompt when removing a saved item as very good for preventing accidental removal. One participant mentioned the layout feature as very good since it allows the user to change the layout depending on the aim of the use.

8. *Do you think any help and/or introduction to the application is needed?*

   All the participants except one felt no need for any hint regarding the layout, some missed it, and some read parts of it and still felt like they could understand the purpose of the feature when reflecting on it. However, they expressed that they feel like they would have managed without it. Two participants expressed the need for an introduction to the badges rather than the layout feed.

9. *Do you feel motivated to buy second-hand?*

   Everyone felt motivated to buy second-hand. However, one user thought the benefit of it should be further highlighted. The latter did not perceive all the information presented in the sustainability box. The overall opinion was that the presented images increased the users' motivation to buy second-hand.

10. *Do you feel like the application is credible and trustworthy?*

    Every test participant perceived the application to be credible and trustworthy. Contributing to this was the accessibility of the right information at the right time, the reviews, and the confirmation prompts.

    *"Smart with reviews"*

11. *What are your feelings toward the badges?*

    All participants found the badges motivating, however, in variating scope. Some participants did not fully understand the purpose of the badges, and the need for a more apparent association to environmental benefits was expressed. There was confusion regarding if the badge was linked to the seller or the consumer. Five of the participants thought it was the seller who could receive badges. One changed their mind when they saw the "my stats"-title. When receiving the badge after purchasing an item, this was clarified. Some participants desired a summary of the amount of CO2 saved and believed this would be more motivating than a badge. Others expressed personal gain as motivation, such as pre-access to items and discounts. On the contrary, one believed this would go against the purpose of second-hand shopping since it is about sustainability rather than encouraging consumption. Lastly, two participants thought seeing other users' achievements could motivate and trigger users to purchase second-hand.

### System Usability Scale

In order to evaluate how well the application stands in the aspects of effectiveness, learnability, satisfaction and accessibility, the average SUS grade (M) and standard deviation (σ) was calculated. The result showed that the application was given an average of M= 90.3 points on a scale between 0-100 with a standard deviation of σ= 8.25, which equals high overall usability. Furthermore, the average SUS score is considered to be 68. In the figure 6.20, 68 points are marked with a line, and the individual scores can be identified as above average accordingly.

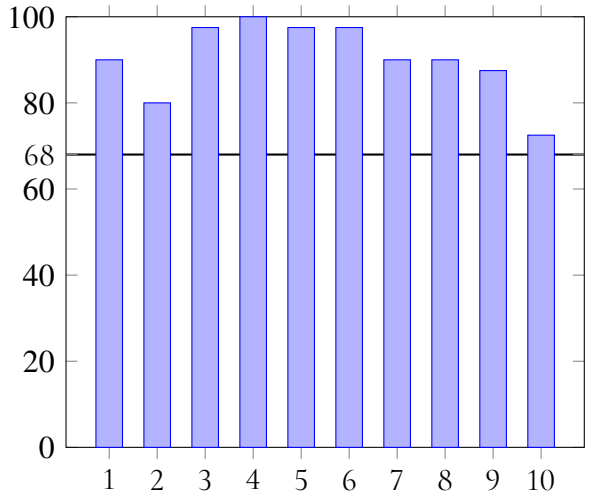


**Figure 6.20:** Measured SUS Score. The X-axis represents the participants and the Y-axis the SUS score measured. The average overall SUS score of 68 is marked as a line.

## 6.4.3 Persuasive system design model

The PSD model was applied to complete the evaluation of the final Hi-Fi prototype. The intent and event of the application are identical to the previous analysis. However, the strat-

egy is slightly changed since the final Hi-Fi prototype covers modifications of both the feeds from Hi-Fi 9:16 and Hi-Fi 3:4. Still, the 9:16 ratio feed layout focuses on the image appearance rather than the information about the products. Consequently, the direct route now solely relies on the product page since the preview was removed. The 3:4 ratio feed has the direct route maintained, identical to before since the product information is shown in the feed. The indirect routes for both feed layouts can still be recognised in the filter categories where options such as popular and trending can be found.

The final Hi-Fi prototype identified the following persuasive system principles, see table 6.2 on page 59.

