

BSc Creative Technology
Graduation Thesis

The Onboarding Kit:
a tool for remote
pre-onboarding

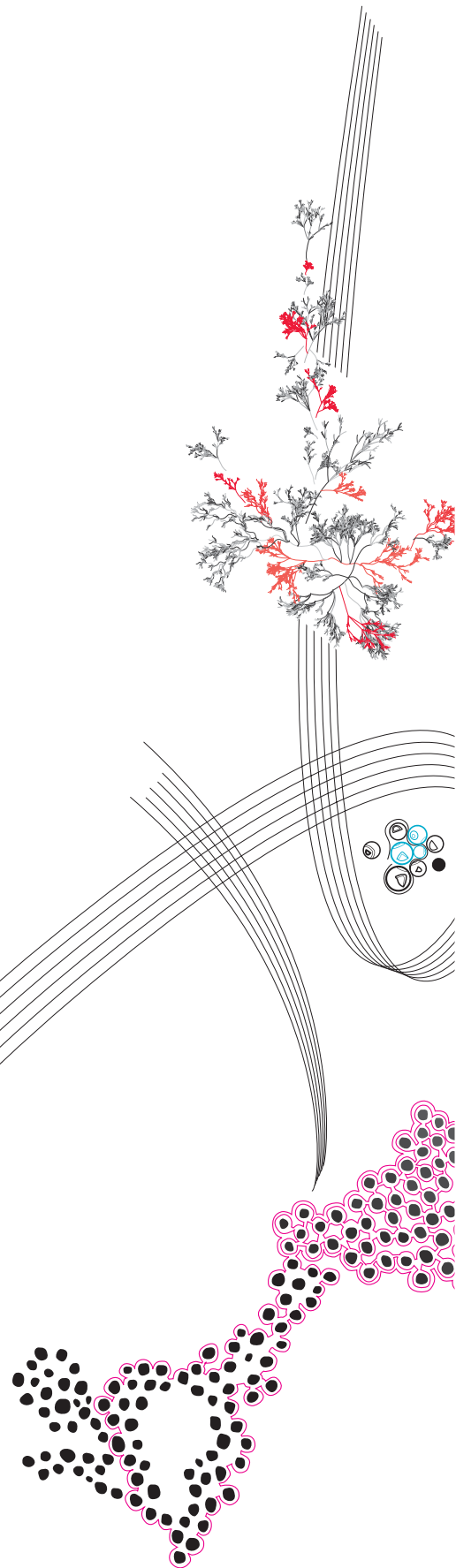
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Abstract

In today's competitive job market and evolving work environment, retaining talent has become increasingly challenging for organizations. To address this, companies are exploring various strategies to retain talented employees for extended periods. One effective approach is to ensure that employees feel welcomed and integrated from the moment they sign their contract. This thesis aims to design an onboarding kit specifically for the pre-onboarding phase of new employees within an organizational context.

Using the Creative Technology design process, the initial prototype of the 'pre-onboarding kit' was developed, comprising four components: a cardholder with scannable business cards, a VR experience, a cultural jigsaw puzzle, and an informative website. The goal of this kit is to familiarize new employees with the organizational culture and establish initial connections within the company, ensuring they feel welcomed and integrated even before their first workday. The prototype was made in collaboration with Ecare, the client of this project.

The evaluation of the pre-onboarding kit received highly positive feedback from both Ecare employees and new hires outside of Ecare. They found the kit to be engaging, informative, and enjoyable, significantly aiding the integration of new employees. Although further refinements are necessary to transform the prototype into a fully functional product, the pre-onboarding kit concept holds promising potential for the future.

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Chapter 1

Introduction

1.1 Situation

In a survey conducted by McKinsey&Company with over 25 000 participants in 2022, the researchers found that over 58% of Americans were already offered the opportunity to work from home at least once a week (McLaughlin, 2022). In a mere couple of years, the way of working has changed rapidly. With the upcoming of the pandemic, companies had no choice but to revise their work models and adapt to the situation. A survey by Gartner (2020) concluded that 82% of companies were planning on having an at least partly hybrid workforce, whereas 47% planned on having a fully remote workforce.

The way of working is changing, and thus certain processes correlated to it might be changed as well. One of these processes is the onboarding process, defined as “ a system of processes for integrating new employees into an organization and making them productive as quickly as possible.” (Bauer, 2015, p. 2). A proper onboarding process is beneficial for both employee and employer. Employees will have an increased feeling of belonging and a smooth introduction to the job while employers can reduce the costs and time connected to the training of an employee. Furthermore, companies with a proper onboarding process see a reduced retention rate (Laurano, 2013) and overall revenue growth (Frögéli et al., 2023).

With employees working remotely more often, the pre-onboarding phase has become more important. This is the part of the onboarding process which bridges the time between signing the contract at a company and the first work day (Ziden & Joo, 2020). If done well, pre-onboarding may lead to a good first impression before starting on the job, and prevent new hires from dropping out before starting their first day (Sullivan, 2015). This process is most often executed remotely since the employee did not have their first workday yet.

1.2 Problem statement

In a remote onboarding situation, offering a proper process is considered a challenge. A remote onboarding experience requires detailed planning for all the parts of the process (Kim, 2023). Next to this, it is more difficult to address the elements of connectivity and culture in a remote onboarding scenario (Maurer, 2022). Although more attention is paid to solving these challenges after the pandemic, most solutions are solely software-based. Therefore, one might ponder whether the use of physical tools during the pre-onboarding process might increase the quality of a pre-onboarding process. Tools like this might be used to decrease the gap between a remote and physical onboarding experience. As of now,

little to no research has been conducted in this area.

In this graduation project, the effects of implementing physical tools in a remote pre-onboarding process will be researched, with the final aim of designing an onboarding kit that can be deployed remotely during the pre-onboarding process.

1.3 Research question and sub-research questions

To tackle the previously mentioned problem statement, the following research question has been formulated:

RQ: "How can an onboarding kit be designed for the pre-onboarding phase of new employees in the organizational context?"

To answer the main research question, research has to be conducted in different areas. Firstly, it has to be clear what the current goal is of onboarding practices. This way, the pre-onboarding kit's purpose might be defined based on existing goals and practices of onboarding. This leads to the first sub-question:

Sub - RQ1: "What is the goal of regular (pre-)onboarding?"

As the pre-onboarding kit should have a good, theoretical foundation it is important to gain understanding of the onboarding frameworks which are currently out there. By doing so, a framework might be found which offers a suitable theoretical foundation. Therefore, the second sub-question is the following:

Sub - RQ2: Sub-RQ 2: "What are the most prominent onboarding frameworks currently available?"

Subsequently, it is important to understand that the pre-onboarding kit will not be able to cover the extent of an entire onboarding process. Therefore, it should be investigated which elements are the most difficult to convey in a remote onboarding scenario and should therefore be included in the kit. The third sub-question is constructed as the following:

Sub - RQ3: "Which elements of onboarding have to be taken into account when creating an onboarding tool?"

Finally, as the aim of the kit is to convey organizational information to starting employees before their first work day, it is important to gain knowledge on the domain of adult learning. By researching this domain, the aim is to find the most suitable combination of learning methods that will be covered in the kit. Therefore, the fourth sub-question is:

Sub - RQ4: Which adult learning methods should be implemented in the pre-onboarding kit?

Chapter 2

Background Research

Before the start of the design process of the pre-onboarding kit, a thorough background research is conducted to build a scholarly foundation that may be used to support the choices made when designing the prototype(s) and final product. Furthermore, it is used to gather information which preliminary design requirements may be based upon. The background research consists of a literature review, a state-of-the-art, and expert interviews.

2.1 Literature review

The first part of this background research will consist of a literature review. The literature review aims to offer a clear definition of onboarding and pre-onboarding, focusing on the meaning and effects of implementing these processes. Furthermore, the chapter analyzes current onboarding processes by investigating four prominent frameworks within the onboarding literature, each offering unique perspectives on the onboarding process. Through comparative analysis, differences and commonalities among these frameworks are found, revealing their implications for organizational culture, employee satisfaction, and overall effectiveness. Additionally, a small literature research is conducted regarding the different types of adult learning, which will provide the information necessary during the ideation phase.

2.1.1 Onboarding

To define a clear definition of onboarding, the literature on onboarding will be compared in this chapter. Onboarding, also called organization socialization by scholars (Wiseman et al., 2022), is a term dating back to 1970s literature (Van Maanen & Schein, 1977). Bauer (2015) defines onboarding as the process of integrating a starting employee into the organization. Caldwell and Peters (2018) add that onboarding consists of acquainting the employee with the company's values, rules, goals, and processes. Next to this, it is considered as the process where starting employees get used to working in their new team (Yates, Power, & Buckley, 2020). Sharma and Stol (2020) also agree with the previously mentioned descriptions and elaborate further on how the onboarding process is a tool to introduce newcomers to the organization, processes, and the organizational culture. A contradictory opinion concerning the latter part of Sharma and Stol's definition is offered by Cable *et al.* (2013), which describes the current onboarding processes as indoctrination, forcing the new employee to adapt to the organizational values instead of utilizing their own.

In this paper, the term onboarding will be used in its general form, rather similar to the

definition as given by Bauer: onboarding is a process which aids a starting employee in getting acquainted with the company and the job.

2.1.2 Pre-onboarding

Pre-onboarding is a phase of the onboarding process, defined as the time frame between signing the contract and the first work day (Bhattacharya, 2023). It enables the organization to engage their new employee even before their first day (Deutsch, 2016). Pre-onboarding is often done remotely, elevating the onboarding process to a personalized and engaging digital training experience. Pre-onboarding through online or e-learning provides a ubiquitous learning experience and can be seen as a crucial component for early onboarding practices (Ziden & Joo, 2020). Companies that actively engage in the pre-onboarding process retain 81% of their first-year hires (Aberdeen, 2016) and are 1.6 times more likely to have reduced costs per hire compared to companies who do not follow a pre-onboarding process (Deutsch, 2016).

2.1.3 Current onboarding processes

For this graduation project, it is necessary to understand how current onboarding frameworks and practices look like since the pre-onboarding kit will need an underlying framework itself. For this, four onboarding frameworks have been selected and are compared to each other to find similarities and differences which could then be used for the underlying framework of the pre-onboarding kit.

The four C's

The onboarding framework which is used most often was created by Bauer (2015). This framework is often the foundation for other extended frameworks (Gregory et al., 2022)(Britto et al., 2020). Bauer states how a proper onboarding process should include the following four components, also called the 4 C's:

- Clarification; refers to clarifying the rules of the job, the expectations from the company towards the employee, and learning any company or job jargon.
- Compliance; refers to the basic routine which an employee has to go through before being able to fulfill their job. This includes tasks such as setting up an e-mail account, receiving a company laptop/phone, and filling in the necessary paperwork.
- Culture; refers to educating the employee on the company's culture. A company culture often includes norms and values, unwritten rules, and goals.
- Connection; refers to building relationships with colleagues and managers. Making the employee feel part of the company network.

Implementing these four components into the onboarding process should result in a decreased turnover rate, increased job satisfaction, and a higher performance rate. The framework is used as a main building block for many other framework processes and can thus be seen as a general framework which can be implemented and adjusted in many forms.

Ethics ten-step model

Caldwell and Peters (2018) constructed an onboarding framework based on the psychological contract between employer and employee. Defining the relationship between the two parties is based on the social exchange theory which states that the employee offers their services in exchange for money. The psychological contract consists of the written and unwritten expectations in this relationship, i.e. the employer is bound to pay the employee, and the employee will have to achieve a certain level of performance. Caldwell and Peters created a ten-step model for quality onboarding including the pre-onboarding stage, taking into account twelve different ethical perspectives, including names such as Plato, Kant, and Maslow. The goal of this framework is to convey to the employee that they are considered a "You" instead of an "It" and is thus mainly based on the well-being and comfort of the employee.

Learning theory

Becker and Bish (2021) used the learning theory perspective to create a framework considering the different levels of learning of new employees. In this research, onboarding is considered as a learning process for both the individual and the organization. Here, the effect of learning and unlearning is investigated, where unlearning is defined as the process of removing information from previous work experiences to make place for new information. Thus, this framework suggests that onboarding should be adapted to the specific learning needs of a person or group. This should create a more personal and effective onboarding process.

Personalidentity socialization

Cable *et al.* (2013) constructed a framework called the "personalidentity socialization" method, which revolves around focusing on the strengths and perspectives of the new employee. This method encourages the employee to brand their onboarding process, focusing on what they do best. This onboarding process aims to encourage new employees to become more involved in their work, have a better bond with their coworkers, and be more likely to stay at the company since they have the opportunity to show and apply their qualities to the workplace.

2.1.4 Comparing frameworks

In this chapter, the onboarding frameworks discussed in chapter 2.1.3 will be analyzed and compared with each other. There were three characteristics of an onboarding framework that offered contradictions in the literature: the level of culture, the level of personalization, and the level of employee- or employer-oriented influences.

Level of culture

A framework characteristic often discussed in onboarding is the level of company culture implemented. As can be seen in Bauer's 4 C's (2015), it is believed that the culture of a company can be taught. Culture is one of the four pillars of this framework, which supports how this is an important part of the onboarding process. Cable *et al.* (2013) disagree and state how this should not be the case. They state how forcing a company's culture on an employee may have negative effects in the long term since the employee is not able to express their own identity to a full extent. Socialization tactics which focus on

making employees behave inauthentically may not be sustainable, as this tactic does not completely involve employees and does not address underlying issues such as emotional exhaustion and job dissatisfaction. Caldwell and Peters (2018) neither agree nor disagree with the previously mentioned opinions and merely state how the onboarding process should address the organizational culture. Becker and Bish (2021), similar to Caldwell and Peters, do not convey a strong sentiment towards the presence of the cultural aspect in an onboarding process, and state how onboarding should be focused on the feelings, experience, and characteristics of the employee rather than the organizational culture.

Level of personalization

Apart from the level of culture, the level of personalization also varies between frameworks. Cable *et al.* (2013) characterizes their framework as one where the different personal characteristics of every new employee shape the onboarding process itself. For example, if a programmer is very social, they might be onboarded as a link between the programming team and higher management. If the employee is introverted but also has a passion for design, onboarding will focus on adding design features to the job. Positive effects of this approach include new employees feeling appreciated, heard, and valued. Becker and Bish (2021) agree with offering a personalized touch to the onboarding process, however, the focus of the personalization aspect differs. This framework focuses on different groups of employees with different learning needs. Instead of focusing on what characterizes the employee, this framework looks at the employee's current knowledge and experience. Caldwell and Peters (2018) also see value in onboarding personalization and add to this how personalization can be used when creating a personalized relationship with the starting employee and listening to personal goals. Bauer (2015) does not mention the importance of personalized onboarding in their framework and thus does not see personalization as a main factor for the onboarding process.

Level of employee- or employer-oriented influences

Finally, the level of employee-oriented or employer-oriented onboarding influences within onboarding frameworks may differ. The difference between these two terms can be described as what the main focus of the onboarding entails: positive benefits for either the employee or employer. Looking at the employer-oriented viewpoint, Bauer (2015) states how the goal is to make the employee as productive as possible in the smallest amount of time, indicating an employer-oriented sentiment. Becker and Bish (2021) add to this sentiment and state that onboarding is crucial for maximizing the return on investment from hiring and ensuring new employees reach their full potential. It also helps newcomers to become productive more quickly. However, Caldwell and Peters (Caldwell & Peters, 2018) offer a more employee-oriented viewpoint and describe the goal of onboarding as socializing the new employee in the organization, focusing more on the experience of the employee instead of the advantages for the employer. Cable *et al.* (2013) agree with the employee-oriented viewpoint and add how it is a company's job to assist the employee in feeling part of the company, getting along with colleagues and more involved in their work.

2.1.5 Learning methods

As the aim of the pre-onboarding kit will be to inform starting employees about the organizational culture, it is valuable to understand different ways of adult learning. A learning style is the method by which individuals start to focus on, absorb, process, and retain new

and challenging information (Dunn & Dunn, 1993). In literature, three main adult learning techniques can be defined: visual, audio, and kinesthetic learners (Sprengrer, 2008). Visual learners tend to think in images. They often prefer to have information presented in written form, such as handouts, text, overheads, or PowerPoint slides. They find tools like maps, graphs, and charts particularly effective, and they remember information best when they can see it. Furthermore, visual learners are often engaged by images, demonstrations, and videos. Auditory learners typically learn best by listening. They usually prefer lectures, discussions, and reading aloud. These learners retain information most effectively through hearing or speaking it. Kinesthetic, or tactile, learners learn best through hands-on activities. They absorb information most effectively by touching, feeling, and experiencing what they are trying to learn. They remember best by writing or physically interacting with the material.

Research has shown how approximately 10 percent of what we see is retained, 30 to 40 percent of what we hear and see, and 90 percent of what we see, hear, and do (J. Baker, 2022). Although most people are capable of learning with all three learning methods, most people are the most proficient with one of these methods. Hence, it is suggested to offer different methods of learning when one is attempting to build a training program (Andreev, 2020).

2.2 State of the Art

Continuing the research of onboarding practices, the state of the art investigates current onboarding processes and tools which may be used remotely during the pre-onboarding process. The state of the art aims to formulate user requirements for the pre-onboarding kit which the current tools and practices do or do not cover.

