

## **Chapter 1 - Introduction**

They give some contextualization, talk about the closing of the dumpsite.

Talk about the difficulties of the waste pickers to adapt to their new life. "Now they are payed once a month and therefore need to plan ahead, which they aren't used to"

### **1.1 Mobile Education Platform**

Talk about the previous patnership between AAU and Brazil

Talk about the decision to do an educational platform. "In Britze and Nielsen [2019] it was clear that most of the waste pickers didn't have an understanding of finances. Therefore Britze and Nielsen [2019] decided to create an educational platform that would help the waste pickers manage their finances."

### **1.2 Previous field research**

Talk about the work done in the previous part and interviews made.

Talk about the reality of the waste pickers

"Many of them are only thinking about making it to the next day."

### **1.3 Purpose**

"The purpose of the current project is to achieve an understanding of how an education platform can be designed for the waste pickers. The goal is to design a solution that support the waste pickers to learn how to manage their personal finances and think in a long term solution in relation to their finances"

### **1.4 Initiating problem statement**

"How can an app help the Brazilian waste pickers gain knowledge on their personal finances?"

### **1.5 Learning methodologies**

"This section revolves around how illiterate learn and obtain new knowledge in order to adapt the learning methods to this project. Additionally, the education the waste pickers received from SLU is investigated."

"Therefore it is assumed that the waste pickers motivation and engagement were low. To investigate learning methodologies used in other ethnic groups two studies are examined."

### **1.6 Existing app for waste pickers**

Talk about Cataki app

### **1.7 Existing learning platforms**

"The following section, investigates current learning platforms in order to select aspects that should be part of the project's learning platform."

The learning platforms are:

- Moodle (a learning platform and course management system)
- Money Advice Service (a free service to help people manage their personal finances)
- Weekly (designed to manage ones finances on a weekly basis to make sure money is available at the end of the month)

### **1.8 Approach**

“The goal of this project is to develop the first steps towards a prototype that supports the waste pickers in managing their personal finances.”

### **1.9 Problem statement**

“Which elements should be a part of the design of the prototype to help the Brazilian waste pickers learn how to manage their personal finances?”

## **Chapter 2 - User research**

“This chapter analyse various aspects of the target group that must be examined before the prototype can be created.”

### **2.1 A cultural approach**

The section clarifies some of the differences between the Danish and Brazilian culture

### **2.2 Waste pickers' socio-economic status**

Talk about the waste pickers' socio-economic status

### **2.3 User demographic**

They use a study by Cruvinel et al. [2019] as a reference point to gain an understanding of the demographics of the users

### **2.4 Persona**

Talk about the purpose of the persona

Detail the persona, talk about the behavioural variables

Develop a visualisation of the persona

### **2.5 Context Scenario**

The scenario is developed based on [Cooper et al., 2007, p. 119-121

“Persona-based scenarios are short stories of one or more personas using the product to achieve their goals.”

They present one scenario based on the persona

### **2.6 Value Proposition Canvas**

“The user needs is analysed in relation to the development of the prototype using a Value Proposition Canvas”

### **2.7 User Requirement**

“The requirement determines how the app should be designed so the personas can achieve their goals. Requirements define what the prototype should be able to do.”

They present the requirements

## **Chapter 3 - Development of an analogy**

“In the process of making the prototype applicable for the waste pickers it is chosen to implement a visual analogy. Inspiration is found from the Weekly app,”

“it should be visible for the waste pickers how much money they have available each day and how their actions affect their future economy.”

### **3.1 Defining an analogy**

“the implementation of an analogy could help the waste pickers understand their personal finances if the analogy is carefully adapted”

### **3.2 Analogy brainstorm session**

To establish a new analogy, a brainstorm on key attributes from the user context was conducted and us, Brazilian, took part in it

“Finally, the generated analogies should be tested on the waste pickers to find the one that should be implemented in the prototype. However this could not be executed and the analogies were developed in cooperation with the collaborators from Brazil and the expert Mateus Halbe Torres”

#### **3.2.1 Results**

They show the results from the brainstorm session

“From the brainstorm session, it was chosen to work with the colour analogy.”