**Table 6.2:** The identified principles in the final Hi-Fi prototype

| PSD analysis | | |
|---|---|---|
| Category | Principle | Description |
| Primary task support | Reduction | The sustainability box simplifies the process of becoming more sustainable. |
| Primary task support | Reduction | The overall usage was verified to require little effort through the evaluation. |
| Primary task support | Tailoring | Different languages and currencies are supported. |
| Primary task support | Tailoring | Filtering options. |
| Primary task support | Tailoring | User can filter on their saved sizes using "My sizes". |
| Primary task support | Self-monitoring | The “My stats” overlay was added. |
| Primary task support | Simulation | Immediately receiving badges when purchasing. |
| Dialogue support | Rewards | Receiving badges. |
| Dialogue support | Suggestion | Filtering options. |
| Dialogue support | Similarity | Products presented with outfit/model images. |
| Dialogue support | Liking | User centered design. |
| System credibility | Real-world feel | Seller image and information. |
| System credibility | Trustworthiness | When clicking on an item, reviews, seller score and seller badges are visible. |
| System credibility | Surface credibility | Credibility verified through debriefing interviews. |
| Social support | Social learning | Badges are visible to other users. |
| Social support | Normative influence | Number of likes are displayed. |
| Social support | Recognition | Users recall features from similar applications. |

# Chapter 7
# Discussion

*This chapter reflects on the entire process of this thesis. It aims to conclude the main obstacles and limitations throughout the process. Furthermore, the result from the evaluation is discussed and if the set requirements are met. The research questions are then answered, followed by possible future improvements.*

## 7.1 Reflections of the process

One limitation that affected the process throughout was the stakeholders' interest. The freedom of design choices was limited since the application's design profile had already been decided by the company. The importance of a cohesive design with the current application was requested by the company to prevent the perception of having two separate applications. For example, the decision of fonts, placement of buttons and colour choices could not be altered to a larger extent. As a consequence of this, the scope was limited. The company secrecy policy did not allow existing data regarding the application to be a part of this thesis. This affected the preciseness of the defined target group since user, and usage data were not available and to complement this, a new data-gathering had to be conducted. In retrospect, it was found that a greater consideration should have been on defining the intended user group in the prestudy. However, when creating the personas, the company provided guidance and confirmed the outcome to be correct. The personas were a vital foundation in order to have an impartial attitude throughout the project. How the personas were used could have been amplified further when motivating design choices.

When conducting the user study, the choice of the participants may have affected the outcome. Since relying on the network of contacts available, this might not have provided a diverse user group that reflects the real user. It was noticed in the user study that the participants thought that the brand was not defined as an important factor when shopping second-hand, while an actual user might think otherwise. The selection of participants may also have compromised the objectiveness of the results when testing the different prototypes.

During the test sessions of the first and final Hi-Fi prototypes, the task completion time was measured. The indented aim was to identify any deviations and to compare the different prototypes. However, it was proven not to meet the expectations since there was no major deviations. The participants were asked to think-aloud, where some were more talkative than others, resulting in compromised times. In retrospect, this measurement was considered excessive.

Another factor that affected the testing was the choice of the prototyping tool Figma. The possibility of introducing swipe gestures was desired to investigate further since it could have improved the application's user experience, but this feature was very limited in Figma. Moreover, it was unrealistic to implement all ways of interaction in the prototype, considering the time frame. This affected the testing since the interaction possibilities were limited, resulting in the exclusion method being frequently used. Since it was essential to validate the cohesion of the application, the feed could not be tested in isolation. Some of the current application's main features were mimicked in Figma to combat this. However, it was complex and time-consuming to cover the entire user journey and outside this thesis scope.

## 7.2 Evaluation

This section intends to discuss the evaluation of the final Hi-Fi iteration. The results from the performed scenarios and the associated debriefing interview are discussed, followed by a review of the SUS survey and the PSD model.

### 7.2.1 Scenarios & debriefing

The need to further discuss the results from the observations and debriefing interviews in the final iteration arose. When analysing the task completion time, the standard deviation varies slightly. The standard deviation shows how different people navigate through an application. Even though everyone completed the task without difficulties, the time differed because the participants were asked to think aloud. Some participants were more talkative than others resulting in longer completion times. In addition to this, some scenarios did not contain a clear goal, and some were larger in their extent.

The following paragraphs discuss the scenarios that were perceived as challenging and the debriefing questions not covered by the scenarios.