2.2.1 Onboarding software

Multiple companies make use of onboarding software to guide new employees in the process. This software is either created by the company itself or bought from a company that specializes in onboarding. One such company is HiBob. The platform which HiBob provides offers a streamlined onboarding process that can start once the employee signs their contract. The application offers the opportunity for a remote (pre-)onboarding process, showcasing the company’s policies and culture.

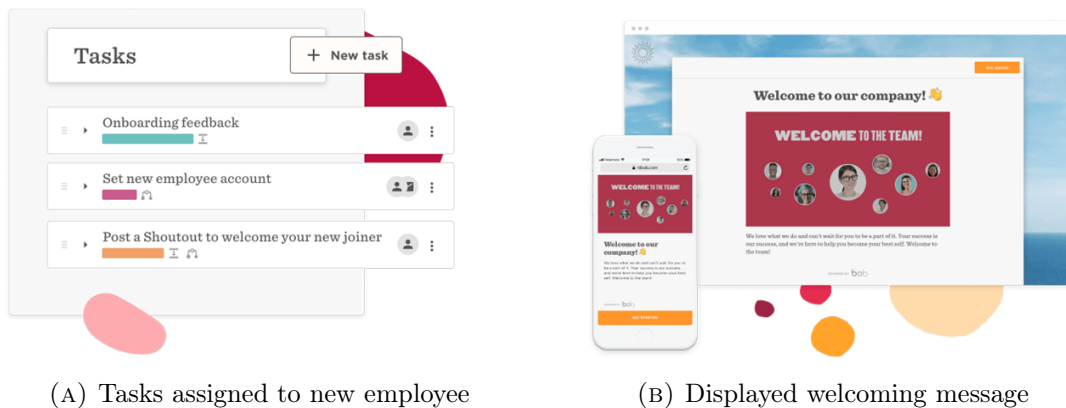


FIGURE 2.1: Images of HiBob’s onboarding platform

A software program like this offers a couple of benefits for both employer and employee. On the employer side, most of the work is fully or partially automated, decreasing the amount of effort and time needed when onboarding a new employee. Furthermore, the software enables the company to onboard people globally, removing the restriction of the employee's location. Taking this in mind, the employer can recruit their talent in a bigger talent pool.

On the employee's side, multiple advantages can be seen as well. The employee is provided flexibility regarding the location of the onboarding process, enabling the employee to process the information at their own pace and at their preferred time. Furthermore, this process will grant the employee a feeling of being welcomed in the office.

However, certain negative aspects can be found when looking at onboarding software. Firstly, when only using this software, it might be more difficult for the new employee to ask direct questions to colleagues. This may leave both a social and information gap after the onboarding process. Furthermore, software can only be personalized to a certain extent, which may leave the new employee feeling like a number in the software program instead of a valued colleague.

2.2.2 Welcome kit

To make the new employee feel more part of the team, companies often deliver a goody bag or welcome kit to the employee. This kit can be sent to the employee's home or it can be given during the first work week in the office. A good welcoming kit should be personalized, reflect the norms and values of the company, include practical items and it should take the work environment of the employee into account (Chellappa, 2023). Kits like this often include a welcoming message, paired with company accessories such as notepads, water bottles, and apparel.



FIGURE 2.2: Example of a welcome kit

Since the welcoming kit can be sent to the home address of the new employee, it is a nice way to welcome people even before their first day on the job. They can also be used to connect with fully remote workers. The goodies are convenient for the employee to receive, and additionally provide a bit of promotion for the company itself since their logo will be

visible in households or public spaces.

Although the goodies are nice items to receive, they often do not convey the cultural aspects of the company. Besides, a point can be made regarding sustainability. This kit might be sent a long way, only for the employee to receive some gadgets.

2.3 Expert interviews

To conclude the background research and to check whether the information gathered in the previous chapters is relevant in real-life scenarios, expert interviews were conducted with onboarding professionals. The two professionals were employed at two different companies, from now on referred to as Company X and Company Y. Company X is a medium-scaled software company, offering the opportunity of hybrid workplaces. Company Y is a large-scale food production company, with two different groups of employees. The first group is employed at the main office which offers a combination of hybrid and physical workplaces, whereas the second group is a group of voluntary employees stationed in different areas of the Netherlands working in the delivery sector. The interview questions can be found in Appendix A. Furthermore, the information brochure and consent form for these interviews may be found in Appendix B and C. The summarized results of the interview can be found below.

Despite the differences in scale, similarities could be found in the onboarding processes of both companies. Both companies used an onboarding buddy to mentor the new employee. This experienced colleague is responsible for helping out if necessary and is the link between the new employee and management. Apart from this, a buddy offers the new employee the opportunity to gain their first connection with a colleague within the organization.

When possible, both companies offered the onboarding process in a physical environment. The reasons for this were that it was more convenient (giving a tour, signing papers) and it felt more welcoming compared to digital onboarding. When digital contact was necessary, company Y chose mail contact for informational purposes (i.e. sending brochures and informational letters) while phone contact was used for more personal contact (i.e. setting up a meeting, discussing how their first day went).

When asked about the pre-onboarding period, both companies stated how they currently use this timeframe mainly for information exchange. Company X mainly focused on the administrative aspects, making sure that everything would be ready for the new employee on day one. Examples are managing the login credentials and a laptop. Aside from this, the company sends the new employee a welcome card to their home address to create a welcoming atmosphere even before the first work day. Company Y's pre-onboarding process differed per employee group. Remote workers received an e-mail with information about the company and requirements for the first work day such as licenses. After this, a digital conversation takes place where they can ask any additional questions about the information that was sent. Employees working in the physical office start the pre-onboarding with a trial day where they visit the company and work one shift. If it appears to be a match, more information will be provided via the mail.

Both experts showed a positive attitude towards the implementation of a remote onboarding kit during the pre-onboarding process, seeing it as a good addition to their existing process. When asked about requirements, both companies addressed the issue of sustainability, how a kit like this should not be something you use once and then throw away. Furthermore, company Y addressed how the onboarding kit should have the opportunity to be personalized depending on the employee or department where they are going

to work. This is to deliver useful information and to offer a more personalized experience.

To summarize, with the use of these interviews insight was given into the current onboarding processes of two different companies. Although the two companies differed in scale and market, the onboarding process was mostly similar. Important aspects included the use of an onboarding buddy, the preference for physical onboarding over digital, and the main purpose of the pre-onboarding phase currently being the exchange of information.

2.4 Conclusion and discussion

This background research consisted of three parts: a literature review, a state of the art, and expert interviews.

In the literature review, the definitions of onboarding and pre-onboarding were defined. When researching pre-onboarding, it was found that it is an important part of the onboarding process and comes with a lot of benefits for both the employer and the employee. Furthermore, four different onboarding frameworks were researched, investigated, and compared. From this comparison differences in three domains of onboarding could be found: the level of culture, personalization, and whether the framework leans towards an employee or employer-oriented viewpoint. These three differences can be used when making preliminary requirements for this graduation project later on. Furthermore, from these four onboarding frameworks, Bauers 4 C's (2015) was revealed to offer the main foundation for other frameworks. Because of this, it was decided to also use Bauers 4 C's as the main framework for the pre-onboarding kit. Finally, a small research on different adult learning techniques suggested three different main learning techniques: visual, audio and kinesthetic learning. When creating a training program, it is preferred to include all three of these techniques and possibly combine them to create better learning results and an inclusive learning experience.

In the state of the art, current projects inside and outside the scope of onboarding were researched. From this, a couple of use requirements can be formulated. Looking at onboarding software, it can be stated that a digital onboarding process should need as little human interference as possible, offering a smooth and flexible experience for the user. When offering remote onboarding, the company should offer a way of direct and easy communication with colleagues or supervisors to assist the new employee with any questions. Research on the welcoming kit/goody bag followed in the statement about how a physical kit is nice to receive on the employee's side, however, the company has to take into account that the contents are useful and convey the organization's culture. Furthermore, sustainability has to be taken into account when creating a physical kit.

Finally, the expert interviews offered insight into current onboarding practices and future possibilities. From this chapter, it can be concluded that pre-onboarding is currently mostly focused on information exchange, but a positive attitude was shown when discussing a remote pre-onboarding kit. The kit should be adjustable, either per employee or per department. Sustainability also should be taken into account.

Chapter 3

Methods and Techniques

The design process of the remote onboarding kit follows the Creative Technology design process by Mader and Eggink (2014). This design process combines different areas of expertise which have relevance to the Creative Technology design process. Firstly, influences are taken from Industrial Design, focusing on the human daily life. This human-centred design approach enables the product to be tailored toward the needs of the prospective user. Secondly, original engineering design principles are taken into account since the design process includes multiple stages of prototyping. Furthermore, the implementation of existing ICT technology and using this technology for a different purpose than intended is a field that is explored within this process. This model includes convergence and divergence, which can have multiple reiterations with the use of the spiraling method.

Apart from the Creative Technology design process, a second type of design method is implemented during this research: the participatory design method. When engaging in participatory design, the researcher works together closely with the most important stakeholders to create the designs and prototype (Luck, 2003). Input and feedback of said stakeholders are of much importance for the design process. In the case of this research, the client is considered a stakeholder which was included in the participatory design. The client offered input during meetings and had an influence on the final concept and its realization.

The Creative Technology design process can roughly be split up into four phases: ideation, specification, realisation, and evaluation. In this chapter, the four phases of the Creative Technology design method will be described in the context of this graduation project.

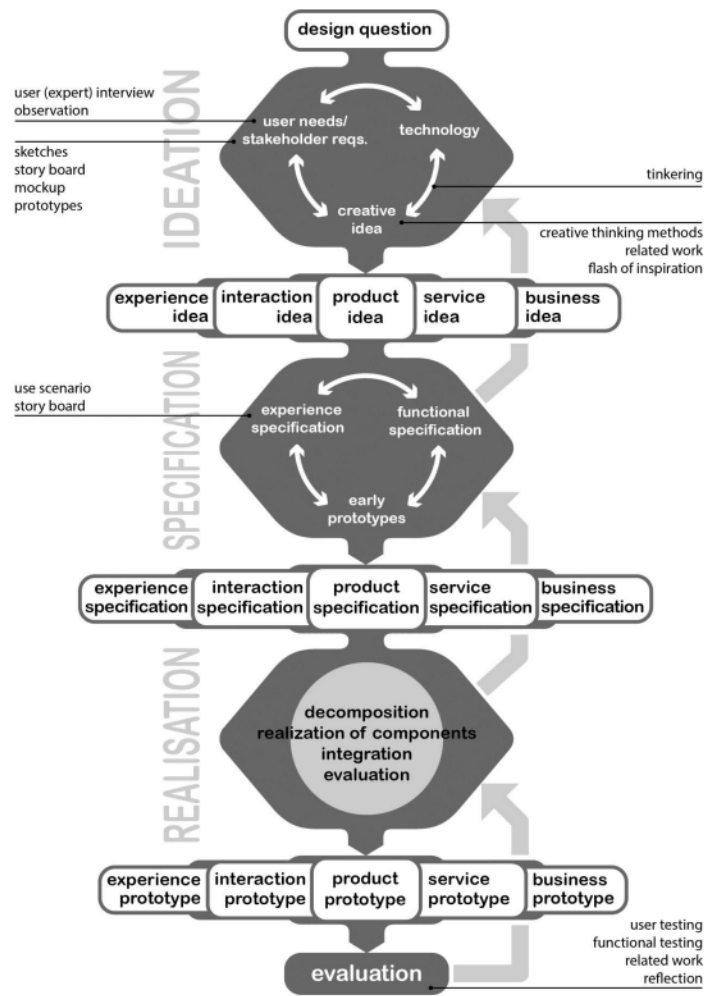


FIGURE 3.1: The Creative Technology design process

3.1 Ideation

The first part of the design process is called the ideation phase and starts with defining the design question. In this project, the design question is the main research question: "How can an onboarding kit be designed for the pre-onboarding phase to consider the level of connectivity and inclusivity of new remote employees in the organizational context?".

As can be seen in the figure, the ideation phase can start at three different stages. Since information had to be gathered regarding current onboarding operations within companies and the potential needs of companies when it comes to onboarding tools, the ideation phase of this project started with identifying user needs and stakeholder requirements. For this, expert interviews were conducted with professionals (5+ years of experience) in the field of onboarding. The interviews, combined with the background research and brainstorming, resulted in a list of stakeholders.

With the use of the salience model for stakeholder classification (Mitchell et al., 1997), the stakeholders were categorized with the help of three attributes:

- Power, having a direct influence on the organization
- Legitimacy, have appropriate involvement, i.e. morally or legally

- Urgency, the need is critical or important to the stakeholder

The stakeholders were then split up into different categories of stakeholders, these categories are identified in the image below:

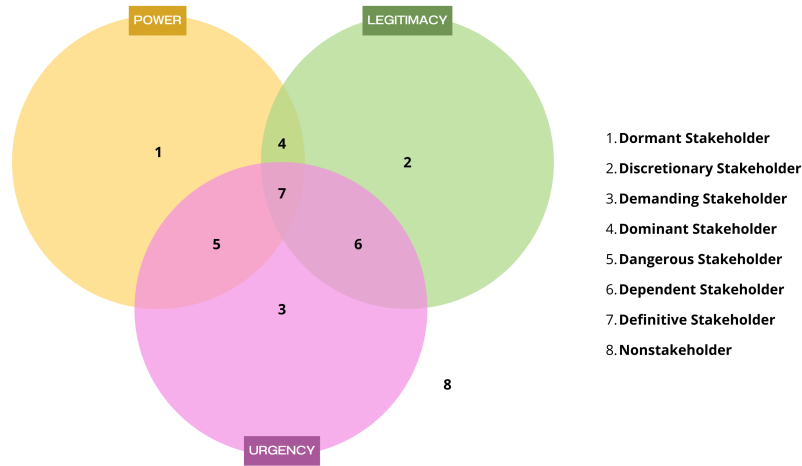


FIGURE 3.2: Salience Model

After the stakeholders were identified, the needs of the stakeholders were researched with the help of background research. This resulted in a preliminary list of requirements.

With this list of requirements set, the concept generation phase started. This phase was split up into two parts: concept generation of the process of using the kit and the concept generation for physical components of the kit. For the procedure of using the kit, storyboarding has been used. This technique offers a visual description that helps to communicate the designer's idea to people of all backgrounds (van Boeijen & Daalhuizen, 2010). For the concept generation for the physical components, mindmapping was used to generate the first initial ideas. The mindmapping technique is often used at the beginning of the design process and helps the designer to create solutions for the problem and make connections between them (van Boeijen & Daalhuizen, 2010). For the mindmapping, four starting points were created. These four points matched with the four C's of onboarding, as described by Bauer (2015). The four C's represented four challenges, namely "how to include (culture, clarification, connection, compliance) in the pre-onboarding kit". From these challenges, ideas emerged which could be linked to one or multiple C's.

After the concept generation was finalized, nine ideas remained. After discussions with the client and supervisor, it was decided to focus on conveying culture and connection. Three ideas were selected which will be specified during the specification phase.

3.2 Specification

The second part of the design process, specification, aims to create a final list of requirements. For this, multiple approaches were used. Firstly, personas were created. Personas are made-up characters that symbolize users and other stakeholders (Dam & Siang, 2024). Personas enable the designer to step outside of their role and look at the other stakeholder's needs in certain scenarios. With the help of the personas, an interactive scenario has been created between different personas.

After the persona creation, the different components of the kit were specified. Since the kit consists of three components and also has a general process, it was decided to split up the specification with the use of these four sub-chapters. To visualize the different processes and interactions that take place between the user and the kit, two approaches were used. Firstly, storyboarding was used since it is a way to convey ideas regarding the component's processes visually and aesthetically. Furthermore, a more abstract approach was used with the help of time sequence diagrams. These diagrams specifically focus on the interaction between different components in a process (Massimo, 2010). Since the onboarding kit consists of multiple components that have to interact with both the user and the onboarding software, time sequence diagrams were deemed useful.

Finally, all the information gathered in the specification phase combined with client interviews and background research resulted in the creation of functional and non-functional requirements. Where functional requirements center around how a system must work, non-functional requirements focus on how the system should perform. As the different components of the kit have different requirements, it was chosen to split up the requirements accordingly.

3.3 Realisation

In the realisation phase, the aim is to create a finished and final product. For this, the functional and non-functional requirements were used which were defined in the specification chapter. As the kit consists of multiple components, all components were designed and constructed separately. Finally, with the aid of the onboarding website, the components were combined in order to create one coherent experience: the first prototype of the pre-onboarding kit.

After the prototype was finished, it was checked whether the functional requirements were met or not. If a requirement was not met, this was addressed and explained.

3.4 Evaluation

In the evaluation phase, both functional and non-functional requirements were evaluated with the aim of improving the product and offering possibilities for future research. Before the evaluation, the participants received an information brochure and consent form to ensure they were aware of the purposes and aims of the evaluation. During the evaluation, participants interacted with the kit and afterward took part in a semi-structured interview. A semi-structured interview is a qualitative research technique employed to explore the respondent's emotions and opinions regarding specific subjects ((Kallio, Pietilä, Johnson, & Kangasniemi, 2016)). After the interview, the participants filled in a survey to gather quantitative data. This survey mainly consisted of questions that made use of the Likert-type rating scale, a scale of measurement that is often used to measure the participant's attitude ranging from, for example, 'very much agree' to 'very much disagree'. Apart from

these questions, open-ended questions were used to offer the participant to possibility to elaborate on their answers. With the help of the results of the evaluation, it was checked whether the non-functional requirements were met or not. (Jamieson, 2004).