## **Chapter 4 - Design of the prototype**

### **4.1 Analysis of WhatsApp**

To get an idea of the design in the app, WhatsApp is investigated.

### **4.2 Defining the interaction framework**

“The development of the interaction framework is based on [Cooper et al., 2007, p.125-136], which is described in the next sections.”

#### **4.2.1 Define form factor, posture, and input methods**

“The form factor of a product is designed for e.g. a web application that is viewed on a high-resolution computer screen or an app viewed on a small and low-resolution smartphone screen”

“The posture describes how much attention a user gives when interacting with the product, and how the prototype behaves in response to the attention from the user”

“The input method describes the user interaction with the product”

#### **4.2.2 Define functional and data elements**

“Functional and data elements represent the functions and data displayed to the user on the interface.”

“The development of data elements and functional elements are based on the user requirements”

“To teach the users to manage their daily finances, the traffic light analogy from section 3.2.2, is included to explain and illustrate budget management on a daily basis. The analogy changes according to the input from the user i.e. the traffic light change colour according to the daily consumption.”

#### **4.2.4 Sketches of the prototype**

“These sketches are an indication of the layout and design of the prototype.”

“In cooperation with the collaborators in Brazil, the experts Mateus Halbe Torres, and Tatiana Marins Caiado, the design was evaluated and corrected based on their feedback.”

#### **4.2.5 Key path scenarios**

“A key path scenario describes how the primary persona interacts with the product based on the interaction framework.”

“A key path scenario is made based on the context scenario”

## **Chapter 5 - Experiment**

*“In this chapter, two different experiments are discussed. The first experiment is the ideal experiment and the second is the conducted experiment.”*

### **5.1 Protocol: The ideal experiment**

Explicam que essa parte seria para expor o experimento ideal

#### **5.1.1 Purpose**

*“The purpose of the experiment is not to exhibit the waste pickers in terms of their finances, but to find design flaws that could be rectified or features that could be added to increase the user’s experience.”*

#### **5.1.2 Measurements**

Falam sobre a coleta de dados subjetiva e objetiva e como cada uma delas será feita

#### **5.1.3 Participants**

Falam sobre os participantes ideias, catadores, qual seria o gênero deles, quais habilidades seriam requisitos para o teste (ter um celular, saber usá-lo e usar WhatsApp). Falam sobre a motivação monetária para os catadores responderem o questionário

#### **5.1.4 Methodology**

Explicam quais metodologias seriam usadas neste teste ideal (method *think aloud*)

#### **5.1.5 Materials**

Expõem os materiais necessários para a realização do teste ideal

#### **5.1.6 Guidelines for the experiment**

Explicam como seria todo esse contato com os catadores caso fosse possível fazer esse teste ideal

### **5.2 Protocol: The experiment conducted in this project**

Nesta parte elas explicam a situação do covid-19 e expõe o real teste

#### **5.2.1 Purpose**

*“The purpose of the experiment is to develop the first steps toward designing a prototype that supports the waste pickers to learn personal finances.”*

*“[...] the focus of the experiment is to adjust the prototype, and to clarify the problems with the design and the functionality of the different aspects of the prototype.”*

### **5.2.2 Measurements**

Falam sobre a coleta de dados subjetiva e objetiva e como cada uma delas será feita

### **5.2.3 Participants**

Falam sobre o perfil dos participantes do experimento

### **5.2.4 Methodology**

“Due to the changes, the method from the ideal experiment from section 5.1, is modified. The big difference is that the conducted experiment is online and the participants have to read all the information and conduct the whole experiment without an experimenter.”