#### Scenario 1: Navigate to the newsfeed

When navigating to the newsfeed, the result showed that the majority of the test participants had difficulties finding and understanding their way. This is emphasised by the task completion times, being on average length and with a high standard deviation. One reason for this was that the landing page was perceived as inspiring since it encourages interaction with many colourful modules, capturing their interest. However, no interactions were implemented on the landing page since it was outside this thesis scope.

The users encountered similar difficulties when using the same scenario in the first Hi-Fi iteration. However, an interesting observation was made as the test participants felt intrigued by the landing page, but when noticing that it was not scrollable, they quickly concluded to

navigate to the newsfeed. In the second and final, Hi-Fi iteration, the landing page was made scrollable to create a complete experience, and this caused the difficulties explained above.

In addition to this, the choice of the word newsfeed was not relatable to be something inspiring. These difficulties may be related to the way scenarios were constructed and the test setup. The scenario was created to avoid being leading and was therefore asked as an open question. This emphasises the need for a name change to make the navigation to the newsfeed more accessible and understandable.

### Scenario 2: Navigate to a category

The majority of the participants had no struggles finding the "trending" category, displaying the popular items. However, some of them expressed difficulties distinguishing the difference between the buttons "Explore", "New", and "Trending". This highlights the need for improving the choice of wording.

### Scenario 4: Change the feed layout

Since the layout feature was a new addition to the final prototype, the need to help the user understand its purpose was investigated. This was done by implementing a hint describing the feature when entering the newsfeed for the first time. However, it became clear that the hint did not fulfil the intended purpose since the users dismissed it without reading the description. Even though the majority of the participants did not read the hint and struggled with the task of changing the feed layout, it was not perceived as a major issue. The participants considered it as a first-time usage problem, while two participants would have preferred another symbol. The uncertainty over the symbol could depend on the scenario's formulation. If the scenario had concerned changing the number of products shown instead of information, confusion could have been avoided.

In this case, learning by doing seems to be a better way of understanding than a hint. The task completion time shows that no participant had significant struggles in completing the task. This could be due to the limited amount of interaction narrowing down the participants' options making the exclusion method practical.

### Scenario 8: Read more about badges

The results showed that the participants had no trouble performing the task and the task completion times were fast. However, it became clear in the debriefing interviews that the participants might not have read the information provided in the badge overlay since they had trouble understanding its meaning. First, when a purchase was made, the meaning of the badges became apparent, which underlines the strength of learning by doing rather than text descriptions.

### Debriefing question: What did you think of the application's design and esthetics?

When investigating the application's design, the overall response was that the design was appreciated and perceived as appealing, neat, exclusive and clean. When examining the feed,

in particular, the images were highly appreciated and perceived as inspiring by the users. In this case, images were chosen to have this purpose. However, in the real application, the images are highly dependent on the seller and can not be directed by Vestiaire Collective to a larger extent. This emerges as a problem for e-commerce companies that rely on private persons to provide products.

#### Debriefing question: Do you feel motivated to buy second-hand?

All the participants felt motivated to buy second-hand when browsing the feed and application. As stated above, the selection of the images was a founding factor for this feeling. Moreover, the sustainability information was expressed as a motivational factor, particularly badges. However, more sustainability information was desired. The participants requested features such as displaying the total amount of CO2 saved and seeing other users' saved amount of CO2. This would enable the users to compare their environmental savings, which was expressed as motivational. It became clear that all participants are motivated by different factors, where some are more influenced by others' behaviour and some more by their individual accomplishments. Moreover, some participants thought that the saved CO2 was easier to understand than the badges. A reason for the badges being hard to understand could be due to the scope of this thesis. It might have been easier to evaluate if the application had been tested to its full extent.

### 7.2.2 SUS

The SUS survey resulted in a score of 90.3, indicating that the application has high usability. However, this measurement should be used with caution. In this case, the entire application is not included in the evaluation, and therefore the overall system usability is hard to measure. This thesis aims to investigate what motivates and persuades users, and the SUS survey does not cover these factors. However, it gives an approximate measure of how the user perceives the interface.