Chapter 4

Ideation

The aim of the ideation phase is to generate useful product information and context for the onboarding kit, which can be used during the specification phase. Firstly, stakeholders of the onboarding kit will be identified and categorized with the help of a stakeholder analysis. This is done to assess the needs and requirements of all different stakeholders. With this information, a preliminary list of requirements will be constructed. Finally, various component ideas for the kit will be described through concept generation. Ultimately, the final concept of the kit will be selected.

4.1 Stakeholder analysis

Within the onboarding process of a company, multiple people and parties have an active involvement. Because of this, it is important to conduct a thorough stakeholder analysis and identification. For this project report, the salience model for stakeholder classification (Mitchell et al., 1997) will be used.

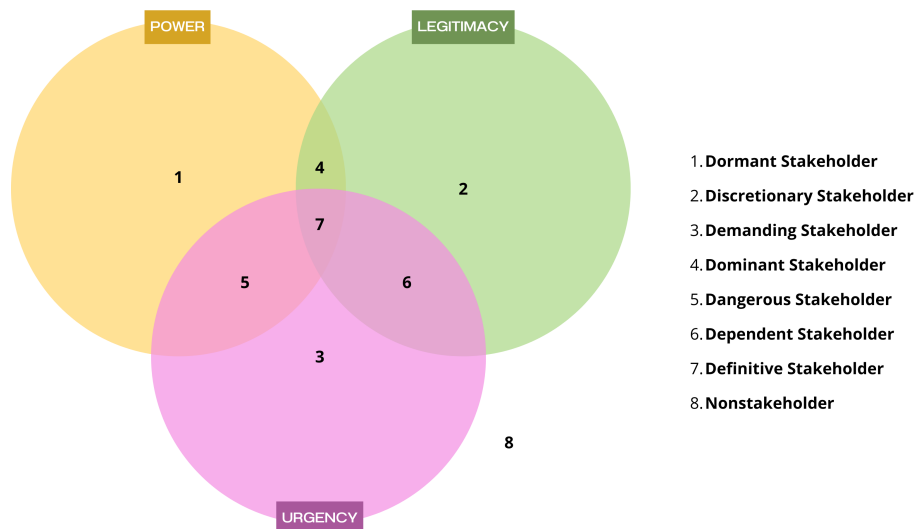


FIGURE 4.1: Stakeholder Salience Model

4.1.1 Starting employees

The users of the pre-onboarding kit will be employees who are about to start their new job. The design will mainly be centered around this group, following the user-centred design approach. Following this approach, as the design is focused on the user's needs, starting employees can be seen as the most important stakeholder group. The urgency of new employees is high since they will be the ones using the final product. The new employees will have the urgent need to be informed about their job and the company's culture, to feel part of the team, and to get started as soon as possible. The influence of the employees is legitimate since they are the end users of the product. Finally, the starting employees have a lot of power. The onboarding kit will be tailored towards the wants and needs of the user, granting this group power. Furthermore, their feedback will be valuable in the evaluation stage to adapt and improve the kit in any way that enhances the experience for the starting employee. Considering these factors, this group can be seen as a definitive stakeholder.

4.1.2 Ecare

Ecare is a medical software company and an important stakeholder in this project. The company is considered as the client of this project, playing an advisory role during multiple stages of the project. The company previously participated in the expert interviews (in chapter 2.3 called company X) and later on, it was decided how the company wanted to play a more active role in the project.

Multiple people within this company are responsible for the onboarding process, i.e. the management, onboarding responsible, and the logistics department. As Ecare is continuously trying to improve its onboarding process, the urgency for the pre-onboarding kit is high. Furthermore, their influence is legitimate as the researcher specifically requests their involvement to provide expert insights. Finally, this stakeholder has limited power over this project. as the company does not have a definitive say in the design process. However, they do have the power to influence or adjust certain parts of the pre-onboarding kit. Considering these factors, Ecare can be considered a definitive stakeholder.

4.1.3 University of Twente

The researcher of this project is a student at the University of Twente (hereafter referred to as UT) and thus this institute can be considered a stakeholder. The UT deploys supervisors and graders which will finally conclude whether the design has met the given requirements, which causes the UT's influence in this project to be legitimate. This also means that this stakeholder holds a lot of power, as supervisors have the opportunity to influence or remove certain parts of this project if not considered appropriate or valuable. Finally, the urgency of this project for the stakeholder is low, as the stakeholder is not directly influenced by the creation or the pre-onboarding kit. The responsibility of a successful project does not lie with this stakeholder, but rather with the researcher. This puts them in the dominant stakeholder group.

4.1.4 Researcher

Finally, the researcher is a stakeholder in this project. The researcher of the pre-onboarding kit is responsible for listening to fellow stakeholders, implementing feedback, and coming up with ideas for themselves. Their influence is legitimate as this project is under the researcher's supervision. This stakeholder is the end responsible for a finalized prototype.

Also, urgency is a factor that scores high for this stakeholder. The researcher has the urgent need to create a successful project that meets the criteria of the different stakeholders. Finally, the researcher can be granted power to some extent, but it is rather low compared to other stakeholders. The researcher is the bridge between different stakeholders and should thus listen to their requirements and needs. This may cause the researcher's power to be often overruled, especially when the researcher's requirements clash with the user group's needs. The combination of these three variables puts this stakeholder in the dependent stakeholder category.

4.1.5 Results

In conclusion, four stakeholders have been identified and analyzed. From these four, the starting employees are considered the main stakeholder group as they are the end users of the product. The design will mostly be tailored towards their needs and requests as this project follows a user-centered design approach. The second most important stakeholder is the company Ecare, as their experience with onboarding processes can grant valuable additions to the onboarding kit. Furthermore, following the needs of the company will ensure a balance between employee-oriented and employer-oriented aspects of the kit. Other stakeholders which are considered less important are the University of Twente and the researcher. Where the University of Twente lacks the urgency in this project, the researcher lacks the power to overrule other stakeholders. This analysis resulted in the following diagram:

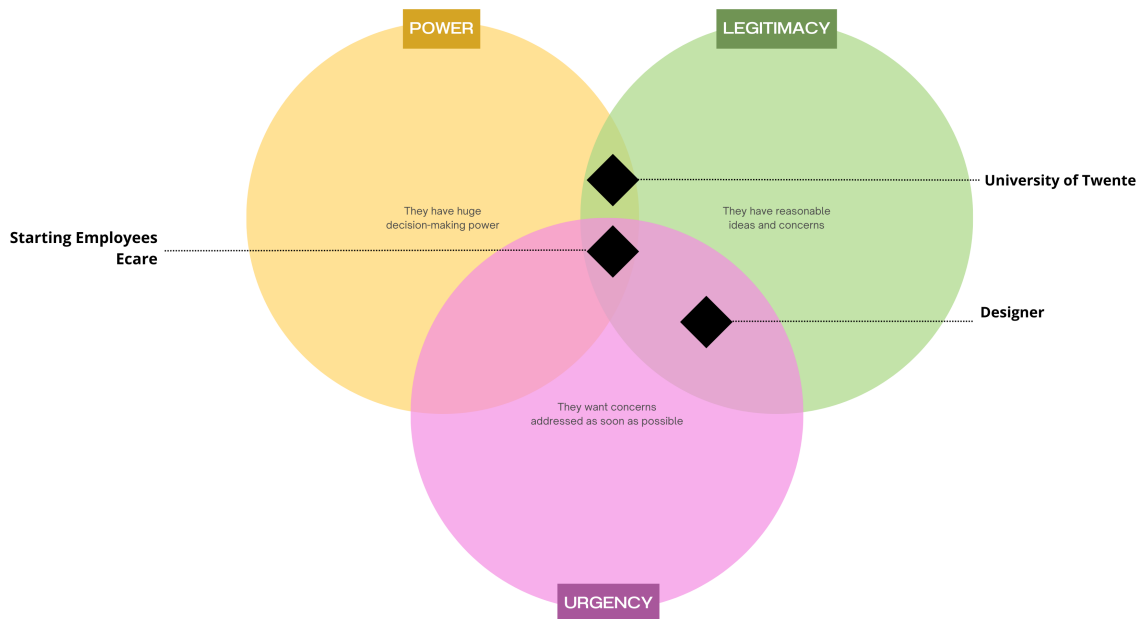


FIGURE 4.2: Stakeholders of Pre-Onboarding Kit

4.2 List of preliminary requirements

Apart from the identification of the stakeholders, it is also important to identify their needs. This is done with the help of chapter 2, which mainly focuses on thorough background research and interviews with onboarding experts. The preliminary requirements that followed from this process can be found in table 4.1.

Requirement no.	Requirement	Source
1	The kit should convey the organizational culture, but not press it on the employee	Background research
2	The kit should create a first connection between the starting employee and other colleagues	Background research, expert interviews/client
3	The kit should both be employee-oriented and employer-oriented	Background research
4	The kit should have the opportunity for a personalized onboarding experience	Background research, expert interviews/stakeholder
5	The kit should not need any human interference once received by the employee	Background research
6	While using the kit, the user should be able to reach out to an employee or onboarding expert if something is unclear	Background research
7	The design of the kit should take sustainability in mind	Background research, expert interviews/stakeholder

TABLE 4.1: Set of preliminary requirements

4.3 Concept generation

With the stakeholders identified and their (preliminary) needs described, the next step in the ideation process is concept generation. The concept generation can be split up into two parts. The first part entails the generation of ideas for the general workings of the kit. This involves the procedure of using the kit and software-based assistance. During the second part, multiple ideas are generated for the physical components of the pre-onboarding kit.

4.3.1 Pre-onboarding kit procedure

When offering a remote onboarding experience, detailed planning for all the parts of the process is required (Kim, 2023). Furthermore, one of the preliminary requirements states that the kit should not need any human interference once received by the employee. Taking this in mind, the procedure of the pre-onboarding kit should be well-designed in such a way that it is a user-friendly process, starting upon the arrival of the kit. Additionally, clear instructions should be provided to ensure that the user is not struggling with interacting with the components. For this, a storyboard has been created to visualize the interactions between the onboarding kit and the user.

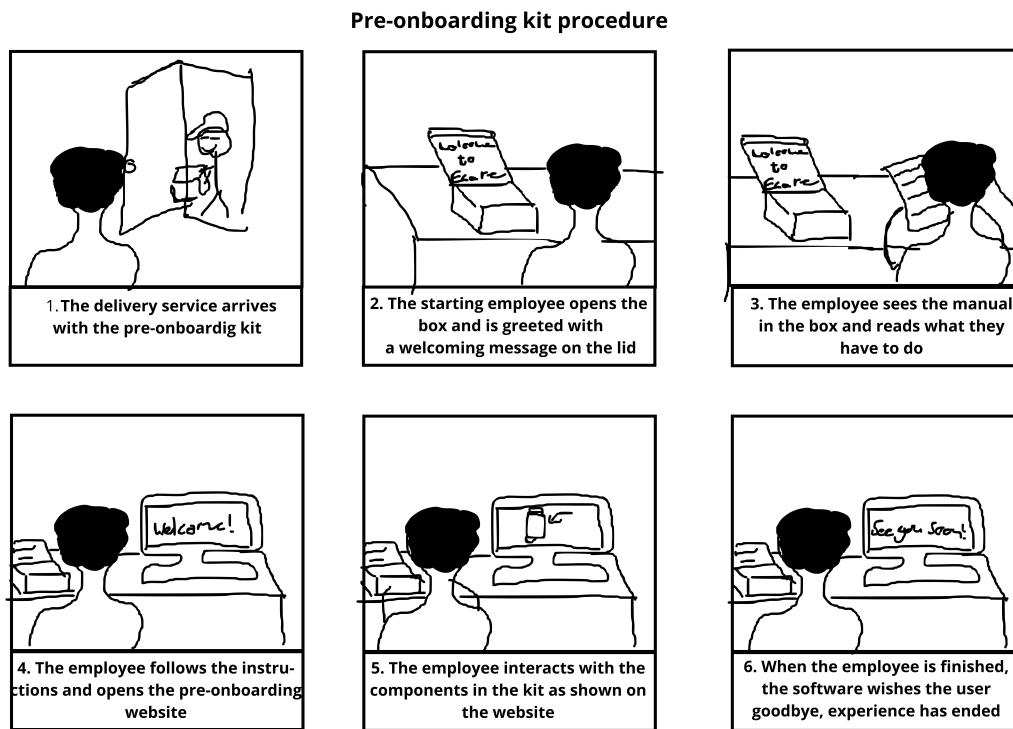


FIGURE 4.3: Storyboard of interaction with pre-onboarding kit

4.3.2 Physical components

The onboarding kit will finally consist of multiple components, which are all part of the pre-onboarding experience. To gather diverse and creative ideas, mindmapping was used to come up with a set of ideas. This mindmapping took place in two different sessions where the researcher tried to come up with several ideas for covering all the 4 C's of onboarding: compliance, clarification, culture, and connection. Below, the mindmaps can be found of the two different sessions:

In the following sub-chapters, the ideas generated during the brainstorming sessions are described and supported with visuals.

Card holder with business cards

Links to: Connection, Culture

During the first day of work, a starting employee will encounter a lot of new faces. To already get acquainted with some of the important people within the association, the pre-onboarding kit could include a cardholder (company logo embedded) with scannable business cards. When the card is scanned with an NFC scanner, the user is directed to an introduction video of the corresponding colleague. The business cards present in the cardholder could be personalized, where i.e. a software programmer would receive the business cards of the 'big boss', the software manager, the onboarding buddy, and a fellow software programmer. The aim would be to show faces in advance of people who will be of importance during the employee's first work day and their career within this company. Furthermore, it helps with creating a first step of getting to know colleagues and fastening the trajectory of befriending colleagues. The cardholder could later be used by the employee as a regular-use item.

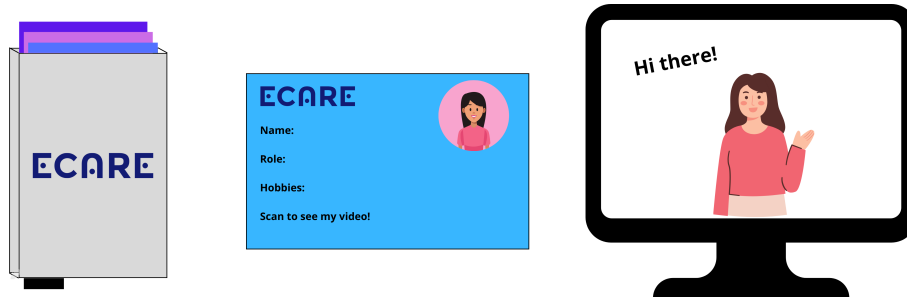


FIGURE 4.5: Concept 1: card holder with scannable business cards

Agenda

Links to: Clarification

A physical agenda (company logo embedded) which can be used to plan the first working day and potentially the first week or month. An NFC chip / QR code on the agenda brings the new employee to their personalized to-do board, where multiple tasks are already set up. Examples are planning meetings with certain people and mailing colleagues (i.e. their onboarding buddy). This way, employees have the feeling of being (partly) in charge of their onboarding process.



FIGURE 4.6: Concept 2: agenda with personalized to-do board for first week

VR headset with immersive video

Links to: Culture

A cardboard VR headset that can be used to play an immersive video. The content of this video is related to the company culture, for example, giving a tour of the office, showing the norms and values of companies, and playing scenarios where users can choose certain outcomes.

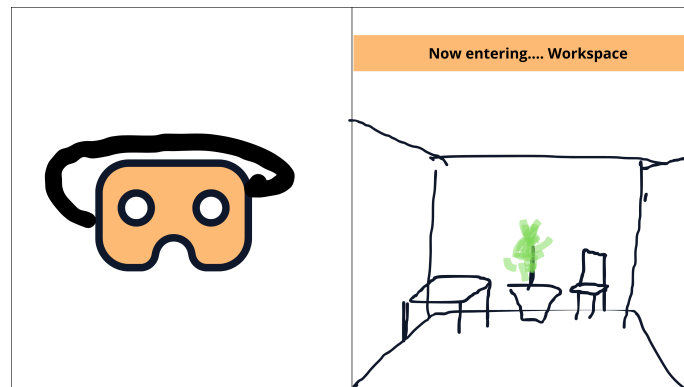


FIGURE 4.7: Concept 3: VR headset with immersive video

Multi-funtional lamp

Links to: Culture, Connection

A programmable lamp, with the company logo engraved into it. This lamp could have multiple functions, based on where you deploy it and for what purpose. Examples could be regular lighting, a Pomodoro timer which can be set to the user's preference of work-break division (purple hue when working, green hue when it is time for a break), indication of when the regular break time/end of work day is getting near or to indicate whether you are occupied or not (red = don't want to be disturbed, yellow = working, open for questions but no conversation and green = approachable to chat and answer questions). This concept can be linked to connection (addressing connections between colleagues) and culture (how would people in the company like to be approached, fitting in with the company culture, also knowing if they can approach their onboarding buddy or whether they are occupied).



FIGURE 4.8: Concept 4: interactive lamp with multiple stages

Culture puzzle

Links to: Culture

A gamified way of learning the organizational culture. This component consists of a jigsaw puzzle, which can take the form of i.e. the office, an animated scene, or the company logo. As the user advances with the puzzle, the picture is revealed to be an escape room of a sort, where the starting employee learns about the company's norms and values both through visuals (the picture on the jigsaw puzzle) and solving puzzles.