### **5.2.5 Guidelines for the experiment**

“This section provides a guideline for the experiment, where adjustments from the pilot studies have been incorporated,”

### **5.2.6 Development of the experiment’s prototype**

“Before the development of the prototype for the experiment, some delimitations are made.”

“programming is deselected when developing the prototype due to lack of time and resources. However, programming in later stages of the development is necessary. The prototype is still in the development phase and there should be a focus on testing and improving the prototype rather than developing a finished app.”

“it is chosen to develop a prototype in the online program Preely.”

## **Chapter 6 - Data Interpretation**

Inicialmente falam sobre as pessoas que começaram a fazer o teste de Preely App, tempo que levaram e eventos específicos mas nada relacionado ao App em si, apenas a adesão e desistência dos testes

### **6.1 Objective data**

#### **6.1.1 Time used per task**

Em seguida apresentam o tempo gasto por task por meio de gráficos e tabelas

*“This pattern of the boxplots could mean that the participants become more familiar with the prototype, and due to the introduction of a new feature in task 4 the participants have to become familiar with it as well.”*

#### **6.1.2 Paths**

Caminhos usados pelos participantes para resolver as tasks

*“The screens are investigated in terms of the routes the participants take, but not what they do on the different screens. This section focuses on the number of screens visited as well as how many different paths the participants take.”*

*“Secondly, it is investigated how many different paths the participants take. Here, the paths have been divided into three categories; direct, investigating and special cases”*

### **6.1.3 Heatmap**

Não fazem análise do mapa de calor, apenas apresentam a imagem fazendo uma descrição dela

*“The heatmap gives an overview of all clicks, swipes, and scrolls on each screen.”*

## **6.2 Subjective data**

Apresentam feedbacks do protótipo e notas de 0 a 10

### **6.2.1 Rating**

Apresentam as notas que foram dadas em cada task de 0 a 10

### **6.2.2 Follow-up questions**

Explicam quais os feedbacks que foram contabilizados, quais não foram, a forma como esses feeds foram pedidos no Preely App, apresentam tabelas do número de feeds que receberam em cada task e fazem uma “nuvem de palavras” das palavras mais usadas no feed de cada task

## **Chapter 7 - Discussion**

*“This chapter discusses the data collected in the experiment. In addition, sources of error are discussed in connection with the experiment.”*

Fazem uma análise bem extensa dos resultados (interessante ler depois com calma)

### **7.1 Sources of errors**

Explicam, bem detalhadamente, as suas 4 fontes de erro dos dados (*The experiment form: online vs face-to-face, Not using the right target group, Biassed tasks, Limitations in Preely*)

## **Chapter 8 - Conclusion**

Falam do objetivo do projeto, da parceria internacional, contexto dos catadores e conclusões do projeto

*“Based on the experiment it could be concluded that the assessment of the tasks and thereby the functions may be influenced by a carryover effect. In the discussion, it was stated that the first task may have been influenced by a carryover effect, but there is a chance that task 4 has not been affected by it, although a new feature is presented. Therefore, it is relevant to examine how the function of future economy could be made more*

*intuitive, since one of the themes of the thematic analysis of task 4 was not intuitive. Furthermore, when using other participants than the target group, the data can only be used to understand the functionality of the prototype, and correct overall mistakes, but it isn't possible to give an estimation of the target group's perception. Therefore, some of the conclusions are that the prototype might not be valid, when testing on the target group."*

## **Chapter 9 - Reflection**

- *"This section reflects upon future aspects of the project. Here a description of possible supplements for both the prototype and the future app is considered. In addition, other considerations about the Mobile Education Platform is pinpointed.*
- *implementation of audio.*
- *redesign the prototype without any or a limited amount of text*
- *audio input method would allow the waste pickers to use voice control, when inserting the amount they have used or want to save, etc.*
- *develop and investigate the future economy feature, in terms of other ways to communicate how the future is affected by the spending*
- *gamification"*

*"the long term effect of the app should be investigated in the future."*

Nesse final elas mencionaram o PALMA