### 7.2.3 PSD model

In order to analyse how to motivate and persuade a user and to complement the SUS survey, the PSD model was used. The use of the model aims to include persuasive techniques in the design of the newsfeed. The model was applied three times during the different stages of this process. Six PSD principles were detected when applying the model to the current application. The following first Hi-Fi implementations resulted in nine PSD principles being identified. In the final iteration, additional focus was put on the persuasive techniques by adding three new requirements covering emotional factors, credibility and feedback. This led to a total of 17 PSD principles being covered. Even though the increasing coverage correlates to the feed's persuasiveness has been improved this might not necessarily imply that the application is persuasive. In order to conduct a complete analysis of an application's persuasiveness, the entire application should be taken into consideration and not only the feed. Another consequence of analysing an isolated part of the application, in this case, the feed, is that a real use scenario is harder to simulate. Even though the entire application would be considered, the analysis would still encounter problems. It is difficult to deviate from the fact

that it is hard to achieve both motivation and an emotional connection when the scenarios are made up.

## 7.3 Future improvements

The evaluation of the final Hi-Fi prototype shows opportunities for further improvement. Firstly, the choice of wording regarding the newsfeed, categories and possibly the badges could be investigated further. More appropriate use of wording would most likely increase the understanding and thereby increase the usability.

When reviewing the feed layout, both feeds were considered valuable to the user. A further investigation should be conducted to help the user understand the purpose of the layout button. This could be carried out in two ways; firstly, the design of the button could be given more thought. Secondly, the design of the hint should be improved to enhance its performance. The tendency of informative texts not to be red was noticed, and for example, illustrating the hint with animation would be an interesting area to discover further.

Motivation is an important factor in attracting more people to buy second-hand. All the users participating in the evaluation expressed that they felt motivated by the environmental factors. However, there is room for improvement. The sustainability section should be redesigned to catch the users' interest and simplify its purpose. A cause for the confusion was that the user's badges were presented on the product page together with the product-specific sustainability information. The user badges could be relocated to the profile page to address this confusion. The desire to present the user's total amount of saved CO2 was expressed. If developed, this feature could also benefit from being located on the profile page. Since some participants requested the possibility to compare personal achievements with other users, this could also be investigated further. A closely related area of research is *Gamification*, used for motivating users' behaviour through game techniques, and this would be interesting to apply in the application [25].

Finally, to achieve high persuasiveness in the application, future PSD analysis should cover the application in full. The analysis would also benefit from using real user data over a more extended period of time to create a more consistent persuasiveness throughout the application.

# Chapter 8
# Conclusion

This thesis investigates how to design a feed for a circular marketplace mobile application that engages and encourages users to interact. A design process consisting of three iterations was conducted, including an extensive user study and analysis with a persuasive approach. To conclude the research done in this thesis, the purpose and the stated research questions will be answered below:

## How does a feed influence a user and what are motivating factors when shopping?

Defining the word "influence" is complex, in this thesis it was defined as a factor of motivation. A user study was conducted to understand the important factors in their shopping behaviour and to examine their motivation towards secondhand shopping. The result of the study indicated a broad spectre of motivation by the different individuals, highlighting the need to design for different user groups. This knowledge was used throughout the process and resulted in features for personalisation addressed in the filter, categories and the changeable layout of the feed.

## What captures the user in a feed?

Persuasive technology was used to capture the users' interest. The PSD model was applied to measure how well the feed uses the persuasive principles. The model categorises the principles into primary task support (assisting the user in performing the task), dialogue support, system credibility support and social support. Features such as filtering, number of likes and immediate feedback are principles included in these categories that contributes to persuasiveness. In addition to this, focus was on selecting and presenting appropriate images that inspired the user. A conclusion was made that if the feed is to the users' liking, it is probable that the feed will capture them.

## How can a feed be designed that engages and encourages the user?

It was vital to include the target user in several stages of the process to ensure that the design engages and encourages the user. This was achieved through a user study and extensive user testing evaluating all three iterations. The testing targeted quantitative and qualitative data collection methods, focusing on the latter. This was done by conducting debriefing interviews where the users' feelings towards the application were valued. Persuasive techniques were introduced as part of the process to verify the perception of the feed, thereby including engaging and encouraging factors to the design development. Features recognised as engaging and encouraging by the user were the sustainability information and saving products.

To conclude, the SUS survey and PSD model confirm that the final design of the feed is both usable and persuasive. However, this does not imply that the whole application fulfils these characteristics. Therefore, it is advised to include the whole application in further development and consider the suggested improvements.