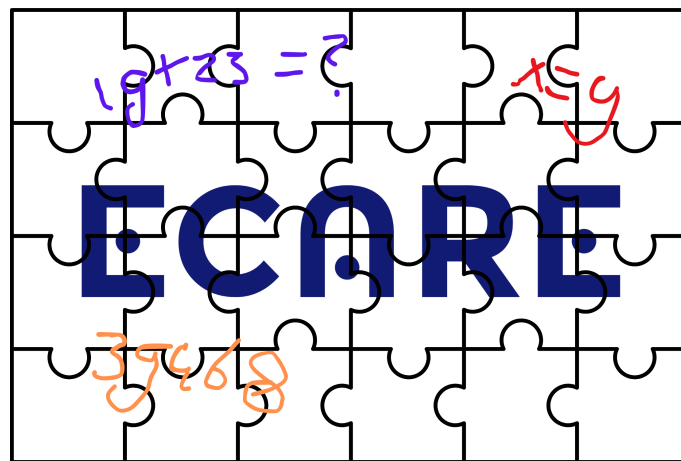


FIGURE 4.9: Concept 5: escape puzzle of the company

Smart coffee cup and coaster

Links to: Connection

This product is mainly focused on improving the connection between remote workers and people working in the office. It can be deployed in the first week and also used later on. The smart coffee cup aims to enable interaction between the two groups of workers during break time. If the coffee cup is taken from the coaster for a long period of time, the system will ask the user (in this case a remote worker) whether they would like to approach employees. If this is the case, other employees currently on a break are contacted. This way, all employees can contact each other during break times while enjoying a beverage together, enabling so-called 'digital coffee machine talks'. As a bonus addition, the coaster might include a heating element that keeps the beverage warm.

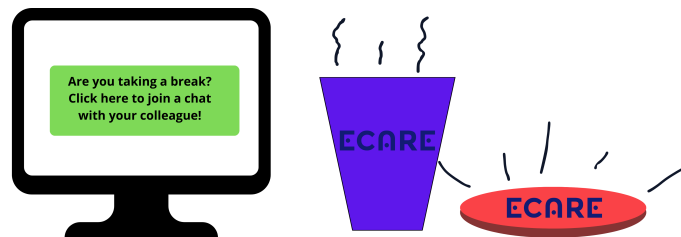


FIGURE 4.10: Concept 6: smart coaster to enhance hybrid interaction

Assignment creator

Links to: Clarification, Connection

When starting a new job, employees will look for guidelines. What projects have previously been done by the company? Which projects can you expect? In the pre-onboarding kit, examples of previous projects of the company could be included. After looking at these, an assignment will be given to the starting employee to create their own assignment. Physical components such as LEGO pieces, a notepad, or other building materials are supplied. After finishing the task, the employee can keep the 'prototype' as a nice icebreaker for conversations during the first work week or as a fun accessory to put on their desk.

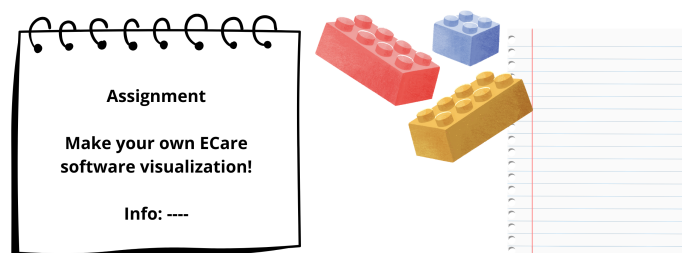


FIGURE 4.11: Concept 7: visual assignment creator

Paperwork buddy

Links to: Compliance

This software-based addition to the onboarding kit is focused on reducing the time spent during the first day on reading and signing paperwork. It offers companies the possibility to already let employees sign papers online, or do it physically. In the latter case, the paperwork buddy advises the employee what to bring to their first work day to sign the papers (ID, bank details, etc.). Also, papers can already be shown to the employee so that they do not have to read all of them on the first day itself. This idea can be physicalized in the kit by i.e. having a cartoon paperclip figure which is a representation of the online buddy.



FIGURE 4.12: Concept 8: paperwork buddy

Policy handbook

Links to: Compliance

When the new employee starts with their job, there are often multiple rules and regulations to which they have to adhere. To prepare the employee for this, a policy handbook/brochure can be sent along with the pre-onboarding kit. To make it interactive, the kit could include a quiz-like element where the user is being tested on their knowledge regarding the policies of the company. Possible privacy training could be included in this element of the kit as well.



FIGURE 4.13: Concept 9: gamified policy handbook

Overview

The nine ideas presented all correlate with one or two C's from Bauer's framework. To have a clear overview of all ideas, a Venn diagram is used which can be found below:

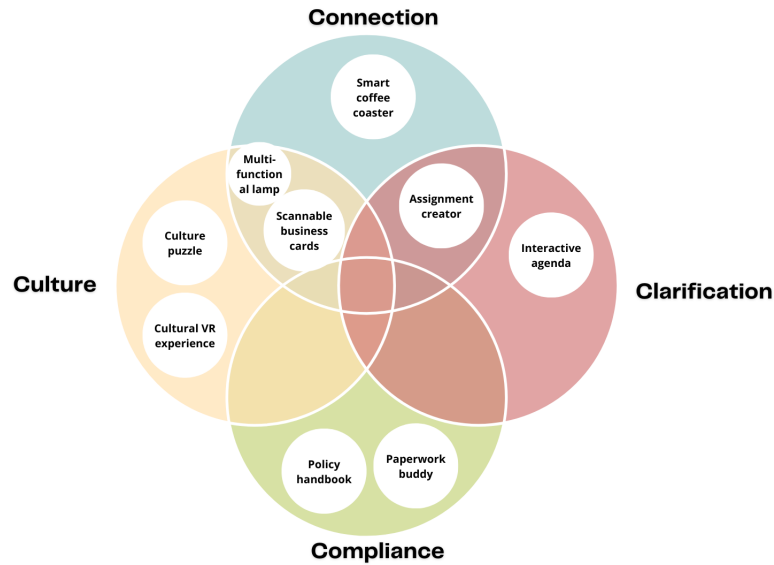


FIGURE 4.14: Venn diagram of concept generation

4.3.3 Chosen concepts

To make the final selection for the conceptual design, the researcher had discussions with both the client and supervisors. During the meeting with the client, it was concluded that the client preferred the ideas which conveyed the connection and culture aspects rather than the ones regarding compliance and clarification. Therefore, it was decided that the pre-onboarding kit would mainly focus on conveying the culture of a company and the connections between colleagues. Concepts that did not convey this message were eliminated. With the help of the supervisors, it was decided to combine three of the previously mentioned concepts to create the pre-onboarding kit: the cardholder with business cards, the VR headset with an immersive video, and the culture puzzle.

4.3.4 Final concept

The pre-onboarding kit will be a physical box delivered to the new employee's home. This onboarding kit will consist of four components: the explanation of the kit, a cardholder with (scannable) business cards, a cardboard VR headset with an immersive video, and a cultural jigsaw puzzle.

The explanation will lead the user to a software program, where they can follow the steps given. The user will interact with each component accordingly, which will ensure a consistent yet personalized experience for all starting employees.

Chapter 5

Specification

In the specification phase, the final concept discussed in the ideation chapter is elaborated more extensively, with the final aim to formulate functional and non-functional requirements. Firstly, persona creation is used to gather insight into the needs and wants of important stakeholders. Secondly, as the kit consists of multiple components that work separately, every component will be discussed in detail in different sub-chapters. The interaction with the components will be supported by using storyboards and time sequence diagrams, and the specification of the components is mainly supported by the client's feedback, next to using background research. Finally, all the information in the specification chapter is used to create functional and non-functional requirements.

5.1 Persona creation

To better understand the most important stakeholders of this project, two personas were created. The personas visualize the two important stakeholders: the users of the pre-onboarding kit (employees) and the client of this project (employers). The information which these personas are based on is related to background research, expert interviews, and client insights.

5.1.1 Persona 1: Employee

In the first persona, the user of the product will be discussed. A starting employee will have little to no knowledge about the new company's work environment and the culture surrounding it. This means the employee will have to learn a lot and possibly unlearn certain habits as well due to prior work experiences. In the pre-onboarding phase, an employee likely has mixed emotions regarding the first week, ranging from excitement to anxiety.

For this stakeholder group, the persona of Alexandra has been created. She is a software developer about to start her job at a new company. After having a difficult time with her previous work environment, she is looking for a company that suits her norms and values. However, due to previous experiences, she is mistrusting of current company culture systems. Although introverted, she is set to excel in her new role and make strong connections with her colleagues.

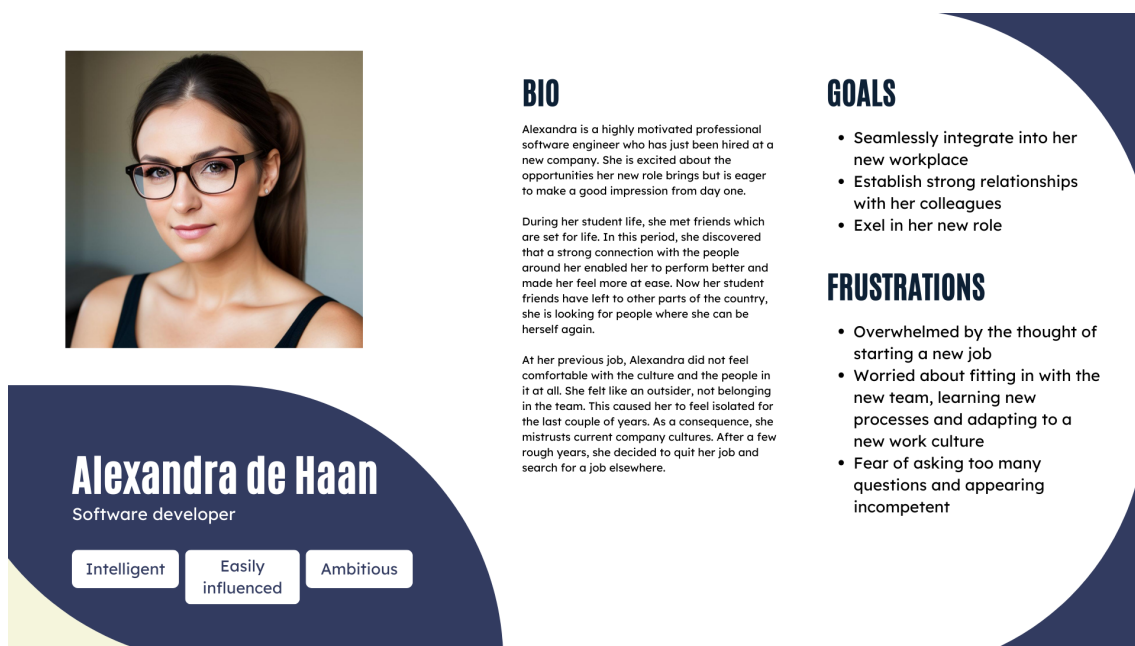


FIGURE 5.1: Persona 1: Alexandra de Haan, software developer

5.1.2 Persona 2: Employer

Next to employees, employers are important stakeholders as well. Employers constantly look for ways to retain their employees, as the selection and acquisition process is often very costly. Apart from costs, most employers want to look out for their employee's well-being and connection with the company from an emphatic perspective. Employers are protective of the company culture that they are a part of or started up.

To picture this, the persona of Emily Willems is created. Emily is the CEO and founder of a tech company. It is important for her to correctly convey the company culture to starting employees, as the culture has a lot of sentimental value to her. Furthermore, as she has an emphatic character, she cares about her employees and how they feel within the company. Although she thinks it is important to find ways to correctly convey culture and make a foundation for good connections within the company, she also has to take the costs into mind.



FIGURE 5.2: Persona 2: Emily Willems, CEO

5.1.3 Interaction scenario

To ensure the product will function properly in a real-time setting, the personas discussed above are used to create an interactive scenario between the personas and the product. Since the pre-onboarding kit is used by the starting employee alone, this interaction scenario also stretches to the first work day of the employee. To indicate the time switch, a color indication is used. The green text takes place during interaction with the kit, whereas the red text takes place during the first work day of the employee.

1. Alexandra is at home when the doorbell rings. She opens the door and receives a package from the postal service. Upon opening the package, she discovers it is a welcoming package from her new job.
2. She reads the instructions and a welcoming note from the founder, Emily. She feels welcomed already thanks to the personalized card and gesture.
3. Alexandra follows the instructions and opens the onboarding software on her computer, which guides her through the different steps of the pre-onboarding kit.
4. Alexandra interacts with the cardholder, which slides open when she pushes the button. She sees different colleagues depicted on the cards and links the name of Emily to the woman who wrote the welcoming note she read before. Alexandra scans all the cards that have a QR code and watches the videos that pop up. This way, she learns about the interests and functions of different colleagues she will be interacting with during her employment at her future job.
5. After interacting with the cardholder, Alexandra is instructed to watch a VR video of the company culture. She puts on the headset, slides her phone into the slot, and watches the video. She sees scenes of the office, colleagues (some she already knows thanks to the cardholder), and fun activities that they attend such as karaoke evenings and eating lunch together. She recognizes certain norms and values that

are shown in the video and is glad to see how these match with her own. After the video has ended, Alexandra takes off the headset and heads back to the website for further instructions.

6. Finally, Alexandra opens the culture puzzle package. As she enjoys puzzling, she decides to complete the puzzle. After successfully finishing the puzzle, Alexandra notices small hints and clues hidden within certain parts of the puzzle. After looking at the website, she discovers that she needs to use the clues to solve certain questions. When answering these one by one, she encounters small pieces of organizational culture. She now sees how the pictures on the puzzle symbolize certain cultural values which the company adheres to.
7. After having interacted with the cardholder, VR set, and puzzle Alexandra is relieved. The organizational culture seems to match her expectations. Her norms and values align with the ones shown in the puzzle and VR movie. Also, the people introduced to her by using the cardholder seemed to match her personality. Although still a bit nervous, she is also excited about her first work day. She stores the kit and uses the cardholder for personal use.
8. Fast forward to Alexandra's first work day, where she approaches the onboarding responsible. As she is already aware of how the onboarding responsible looks, it is easy to track her down and start a conversation.
9. The onboarding responsible shows Alexandra around, confirming the organizational culture she saw in the video and when interacting with the puzzle. Because she already knows the cultural foundation, it is easier for her to ask more in-depth questions. This causes the onboarding responsible to feel impressed by all the knowledge Alexandra has already obtained.
10. In the break, Alexandra meets up with Emily, who is happy to have a chat with her. Together they can bond over their shared interest in crochet, which Alexandra remembered from the cardholder experience.
11. After her first work day Alexandra heads home, excited about what tomorrow will bring.

5.2 Specialization: General kit

The general procedure of working with the kit has been explained in the ideation chapter, see Figure 4.3.

5.2.1 Time sequence diagram

To visualize the activities taking place when interacting with the pre-onboarding kit in a different way, a time sequence diagram was created. This can be found below in Figure 5.3. In the diagram, it can be seen that there are three main responders in this process: the starting employee, the pre-onboarding kit, and the onboarding software. The process is repetitive, as the general process is quite similar despite the different components within the kit. The onboarding software is there mainly for informational purposes and can thus be seen as an external factor.

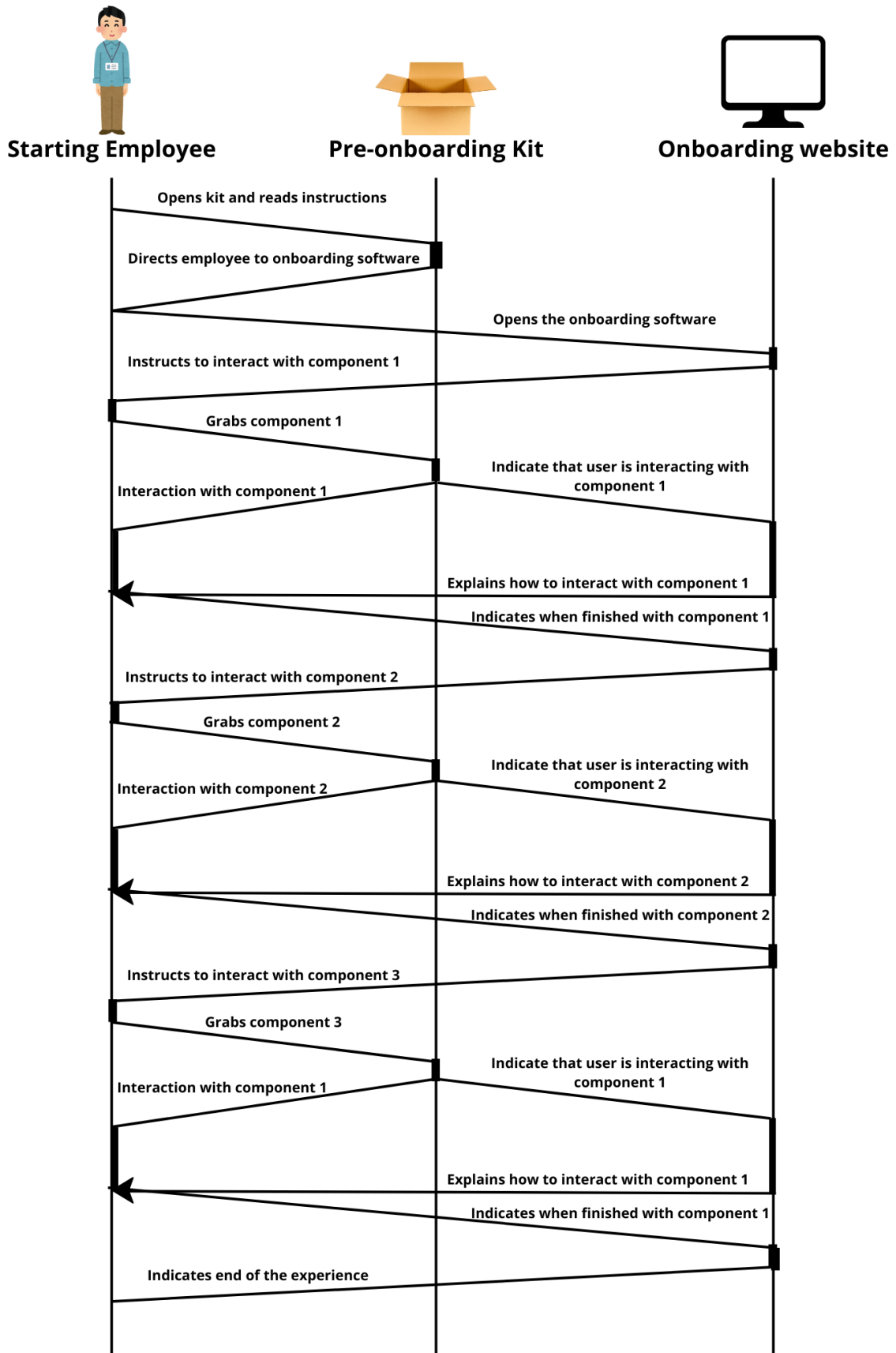


FIGURE 5.3: Time Sequence Diagram

5.3 Specialization: Onboarding website

To streamline the pre-onboarding process, the kit is linked to an onboarding website. On this website, the user will find instructions for the different components of the kit. Next to this, the website may be used for other purposes, i.e. filling in a survey or making contact with a colleague. As the onboarding website is included in the other sub-chapters, no time sequence diagrams or storyboards are provided in this sub-chapter.