# References


[1] ISO 9241-210:2019 3:15. Ergonomics of human-system interaction — Part 210: Human-centred design for interactive systems. Standard, International Organization for Standardization, Geneva, CH, March 2019.

[2] Ashfaq Adib and Rita Orji. A systematic review of persuasive strategies in mobile e-commerce applications and their implementations. In *International Conference on Persuasive Technology*, pages 217–230. Springer, 2021.

[3] John Brooke. SUS: A quick and dirty usability scale. *Usability Evaluation in Industry*, 189:189–194, 1996.

[4] Vestiaire Collective. Our sustainability manifesto. Last accessed 3 March 2022.

[5] Vestiaire Collective. We did it: We're a b corp! Last accessed 7 June 2022.

[6] Figma. Creative tools meet the internet. Last accessed 13 May 2022.

[7] Brian Jeffrey Fogg. A behavior model for persuasive design. In *Proceedings of the 4th International Conference on Persuasive Technology*, Persuasive '09, New York, NY, USA, 2009. Association for Computing Machinery.

[8] The United Nations Economic Commission for Europe (UNECE). Fashion and the sdgs: what role for the un?, 2018. Last accessed 3 March 2022.

[9] B Lab Global. Make business a force for good. Last accessed 3 March 2022.

[10] Robert P. G. Goedegebure. *Why we buy what others buy: The role of product popularity in consumer decision making*. PhD thesis, Wageningen University, 2019.

[11] H&M Group. H&m. Last accessed 13 May 2022.

[12] Instagram. Shopping. discover and buy from brands and creators you love. Last accessed 13 May 2022.

[13] Preece Jennifer, Rogers Yvonne, and Sharp Helen. Interaction design: beyond human-computer interaction. *NY: Wiley*, 2002.

[14] James R. Lewis. The system usability scale: Past, present, and future. *International Journal of Human-Computer Interaction*, 34(7):577 – 590, 2018.

[15] Hui Li, Nan Chen, Minjuan Zhou, Chenyi He, Jingbo Li, and Yujie Shi. How People Browse Mobile News Feed? A Study for Mobile News Feed Design. In *International Conference on Human-Computer Interaction*, pages 248–265. Springer, 2019.

[16] United Nations. The 17 goals, 2015. Last accessed 3 March 2022.

[17] Jakob Nielsen. 10 usability heuristics for user interface design, 1994. Last accessed 13 May 2022.

[18] Jakob Nielsen. The myth of the genius designer, 2007. Last accessed 3 March 2022.

[19] Don Norman and Jakob Nielsen. The definition of user experience (ux). Last accessed 13 May 2022.

[20] Luca Panzarella. *Mobile design: How to design responsive websites and mobile apps that work*. Selbstverlag, 2021.

[21] Kara Pernice. Ux prototypes: Low fidelity vs. high fidelity, 2016. Last accessed 25 May 2022.

[22] R. Rathinamoorthy. 2 - circular fashion. In Subramanian Senthilkannan Muthu, editor, *Circular Economy in Textiles and Apparel*, The Textile Institute Book Series, pages 13–48. Woodhead Publishing, 2019.

[23] J. Rubin, D. Chisnell, and J. Spool. *Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests*. Wiley, 2011.

[24] Tradera. Om oss. Last accessed 13 May 2022.

[25] Wikipedia. Gamification, 2022. Last accessed 3 June 2022.

[26] Wikipedia. H&m, 2022. Last accessed 3 June 2022.

[27] Wikipedia. Tradera, 2022. Last accessed 3 June 2022.

[28] Wikipedia. Vestiaire collective, 2022. Last accessed 3 June 2022.

[29] Chauncey Wilson. *Brainstorming and beyond. a user-centered design method.* Morgan Kaufmann, 2013.

# Appendices

# Appendix A
# Prestudy: Shopping habits online

# Shopping habits online

This survey is made for the purpose to investigate shopping habits online. The answers are anonymous and the result will be used in our master thesis work. The survey contains 10 questions and will take approximately 5 minutes to answer.

Thank you for participating!