5.4 Specialization: Personalized card holder

The first component discussed is the personalized card holder. When discussing this product with the client, it was concluded how it would be costly and time-intensive to record videos of everyone in the office. Therefore, it was decided that it should also be possible to have a business card of someone without a scannable QR code. The standard business card will still be scannable and will direct the user to an introductory video. This difference can be seen in the storyboard, depicted in Figure 5.4. Furthermore, it was decided to add the interaction with the smartphone to the process, as it is more user-friendly to let the user use their phone instead of i.e. scanning the QR code with a laptop camera or sending an NFC scanner with the pre-onboarding kit. This means that the instructions would have to include the notion that you need your smartphone for certain interactions with the kit.

Card holder procedure

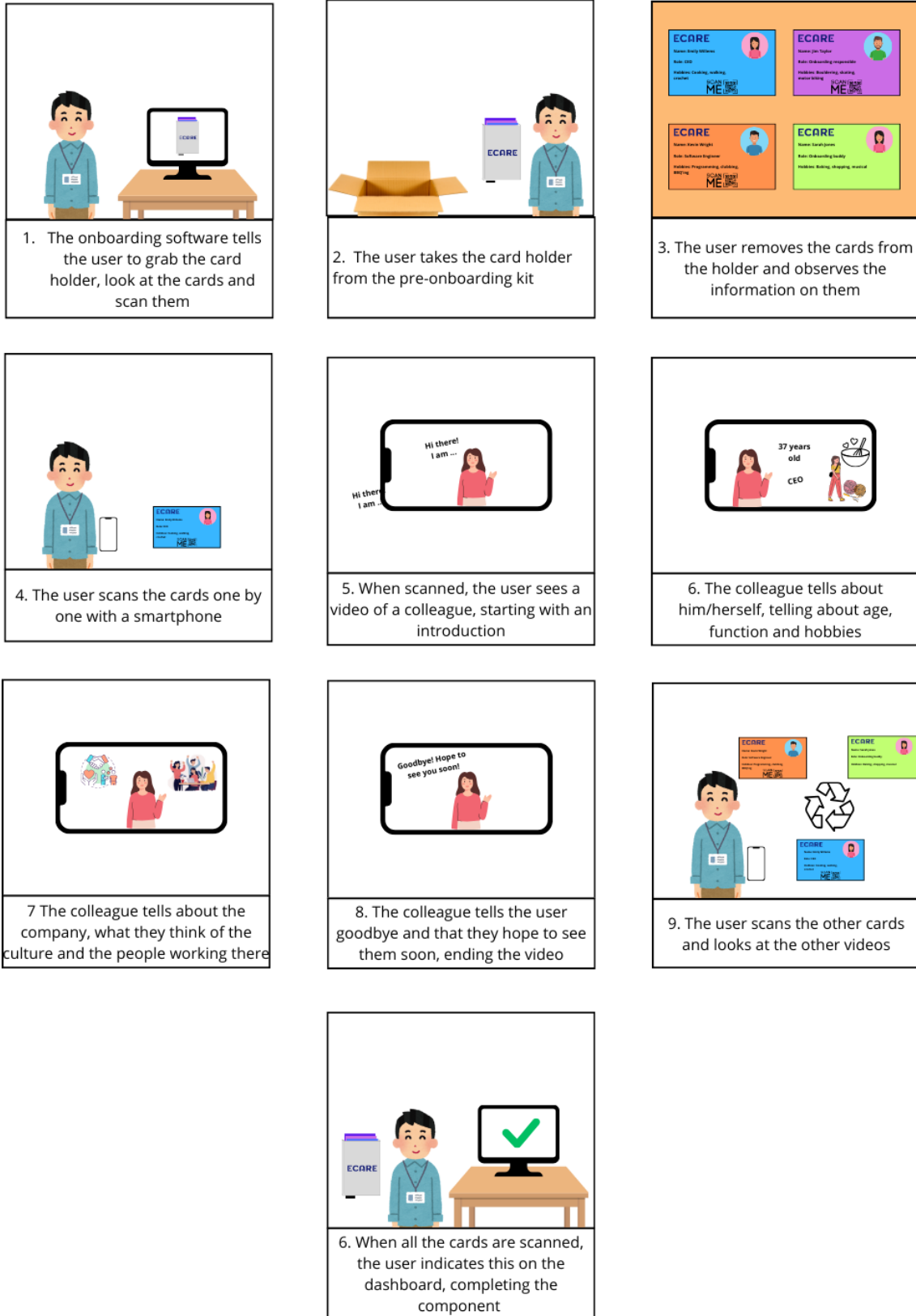


FIGURE 5.4: Storyboard for personalized card holder

Furthermore, a time sequence diagram has been created for the interaction with the cardholder. The diagram shows how this component includes a repetitive component, namely the scanning of the cards. Both the onboarding software and the smartphone can be considered external factors, as the software merely indicates how to use the product, and the smartphone is used to scan QR codes. The time sequence diagram can be seen in Figure 5.5.

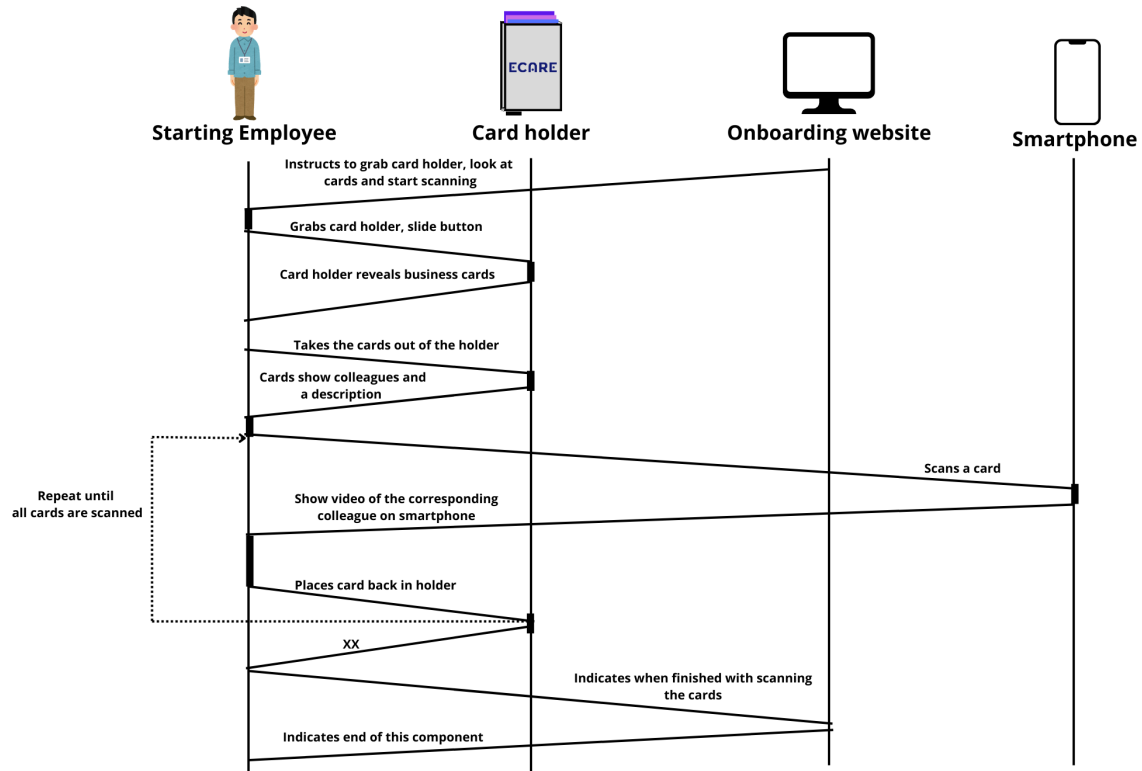


FIGURE 5.5: Time sequence diagram for personalized card holder

5.5 Specialization: Cultural VR experience

The second component discussed is the cardboard VR headset. This component will show a VR experience concerning the culture of a company. For the client, it was important that not only the organizational culture during company hours is shown, but also what happens outside of the regular work day. Therefore, it was agreed upon how the VR experience would show the day in the life of an employee, ranging from interactions in the office to events before, in between, or after office hours. This can also be linked to background research, where it is stated how organizational culture should be introduced to the employee, but not forced upon them. Thus, the VR experience should not include any way of forcing the culture upon the viewer, making them feel like they have to abide by this standard. Lastly, it is known how VR can have nauseating effects on people using it (Saredakis et al., 2020). To avoid people having a negative experience with the kit, it should allow the user to not use the headset, but watch the video in a regular setting as well. This step is part of the third part of the VR storyboard, depicted in Figure 5.6.

VR experience procedure

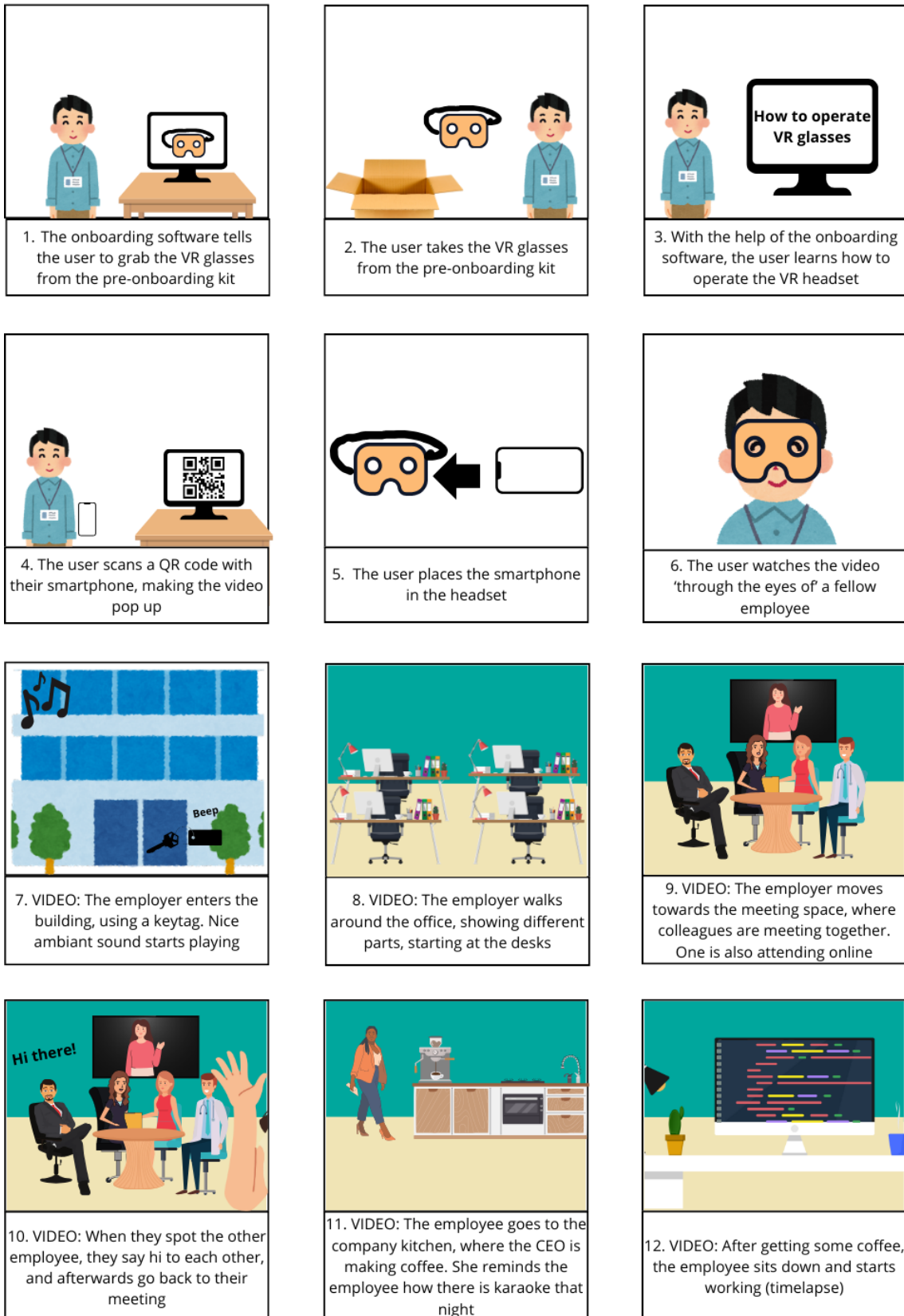


FIGURE 5.6: Time sequence diagram for VR organizational culture experience

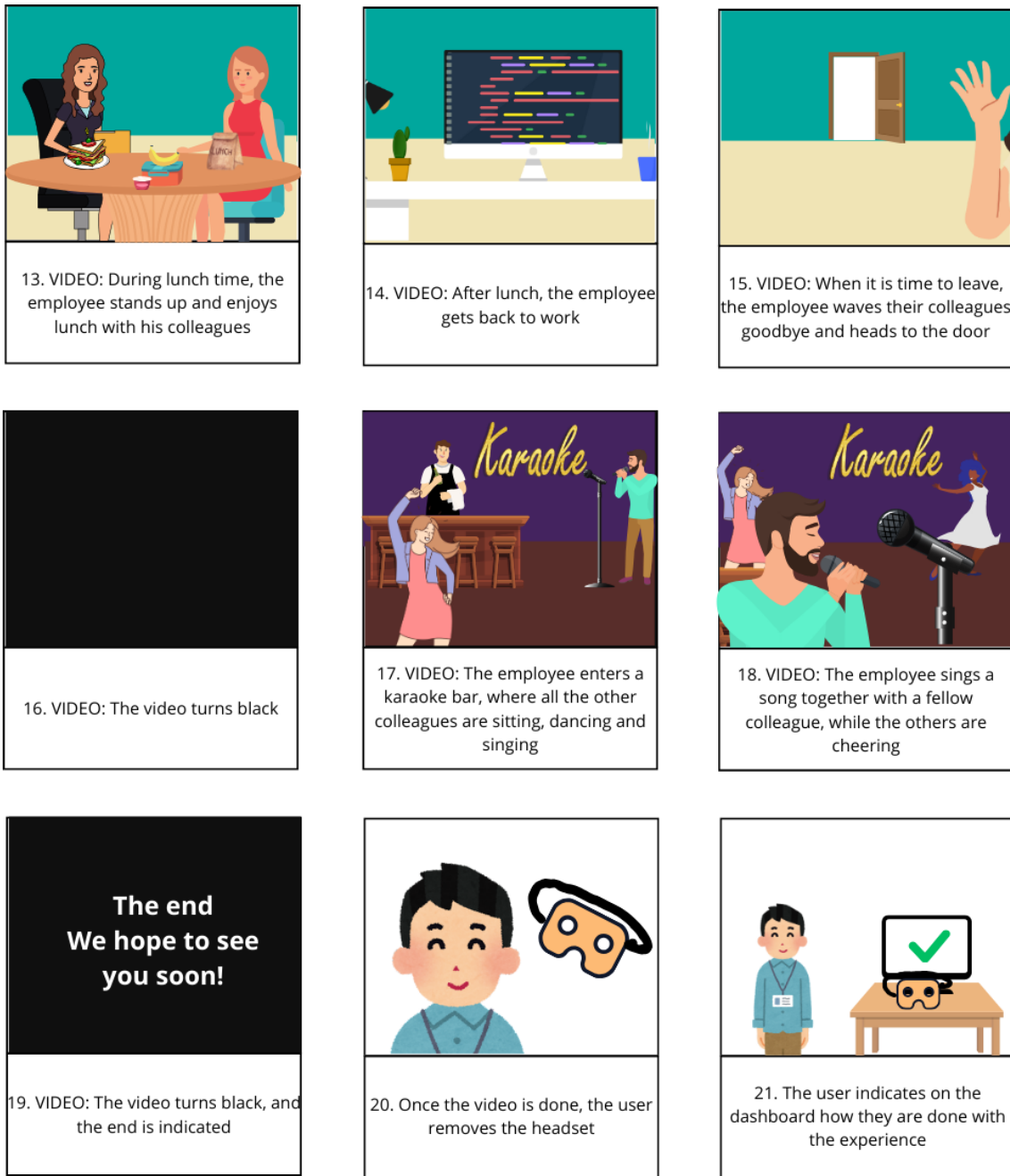


FIGURE 5.7: Time sequence diagram for VR organizational culture experience

For the VR headset, a time sequence diagram has been created as well. Similar to the cardholder, both onboarding software and smartphone are external factors.