Joanna & Emma

1. What do you identify yourself as?

*Mark only one oval.*

- ◯ Male
- ◯ Woman
- ◯ Other
- ◯ Don't want to specify

2. Age

*Mark only one oval.*

- ◯ 15-24
- ◯ 25-34
- ◯ 35-44
- ◯ 44+

3. What inspires you to buy clothes?

Rank whats most important, 5 is very important and 1 is not important

*Mark only one oval per row.*

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| **What others are wearing** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Social media/pictures of outfits** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **A brand's webpage** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Targeted advertising** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Other** | ◯ | ◯ | ◯ | ◯ | ◯ |

4. If "Other" on the previous question, please specify.

What inspires you to buy clothes?

_____

5. What information are you interested in when looking for clothes online?

Pick the 3 most important

*Check all that apply.*

- [ ] Sustainability (social/enviromental impact and location of the production)
- [ ] Material
- [ ] Size
- [ ] Brand
- [ ] The items populatity
- [ ] Price
- [ ] Other: _____

6. What information is the most important when looking for clothes online?

*Mark only one oval.*

- ◯ Sustainability (social/enviromental impact and location of the production)
- ◯ Material
- ◯ Size
- ◯ Brand
- ◯ The items populatity
- ◯ Price
- ◯ Other: _____

7. Have you bought second hand clothes online?

*Mark only one oval.*

- ◯ Yes
- ◯ No
- ◯ Other: _____

8. What is important to you when shopping second hand clothes online?

Pick the 3 most important

*Check all that apply.*

- ☐ Enviromental impact (how much materials that are saved by purchasing second hand)
- ☐ Material
- ☐ Size
- ☐ Brand
- ☐ Condition
- ☐ Seller information and reviews
- ☐ The items populatity
- ☐ Price
- ☐ Location of the garment/transportation
- ☐ Other: _____

9. What is the most important to you when shopping second hand clothes online?

*Mark only one oval.*

- ◯ Enviromental impact (how much materials that are saved by purchasing second hand)
- ◯ Material
- ◯ Size
- ◯ Brand
- ◯ Condition
- ◯ Seller information and reviews
- ◯ The items populatity
- ◯ Price
- ◯ Location of the garment/transportation
- ◯ Other: _____

10. Which product picture is the most inspiring to you when shopping?



*Mark only one oval.*

- ◯ 1: With model
- ◯ 2: Only product

11. Which product picture is the most inspiring to you when shopping?



*Mark only one oval.*

- 1: Only product
- 2: With model

12. Is there anything you would like to add?

# Appendix B
# First Hi-Fi: Scenarios

## Hi-Fi 9:16: Test Scenarios

1. Du behöver uppdatera din garderob men insett hur dålig klädindustrin är för miljön, därför bestämmer du dig för att kolla på Vestiaire Collective. Du vet inte exakt vad du vill ha och vill bli inspirerad… Varsågod.
2. Du ser direkt en trenchcoat du gillar och vill spara den så att du lätt hittar den senare, varsågod!
3. Du ser en hel-svart outfit som du tror kommer passa dig, du vill veta mer om plaggen. Varsågod!
4. Du inser att det är jackan som säljs och den är dessutom utanför din budget och väljer att utforska vidare istället.
5. Nu vill du hitta ett par örhängen som passar till trenchcoaten, spara även dessa till senare. Varsågod.
6. Du vill se vad som är populärt just nu. Varsågod!
7. Du ser direkt ett par skor som faller dig i smaken, de verkar populära och du vill lägga ett bud direkt innan de säljs. Varsågod.
8. Nu vill du kolla på de plagg du sparade tidigare. Varsågod!
9. Du vill nu sortera listan efter pris, lägst först, och inser att örhängena du tidigare sparat är något över budget och vill ta bort dessa från listan. Varsågod.

## Hi-Fi 3:4: Test Scenarios

1. Du behöver uppdatera din garderob men insett hur dålig klädindustrin är för miljön, därför bestämmer du dig för att kolla på Vestiaire Collective. Du vet inte exakt vad du vill ha och vill bli inspirerad… Varsågod.
2. Du ser att dina storlekar inte visas och vill ändra detta. Varsågod.
3. Du ser direkt en trenchcoat du gillar och vill spara den så att du lätt hittar den senare, varsågod!
4. Du kommer på att en av dina favoritinfluencers från instagram säljer ett par skor på Vestiaire Collective och vill hitta dem. Varsågod!
5. Du hittar skorna och de verkar populära och du vill lägga ett bud direkt innan de säljs. Varsågod.
6. Nu vill du kolla på de plagg du sparade tidigare. Varsågod!
7. Du vill nu sortera listan efter pris, lägst först. Varsågod.
8. Nu vill du rensa i listan och ta bort örhängena du tidigare la till. Varsågod.