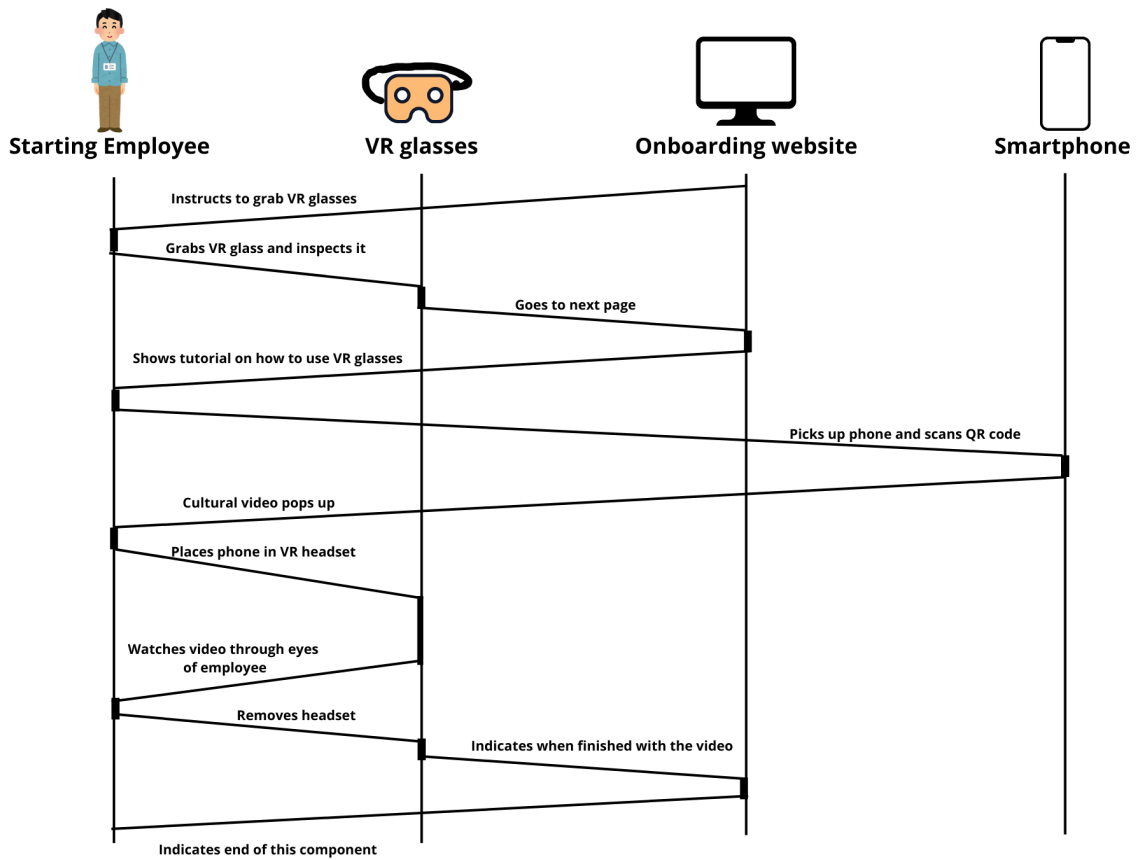


FIGURE 5.8: Time sequence diagram for VR organizational culture experience

5.6 Specialization: Culture puzzle

The last component which will be discussed is the cultural puzzle. When discussing this component with the client, the idea came to mind to design a puzzle that conveyed the organizational culture in symbolic ways. An example of this can be seen in picture 5.9. These images could be replaced by real-life pictures of employees engaging in certain activities that symbolize the culture as well.



FIGURE 5.9: Concept of puzzle design

This puzzle indicates i.e. how they eat lunch together every day, give the opportunity of remote work, stand for diversity and femininity, and participate in karaoke evenings together. Within this puzzle, hints could be hidden which will explain to the user what the images stand for. To visualize this process, a storyboard can be found in Figure 5.10.

Culture puzzle procedure

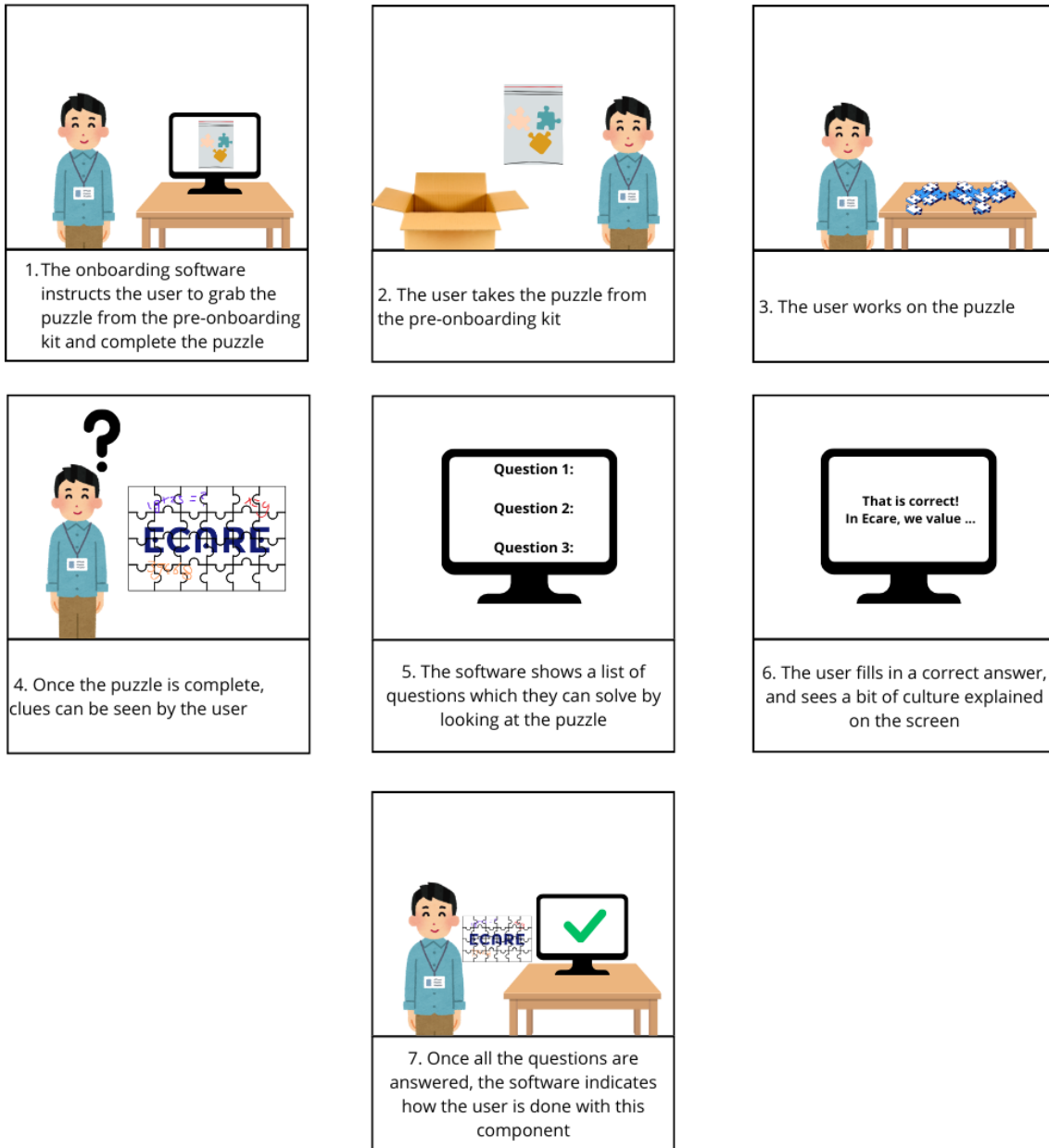


FIGURE 5.10: Storyboard of culture puzzle

Finally, a time sequence diagram has been created for the culture puzzle (figure 5.11). Here, it is noticeable how the onboarding software plays a different role compared to the other elements. Where the onboarding software can be considered an external factor within the process of the cardholder and the VR experience, here the software is actively used to discover information about the culture of the company.

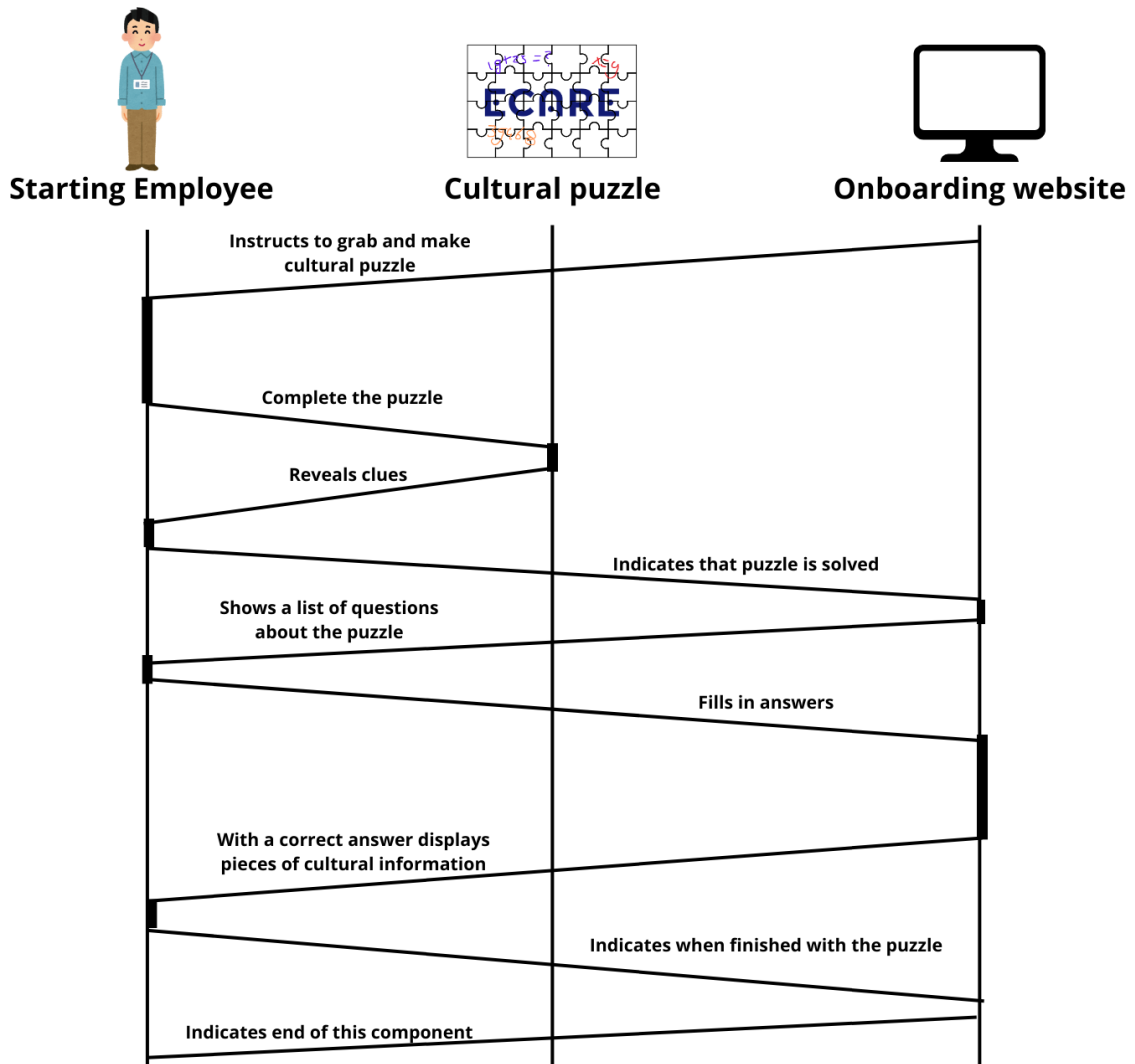


FIGURE 5.11: Time sequence diagram of culture puzzle

5.7 House style

As the prototype should finally be made following Ecare’s house style, it is important to have a clear overview of the house style itself. Below, the elements most important for the prototype, the color palette and the fonts, are displayed.

5.7.1 Color palette



Kleurenpalet & gradients

Grphx / Visuele identiteit Ecare 9

FIGURE 5.12: Color palette of Ecare's house style

5.7.2 Fonts



FIGURE 5.13: Fonts of Ecare's house style

5.8 Functional and non-functional requirements

In this chapter, the general process and separate components were specified with the help of personas, an interaction scenario, designs, storyboards and time sequence diagrams. By combining the information from the client's interview on the final ideas together with the aforementioned specification approaches, functional and non-functional requirements were created. These requirements have been split up per component, to ensure consistency within the chapter and to have a clearer overview. All the requirements have been categorized using the MoSCoW method (Business Agile, 2014). This method indicates whether a requirement must, should, could, or won't be part of the final product.

5.8.1 General kit

Functional requirements

Requirement no.	Requirement	MoSCoW
1	Has a clear link which directs the user to the onboarding website	Must
2	Consists of three components and an introduction sheet	Must
3	The entirety of the kit must be designed with the Ecare house style taken in mind	Must

TABLE 5.1: Functional requirements for the general kit

Non-functional requirements

Requirement no.	Requirement	Source
1	The kit must convey the organizational culture, but not press it on the employee by centering the freedom of the employee within the component's designs	Must
2	The kit must create a first connection between the starting employee and other colleagues by introducing colleagues to the starting employee before their first work day	Must
3	The kit is both employee-oriented and employer-oriented by offering an entertaining yet educative experience which is cost-effective for the employer (not using any expensive materials)and helps with integration for the employee	Must
4	The kit must be a stand-alone product once received by the employee. The instructions and onboarding website must be clear enough to guide the user through the process without needing interference from another employee or onboarding responsible	Must
5	The kit can be personalized depending on the different functions and employees	Should
6	The kit should take sustainability in mind by designing components which are reusable and/or made from sustainable materials	Should
7	The packaging of the kit is sturdy enough to be shipped without damaging the components	Should
8	In case the process is still unclear for the user, they can reach out to an employee or onboarding expert	Could

TABLE 5.2: Set of non-functional requirements

5.8.2 Personalized card holder

Functional requirements

Requirement no.	Requirement	MoSCoW
1	Show an introduction video on a smartphone if the QR code is scanned	Must
2	The slide mechanism of the cardholder should work so that the cards can be ejected	Must
3	Indicate on the onboarding software which cards have already been scanned	Could

TABLE 5.3: Functional requirements for the card holder

Non-functional requirements

Requirement no.	Requirement	MoSCoW
1	Convey the personal information (name, function, hobbies) of the colleague on the card	Must
2	Have the possibility to exclude a QR code on the business card, and only show text	Should
3	The business cards have an aesthetic design, compliant with Ecare's house style	Should

TABLE 5.4: Non-functional requirements for the card holder

5.8.3 Cultural VR experience

Functional requirements

Requirement no.	Requirement	MoSCoW
1	Show a cultural VR video on a smartphone if the QR code is scanned	Must
2	VR headset has a slot for inserting the mobile phone	Must
3	Include scenarios, where the viewer can decide what will happen next	Should
4	Be edited with 360 degrees view	Could

TABLE 5.5: Functional requirements for the VR experience

Non-functional requirements

Requirement no.	Requirement	MoSCoW
1	Convey the culture of the company by showing the workplace, important norms and values, and past work-time activities	Must
2	Show important norms and values which the company abides to by using voice-over and scenarios	Must
3	Show what is happening outside of office hours by dedicating scenes to this	Should
4	VR headset is comfortable to wear	Should
5	Have an alternative way to watch the video in case of nauseating effects	Could

TABLE 5.6: Non-functional requirements for the VR experience

5.8.4 Culture puzzle

Functional requirements

Requirement no.	Requirement	MoSCoW
1	Have hints embedded in the puzzle design	Must
2	Have an online question form where users can fill in the answers	Must
3	Show pieces of organizational culture when a correct answer is filled in	Must

TABLE 5.7: Functional requirements for the culture puzzle

Non-functional requirements

Requirement no.	Requirement	MoSCoW
1	Convey the organizational culture of the company by introducing different cultural elements with the use of visuals and text	Must
2	Show important norms and values which the company abides to by visualizing them in the form of pictures in the puzzle	Must
3	The puzzle is not too difficult to solve	Should
4	The puzzle has an aesthetic design, compliant with Ecare's house style	Should
5	Comes with a cheat sheet for people who are not able to or do not want to finish the puzzle	Could

TABLE 5.8: Non-functional requirements for the culture puzzle

Chapter 6

Realisation

In this chapter, the realization of the various sub-systems is explained and elaborated upon. These sub-systems, identified in the previous chapter, will be further discussed and detailed here.

6.1 Personalized card holder

This sub-system can be split up in three separate components: the cardholder itself, the scannable business cards and the welcome videos.

6.1.1 Cardholder

The main design of the cardholder is taken from an online 3D printing library (Lumien, 2016). This specific design was chosen since the cardholder is both sleek and has rounded edges, which is in agreement with Ecare's house style. The design has been slightly altered by the researcher in Fusion360 (Autodesk, 2024), a design software often used for 3D printing and laser cutting. By using Fusion360, Ecare's logo was implemented and engraved. It was decided to make the logo rather small, so that the new employee may use the cardholder as a regular use item afterward with a small hint to the company. It also adds to the aesthetic and minimalistic design.



FIGURE 6.1: Card holder

6.1.2 Scannable cards

The scannable cards are plastic cards with an NFC chip embedded in them. It was decided to implement NFC chips to convey Ecare's interest in innovation and technology. Furthermore, it offers a more creative interaction with the cards rather than simply following a link.

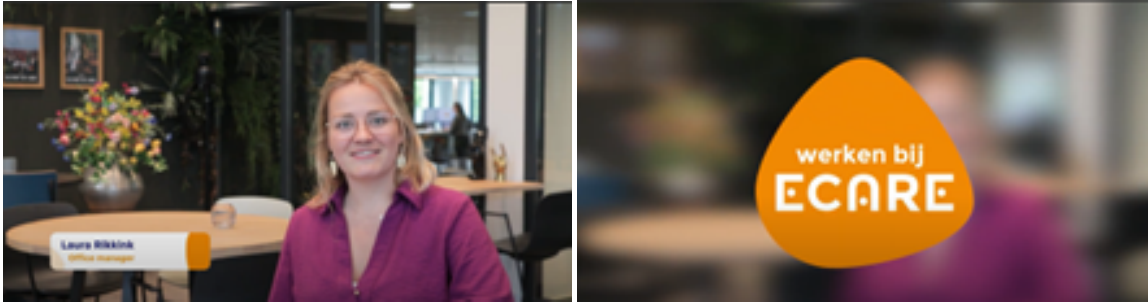
The design of the business cards is created with the help of the design tool Canva (Canva, 2024). The design itself follows the color scheme and shapes that can be found in Ecare's house style. The information provided on the card has two purposes. The name, function, interests, and picture contribute to getting to know their colleagues on a more personal level, where the phone number and mail address offer the starting employee an easy way of communicating with their soon-to-be colleagues. A QR code generator (QR.io, 2024) was used to create QR codes that direct the user to the welcome videos. The QR code has rounded edges and Ecare's logo in the middle which is in line with the cardholder's design. Finally, to indicate the placement of the NFC chip in the card, an icon of a mobile phone has been added to the design. This icon was chosen as it should encourage the user to place their phone on the icon.



FIGURE 6.2: Business cards, front and back

6.1.3 Welcome videos

When the user scans either the NFC chip or the QR code, they are directed to a welcome video of the corresponding employee. For this prototype three videos were made with three different employees of Ecare: the onboarding responsible, a marketing employee, and an UX developer. These three employees were selected since they worked at different departments and had diverging interests that could be showcased. The videos were made with a video camera, and the audio was recorded with a mobile phone. In the editing phase, the Ecare logo was added to clearly distinguish the different parts of the video and a blur was added to the windows behind the speaker to respect the privacy of the other employees walking by or working there. Finally, the different videos were edited together so that the video would become coherent. After the videos were finished, they were uploaded to YouTube so that they were easily accessible when interacting with the prototype.



(A) Screenshot of one of the welcome videos

(B) Screenshot of when the 'werken bij ecare' logo appears

FIGURE 6.3: Screenshots of one of the introduction videos

6.2 Cultural VR experience

The idea of the VR experience had to be slightly altered after the specification phase due to the unavailability of a 360-degree camera. For the prototype, a regular video was made by using a Panasonic Lumix G90 camera. The shots remained the same as explained in the specification phase. After shooting all the footage, the video was then edited with the program Adobe After Effects (Adobe, 2024b) and compressed with the help of the Adobe Media Encoder (Adobe, 2024a). To still give the user a feeling of being in a VR environment, the video was played with the help of an app that displays a 2D video in a 3D theater setting, named VR Theater (Play, 2022). This app was chosen as it provided the opportunity to have a VR experience while not having to warp the 2D video, which often causes dizziness and nausea to users.

For the physical VR headset, a plastic headset was used. This headset had the same functionalities as a cardboard one, where the user has to slide in their mobile phone to watch the video in VR. A plastic one was chosen as the researcher was already in possession of this headset.



FIGURE 6.4: Physical VR headset



(A) Starting screen of the VR video



(B) One scene of the video, user looks through the eyes of an employee walking

FIGURE 6.5: Screenshots of the office tour video

6.3 Culture puzzle

The design of the cultural puzzle was made with the use of the design program Canva (Canva, 2024). The coloring scheme and fonts were taken from the Ecare design guide, provided by the company. After a couple of iterations, the final design took the shape of a city plan. The idea of a city plan was chosen as it allowed the researcher to divide the puzzle by adding roads, making it easier to distribute the puzzle clues equally. Furthermore, the different areas that were created could be assigned different company colors, making it easier for the user to find the puzzle pieces for the different areas. Finally, a dark blue border was added to the design. This choice was made as the border of a puzzle is often used as a starting point by the user, and thus it is convenient to have a clear border on the design as well. Furthermore, as the puzzle would finally be cut out with a laser cutter, the border provided a safe error margin for the machine without having to compromise any of the clues.

For the creation of the clues, it was decided to have clear links between the clues and the pieces of culture that were revealed once the user found the clue. An overview of the clues, the answers, and the cultural information is displayed in the table below:

Clue	Answer	Cultural information
What is the name of Ecare's neighbour in the West?	Stand to the West, Broodbode	Every lunch break, colleagues of Ecare lunch together with homemade sandwiches from their neighbour, the Broodbode
How much does it cost to buy all the fruit from the market stand?	10.45	Although the fruit at this market stand cost money, at Ecare we offer fresh fruit for free for all our colleagues to enjoy
In which region is Ecare located?	Twente	One of Ecare's core values is 'Twents common sense', which is a nice combination of a healthy entrepreneurial mentality and keeping both feet on the ground.
Which word can be found on the helicopter banner?	Nieuwsgierigheid (curiosity)	Curiosity is one of Ecare's core values. We want to know and understand everything; whether it concerns developments in the IT, the healthcare market, or at Ecare itself.
Which number do you get when you subtract the sum of purple from the sum of blue?	120	120, the number of employees working at Ecare. We are a close-knit team, even outside working hours. In addition, we are a team that has courage as a core value. To express your opinion respectfully, to stand for something and go for it
How many volleyballs are present in the puzzle?	4	Ecare has been organizing a volleyball tournament for healthcare workers in the region for a few years now, to offer these teams a day of relaxation and entertainment. Of course, Ecare participates with a team themselves!

TABLE 6.1: Clues and answers of the cultural puzzle

After the clues were created they were added to the design. It was decided to implement the clues in the puzzle design but not on the cheat sheet (the piece of paper that the user receives as an example of how the puzzle should look like) as it would defeat the purpose of having to complete the puzzle to discover the clues. Below, images can be found of the cheat sheet and the final puzzle design.

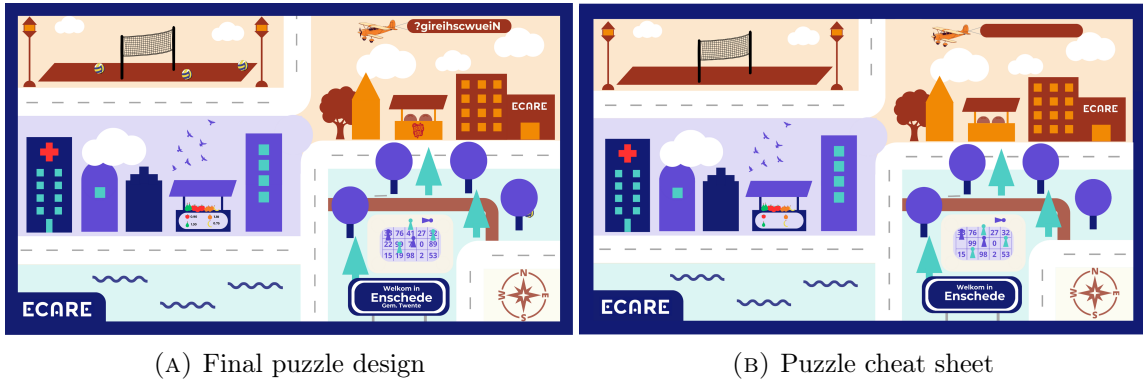


FIGURE 6.6: Designs of the puzzle and cheat sheet

After the design was finished, the cheat sheet was printed on regular A4 paper and the final puzzle design on an A4 sticker paper. This sticker was placed on a sheet of plywood so that the puzzle could be laser cutted as a whole.

For the lasercut file, a puzzle generator was used named Cuttle (Cuttle, 2024). This file was then scaled with the help of Fusion360 (Autodesk, 2024). The puzzle contains twelve pieces in width and seven pieces in length, resulting in a puzzle of 84 pieces. This amount was chosen as it offers the user a challenge, however it takes up a relatively smaller amount of time compared to regular, bigger puzzles. This will especially be of importance during the evaluation phase.

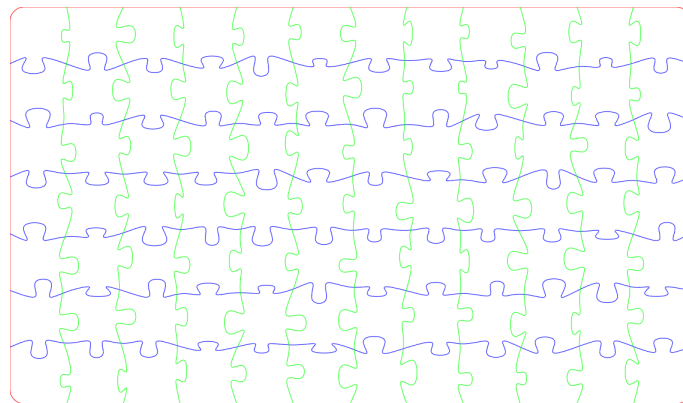
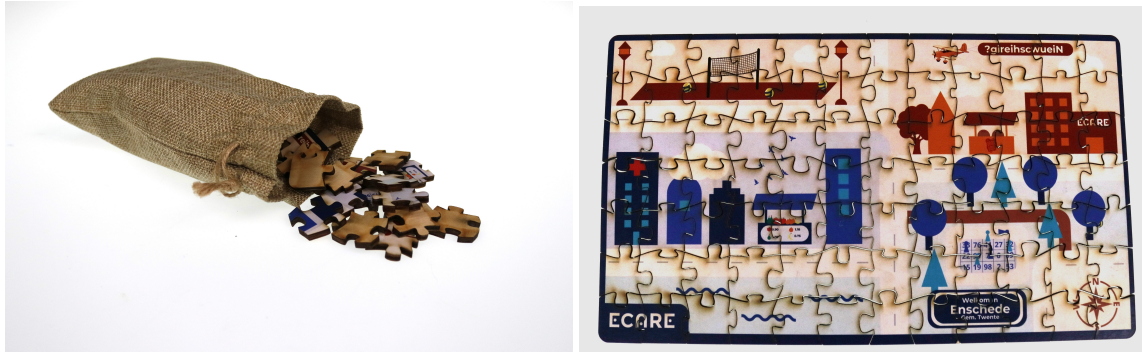


FIGURE 6.7: Lasercut file for the puzzle

Two iterations were made to make sure the design would come out of the laser cutter as clean as possible. In the end, the puzzle was completed as can be seen in the image below. To protect the jigsaw puzzle and to make sure all the pieces stay together, a small jute bag was used.



(A) Puzzle pieces in the jute bag

(B) Completed puzzle

FIGURE 6.8: Pictures of the final puzzle

6.4 Website

To make one coherent experience of the pre-onboarding kit, a mock-up website was created with the use of the program Figma (Figma, 2024). The color scheme of Ecare was applied to the website, together with pictures and images to adhere to the house style. Information videos were made and embedded in the website to assist the employee with scanning the cards and preparing the VR headset for watching the video. It was chosen to make videos to meet the non-functional requirement "the kit must be a stand-alone product once received by the employee." The videos can be replayed if necessary, and no intervention from an employee is necessary. When the user is finished with all components, a screen pops up to notify the user that the experience has ended and any feedback can be send to the onboarding responsible. This was done to allow the user to have a quick and easy way to provide feedback.

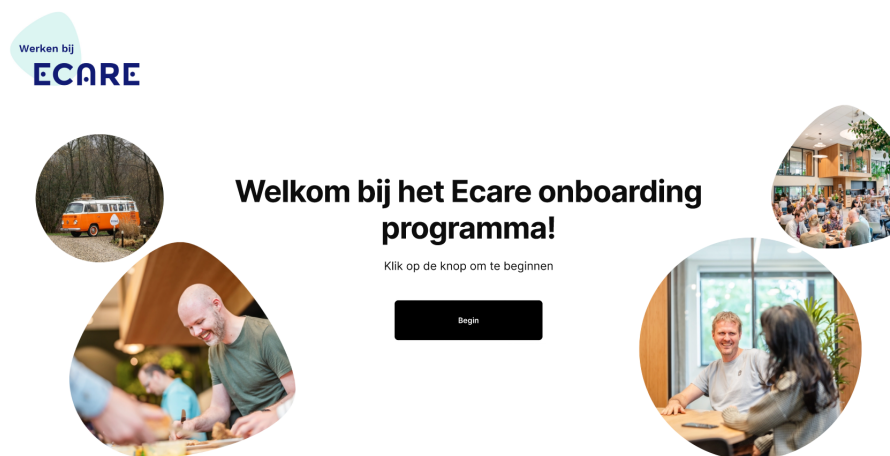


FIGURE 6.9: Start screen

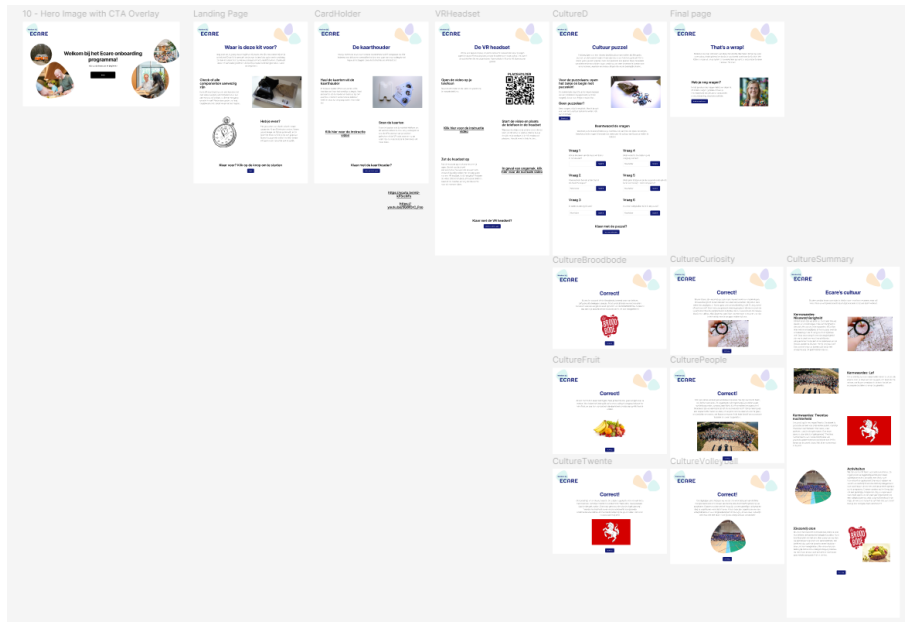


FIGURE 6.10: Website mockup

6.5 Other

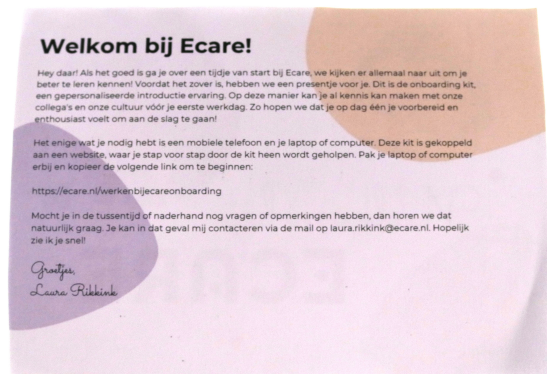
To complete the kit, a couple of extra parts were added. These are described below.

6.5.1 Welcome card

A welcome card was added to the kit as a starting point for the experience. Upon arrival of the kit, the user can read what is on the welcome card, where the user is greeted and asked to follow the link to the onboarding website. The front of the card displays people from Ecare, and a welcoming message. The back displays the text. The front of the card was provided by Ecare as they already had these in stock.