# Appendix C
# Final Hi-Fi: Test plan

## Purpose

The purpose of this testing is to evaluate the user experience of the application and the newsfeed.

## Selection of users

The selection of users has been based on the target group of the application and to reflect the personas. In order to get statistical certainty, 10 people are considered to perform the tests. A pre-test survey will be conducted to gather data about the respondents.

## Data Gathering

The main goal of this test is to verify the functionality and usability of the newsfeed, however, the Hi-Fi test is not planned for release and therefore there is still room for improvement. Due to this, an open discussion with the participants about their opinions and feelings about the application and its feed is still of interest.

**Objective/qualitative:** Behavioural- and error-analysis by observation

**Objective/quantitative:** Task completion time and task success

**Subjective/qualitative:** Debriefing interview and a post-test survey

**Subjective/quantitative:** pre-test survey and SUS

## Test cases

| Nbr | Task | Finished |
|---|---|---|
| 1 | Navigate to newsfeed | Newsfeed is shown |
| 2 | Navigate to a category | The chosen category is shown in the feed |
| 3 | Like a product | The product's heart symbol is red |
| 4 | Change the feed layout | The feed layout is changed |
| 5 | Personalise the feed | The filter is toggled on |
| 6 | Filter the feed | The feed is filtered |
| 7 | Navigate to a product | The product page is shown |
| 8 | Read more about badges | The badges overlay is shown |
| 9 | Navigate to favourites page | Favourites page is shown |
| 10 | Sort favourites page | Favourites page is sorted by price |
| 11 | Remove item from the favourites page | The heart of the product is unfilled |
| 12 | Read the seller reviews | Review fold out is shown |
| 13 | Purchase a product | The order complete prompt is shown |

## Procedure

The procedure when executing the tests is presented below:

**Before test cases:** Welcome the respondent and inform them about NDA/informed consent, pre-test survey

**During test cases:** Introduce the test scenarios, one at a time

**Debriefing:** Interview and SUS survey

## Pre-test survey questions:

1. Age
2. What do you identify yourself as? (Gender)
3. Have you previously used a mobile application to shop second-hand clothes?
    (a) If yes, which ones?
4. Have you heard of Vestiaire Collective before?

## Post-test interview questions:

1. What are your spontaneous thoughts after finishing the test?
2. Was there something you thought was very difficult?
3. Was there something you thought was very easy?
4. What did you think of the application's design and esthetics?
5. Would you consider continuing using the Vestiaire Collective application?
6. Was there any feature that you thought was redundant?
7. Was there any feature that you thought was very good?
8. Do you think any help and/or introduction to the application is needed?
9. Do you feel motivated to buy second-hand?
10. Do you feel like the application is credible and trustworthy?
11. What are your feelings toward the badges?

## Test set-up

The tests will be performed on a smartphone with Figma installed. This allows testing to be done on both Android and IOS devices, as well as on distance. However, the aim is to conduct the majority of the tests in person. When testing, one test leader will be responsible for presenting the test scenarios and the other test leader will be responsible for taking time and record-keeping.

## Result

The results from the testing will be presented in our thesis which will be published to the public. The results will be anonymised.

# Appendix D
# Final Hi-Fi: Scenarios

1. You need to update your wardrobe but have realised how bad the clothing industry is for the environment, so you decide to check out Vestiaire Collective. You do not know exactly what you want and want to be inspired…
2. You want to see what is popular right now.
3. You immediately see a trenchcoat you like and want to save it so you can easily find it later.
4. You want to see more information about each product.
5. You see that your sizes are not displayed and want to change this.
6. Dior is your favourite brand, and you want a pair of shoes from there. You, therefore, only want to show products from Dior.
7. You immediately see a pair of shoes that you like, and they are also on sale! You want to see what material they are made of before saving the product.
8. You see information about sustainability and want to read more about it.
9. Now, you want to look at the items you saved earlier.
10. You now want to sort the list by price, lowest first.
11. You realise that the earrings you previously saved are slightly over budget and want to remove them from the list.
12. You are still interested in the shoes and want to see if the seller is reliable.
13. Everything looks good, and you decide to buy the shoes!