(A) Front of the welcome card



(B) Back of the welcome card

FIGURE 6.11: Pictures of the welcome card

6.5.2 Packaging

A big parcel letter in Ecare's house style was used to make the kit a cohesive whole. Ecare has used this packaging previously for other purposes, and thus it was advised to use the same packaging for this onboarding kit.

6.5.3 Final result

Below, you can find the image of all the components combined.



FIGURE 6.12: Final prototype of the pre-onboarding kit

6.6 Evaluating the prototype with functional requirements

After all sub-systems were created, the functional requirements made in the specification chapter were used to reflect whether all the requirements were met. In conclusion, all functional requirements in the Must category were met. Due to the alternative prototype for the VR headset, two requirements were not met. Therefore, there is still room for improvement in this sub-system. The same goes for the cardholder, where one requirement from the Could section was not met.

Requirement no.	Requirement	MoSCoW	Requirement implemented
1	Has a clear link which directs the user to the onboarding website	Must	YES
2	Consists of three components and an introduction sheet	Must	YES
3	The entirety of the kit must be designed with the Ecare house style taken in mind	Must	YES

TABLE 6.2: Functional requirements for the general kit

Requirement no.	Requirement	MoSCoW	requirement implemented
1	Show an introduction video on a smartphone if the QR code is scanned	Must	YES
2	The slide mechanism of the cardholder should work so that the cards can be ejected	Must	YES
3	Indicate on the onboarding software which cards have already been scanned	Could	NO

TABLE 6.3: Functional requirements for the card holder

Requirement no.	Requirement	MoSCoW	Requirement implemented
1	Show a cultural VR video on a smartphone if the QR code is scanned	Must	YES
2	VR headset has a slot for inserting the mobile phone	Must	YES
3	Include scenarios, where the viewer can decide what will happen next	Should	NO
4	Be edited with 360 degrees view	Could	NO

TABLE 6.4: Functional requirements for the VR experience

Requirement no.	Requirement	MoSCoW	Requirement implemented
1	Have hints embedded in the puzzle design	Must	YES
2	Have an online question form where users can fill in the answers	Must	YES
3	Show pieces of organizational culture when a correct answer is filled in	Must	YES

TABLE 6.5: Functional requirements for the culture puzzle

Chapter 7

Evaluation

In this chapter, the prototype of the pre-onboarding kit will be evaluated. The main aim of these evaluations is to test whether the non-functional requirements specified in the specification chapter have been met.

The evaluation was done with two different groups. The first group consists of employees of Ecare. As these participants are familiar with the culture and house style of Ecare, the main objective of testing with these users was to determine whether the current prototype correctly conveys the culture and the house style is applied correctly. For this user test, five Ecare employees took part in the evaluation.

The second group comprises people unfamiliar with Ecare who recently started a new job at another company than Ecare. As their onboarding process can be considered a recent experience, the aim of testing with these users was to determine whether the participants would see the onboarding kit as a valuable addition to their company's onboarding process. Furthermore, it was tested whether the culture of Ecare is properly conveyed if people are previously unaware of it. For this user test, two people of this group took part in the evaluation.

Finally, both groups have evaluated the functionality and usefulness of the content of the kit. To evaluate all the objectives mentioned above, semi-structured interviews were used combined with a survey which the participant fills in at the end of the evaluation.

7.1 Setup of the evaluation

The evaluation session took place in a confined space, either at Ecare's office, a meeting room at the University, or (in the case of the second user group) at the participant's home. In total, the evaluation took approximately 45 minutes. The user was tasked by the researcher to read the information letter (Appendix D) and sign the consent form (Appendix C). After this, the researcher tasked the user to read the instructions of the kit, apart from this the researcher tried to intervene as little as possible to simulate the experience of performing the actions alone and at home. If something was really unclear to the user, the researcher would help and note down that help was needed at that part. This means that the experience was not fully autonomous. The user read the instructions, and followed the link provided to the website with further instructions. The website guided the user through the onboarding experience. This included interacting with scannable business cards in a cardholder, watching a video through a VR headset, and solving an organizational escape puzzle, where they have to answer certain questions about clues hidden in the puzzle. The interactions should stimulate a feeling of being welcomed at the new company, and feeling acquainted with the company culture and connections. During

the experience, the researcher used the Wizard of Oz method (Paul, 2024) as the website is a mock-up and thus does not function fully. This mainly concerned filling in the answers to the escape puzzle and playing the VR video on the mobile phone. After interacting with the prototype, the user was asked a couple of questions in a semi-structured interview, which provided qualitative data. The type of questions differ per user group. Examples of the questions asked are "what did you think of the experience as a whole, which kind of emotions and thoughts went through you?" and "What would be your opinion of the usefulness of implementing this kit in the onboarding process of a company?". The full list of questions can be found in Appendix E. Where the employees of Ecare were asked about whether they thought the culture, norms and values were portrayed correctly with this kit, the people who recently started a job at other companies were asked about whether they would have liked to have this kit during their own pre-onboarding and whether they felt well-informed about the culture of the company after the interaction. At the end, both user groups will fill in a survey regarding the functionality of the kit. The questions are based on the functional and non-functional requirements that were set for this research. The Survey questions can be found in Appendix F.



(A) Participant interacting with VR headset

(B) Participant interacting with jigsaw puzzle

FIGURE 7.1: Pictures of user evaluations at Ecare

7.2 Evaluation results

For the evaluation results, the interviews were combined with the survey results. The results are split up into different sub-chapters, coherent to the previous chapters. General feedback concerns the feedback of the kit as a whole, looking at usability and functionality. After this, the feedback of every separate component is discussed.

7.2.1 General feedback

In general, the participants were enthusiastic about the idea of deploying a pre-onboarding kit. During the interviews, participants mentioned how receiving the kit would leave them feeling welcomed at their new job. Furthermore, it shows how a company pays interest to help the new employee integrate with the company culture. Key words which were used by the participants during the interviews were how the kit was informative, engaging and enjoyable.

At the same time, multiple participants mentioned the pressure that comes with deploying a pre-onboarding kit. As a new employee, you might feel forced to complete the entire kit to please future colleagues. Furthermore, new employees are expected to interact with the kit outside working hours as they have not officially started yet. This may cause annoyance from the user's side if the kit is not to their liking. This feedback emphasizes the non-functional requirement of how every component in the kit should be optional and that this should be conveyed correctly and clearly. Although this was partly done in the current prototype, more emphasis could be put on this.

Regarding the feasibility of the product, the product scored a 4.3 out of 5. Participants thought the components would be fairly easy to scale up, although some of the components may take some more time to scale up compared to others. Think of the scannable business cards, where you want to include cards of colleagues the starting employee will be working closely with.

When asked how the participants would rate the idea of deploying such a kit during the pre-onboarding process at either Ecare or another company where the participant was employed, it received a 4.1 out of 5.

7.2.2 Feedback: Cardholder

Usability

During the evaluation sessions, the researcher did not have to intervene once while the participants were interacting with the cardholder. Some participants had some small issues with taking the business cards out of the cardholder as the cards turned out thicker than expected due to the extra stickers applied to them. However, this turned out to be only a small inconvenience and every participant could get the cards out eventually.

When scanning the cards four people used the QR code, and three people the NFC tag. The people who opted for the QR code did either not have a working NFC scanner on their phones or believed it to be easier to use the QR code. However, most participants thought the NFC tag to be innovative and a good addition to the cards. As seen during the evaluation an NFC scanner in a phone is not a given, meaning the QR code turned out to be a valuable addition to the card.

Content

The welcome videos were overall well-received. Positive reactions during the interview session were especially conveyed towards the 'What can you talk with me about' section, as participants liked how it provides the starting employee with possible topics of conversation during the first work day or period. As a point of improvement, participants mentioned how one video did not include concrete topics of interest which they were missing. Furthermore, the video could include videos of the colleague performing their hobbies (i.e. someone painting or traveling) to make it even more personal.

Regarding the design of the cards and cardholder, the house style of Ecare was well-implemented according to the survey results. No further comments were made on this subject.

7.2.3 Feedback: VR headset

Usability

The VR headset turned out to be a challenge regarding usability. Despite the explanation video on how to use the headset, the researcher had to intervene for all the participants as the researcher's phone was used to display the video. Additionally, four out of seven participants indicated to have experienced a form of discomfort, such as motion sickness or eye strain. This often caused the viewer to be distracted from the content of the video.

Content

The content of the video itself was overall well-received. People enjoyed the tour of the office and mentioned how they would have liked to have this before their own first work day as well. The part about the after-work activities was also positively received, although feedback was received on how it was unclear what was happening in the pictures and videos displayed. Having some sort of explanation could make people more enthusiastic according to the participants. Furthermore, one of the participants employed at Ecare mentioned how she missed footage of the work atmosphere, so shots from colleagues talking or lunching together.

Almost all participants agreed that the VR headset at this point did not add a lot of value to the kit. As the headset is only used to display a 2D video in a 3D environment, the current value of adding a headset was questioned. However, during the interview sessions, most participants agreed on how a 360-degree video would enhance the experience, giving the new employee the feeling that they were walking around the office for the first time.

7.2.4 Feedback: Jigsaw puzzle

Usability

In the survey results, nearly all participants indicated how assembling the jigsaw puzzle felt intuitive and engaging - none of the participants mentioned having any struggles while assembling the puzzle.

Content

Looking at the Ecare evaluation group, everyone agreed on how the design of the puzzle matched Ecare's house style. Furthermore, the information provided after solving a clue matched fully with the employees' experiences. It was noted how some of the cultural information overlapped with the information given in the VR video. Although this was not necessarily seen as a bad thing, participants did mention it multiple times.

During the evaluations, it was observed that participants were positively surprised to discover how the cheat sheet did not fully match the actual jigsaw puzzle. The following statement was taken from respondent number seven's online survey:

"I liked that the jigsaw resulted in a different picture than the picture I got, because then I was still really curious about the outcome of the puzzle while doing it. "

7.2.5 Feedback: Website

Usability

The website's functionalities overall received a high score. From the survey results it can be seen how the website was deemed user-friendly (5 out of 5) and intuitive (4.4 out of 5). It did

occur often that participants in the first place did not realize they could scroll down, hence the researcher had to notify them of this as they were missing information. Furthermore, buttons were often hard to reach as the Figma overlay prevented the participant from clicking. Both these issues can be mainly credited to the fact that this prototype was a Figma mockup, which does not have a scroll bar that indicates the user can scroll down. Additionally, the Figma overlay which popped up sometimes caused the buttons to be hard to reach.

Content

Overall, participants were positive regarding the content of the website. Participants felt the instructions were clear, and the informational videos that were provided to understand how to scan cards and put on the VR headset were deemed valuable additions. One comment was made regarding the house style of Ecare, which in their opinion could have been implemented better in the website design.

7.3 Evaluating non-functional requirements

With the use of the evaluation above, it is possible to see whether the non-functional requirements were met or not. Below, the four tables can be found for the general requirements and separate components. A fourth column was added to signify whether a requirement was met.

Requirement no.	Requirement	Source	Requirement met?
1	The kit must convey the organizational culture, but not press it on the employee by centering the freedom of the employee within the component's designs	Must	YES
2	The kit must create a first connection between the starting employee and other colleagues by introducing colleagues to the starting employee before their first work day	Must	YES
3	The kit is both employee-oriented and employer-oriented by offering an entertaining yet educative experience which is cost-effective for the employer (not using any expensive materials)and helps with integration for the employee	Must	YES
4	The kit must be a stand-alone product once received by the employee. The instructions and onboarding website must be clear enough to guide the user through the process without needing interference from another employee or onboarding responsible	Must	PARTLY YES
5	The kit can be personalized depending on the different functions and employees	Should	YES
6	The kit should take sustainability in mind by designing components which are reusable and/or made from sustainable materials	Should	YES
7	The packaging of the kit is sturdy enough to be shipped without damaging the components	Should	YES
8	In case the process is still unclear for the user, they can reach out to an employee or onboarding expert	Could	YES

TABLE 7.1: General non-functional requirements

Requirement no.	Requirement	MoSCoW	Requirement met?
1	Convey the personal information (name, function, hobbies) of the colleague on the card	Must	YES
2	Have the possibility to exclude a QR code on the business card, and only show text	Should	PARTLY YES
3	The business cards have an aesthetic design, compliant with Ecare's house style	Should	YES

TABLE 7.2: Non-functional requirements for the card holder

Requirement no.	Requirement	MoSCoW	Requirement met?
1	Convey the culture of the company by showing the workplace, important norms and values, and past work-time activities	Must	YES
2	Show important norms and values which the company abides to by using voice-over and scenarios	Must	PARTLY YES
3	Show what is happening outside of office hours by dedicating scenes to this	Should	YES
4	VR headset is comfortable to wear	Should	NO
5	Have an alternative way to watch the video in case of nauseating effects	Could	YES

TABLE 7.3: Non-functional requirements for the VR experience

Requirement no.	Requirement	MoSCoW	Requirement met?
1	Convey the organizational culture of the company by introducing different cultural elements with the use of visuals and text	Must	YES
2	Show important norms and values which the company abides to by visualizing them in the form of pictures in the puzzle	Must	YES
3	The puzzle is not too difficult to solve	Should	YES
4	The puzzle has an aesthetic design, compliant with Ecare's house style	Should	YES
5	Comes with a cheat sheet for people who are not able to or do not want to finish the puzzle	Could	YES

TABLE 7.4: Non-functional requirements for the culture puzzle

7.4 Conclusion

As can be seen in the tables, most non-functional requirements were met. Looking at this, it can be noted how the evaluation showed a positive result. For the requirements which were either partly met or not met at all, a short explanation is given below.

For the non-functional requirements of the general kit, requirement number four is marked as partially met, as the prototype is currently not autonomous. The intervention of the researcher was still necessary at some points during the evaluation, but apart from this the user could use the product as stand-alone product. Therefore, it was decided that this requirement was partly met.

For the card holder, the requirement regarding the opportunity to exclude a QR code is considered partly met. Although it is possible to remove the QR code design-wise, the effects of this have not been tested during the evaluations. The user could possibly be confused for example by the lack of a QR code.

For the VR headset, two requirements were not seen as fully met. Requirement number two was partly met, which noted how the experience should include important norms and values which the company abides to by using voice-over and scenarios. In the prototype, voice-over was used to convey the cultural norms and values. However, in the current prototype, there are no scenarios where the user can choose from. Since one out of two of the requirement's components were met, the requirement as a whole is considered partly met. Furthermore, requirement number four was not met. Although no remarks were made about the physical movement of putting on the headset or the comfort of wearing the headset, multiple participants mentioned how they had a sense of discomfort during the experience in the sense of dizziness or eye strain. Therefore, it was decided to mark this requirement as not met.

Chapter 8

Discussion

To recollect, this research aimed to answer the following research question: "How can an onboarding kit be designed for the pre-onboarding phase of new employees in the organizational context?". This thesis describes the design process of the pre-onboarding kit, a kit for starting employees at a company with the aim to build a first foundation of cultural understanding and interpersonal connections. After the realisation phase, the finished prototype was evaluated with employees of Ecare and other people who had recently been employed at different companies. Overall, the participants were positive about the prototype. Users indicated how they felt the kit would feel very welcoming, and gave the user the feeling of how a company paid attention to their integration in the workforce. Although the feedback was mostly positive there is still room for improvement, especially the content and value of the VR experience. In this chapter, principle findings will be discussed, next to the strengths and limitations and findings of this research. Finally, possibilities for future work will be discussed.

8.1 Principle findings

The creation of the kit followed the Creative Technology design method (Mader & Eggink, 2014). Next to this, a participatory design method was applied. For the background research, expert interviews were conducted with experts in the field of onboarding. Furthermore, feedback from the client was implemented during the ideation, specification, and realisation phases. Previous studies have confirmed how input from important stakeholders can be beneficial for the design process (Kukafka, Johnson, Linfante, & Allegrante, 2003)(Frauenberger, Good, Fitzpatrick, & Iversen, 2015). Feedback from the client ensured that the concepts and components would match Ecare's house style and organizational culture, leading to a more refined prototype in the end. One of the key stakeholders, the end user, was not heavily involved in the design process. This can be seen as a limitation and is discussed further in the limitations sub-chapter.

When comparing the pre-onboarding kit to other tools applied during the onboarding process, it distinguishes itself in multiple ways. Firstly, the kit combines an online environment with physical tools. This is in contradiction with regular onboarding tools such as goody bags (Monday, 2024), which use only physical goodies, or online platforms (HiBob, 2024). This combination allows the employee to be clearly informed about the kit's contents, while also providing the employer with an easy way to update the process by replacing information on the website. When comparing the pre-onboarding kit to regular onboarding kits provided by websites such as Monday (Monday, 2024) it can be seen how both use a personalization strategy, tailoring the kit to the user. This is in correspon-

dence with literature, which addresses the benefits of having a personalized onboarding experience (Gopalan, 2022). However, the pre-onboarding kit elevates personalization to another level. Where the regular onboarding kits change names and pictures depending on the user, the pre-onboarding kit offers the opportunity to create an entirely different experience. This is done by i.e. switching the business cards to match the future department of the starting employee. Additionally, the level of culture may be compared. Again, both kits try to convey the organizational culture, as is clear from looking at Monday's "Company culture package". Where this kit focuses on apparel and materialistic items, the pre-onboarding kit focuses more on conveying cultural information. Examples are the card holder which is used to inform the starting employee of their future colleagues and their interests, and the cultural puzzle which is used to solve clues and find out more about the company culture. Although the physical components of the pre-onboarding kit can be used as use items after the experience, the main objective of the components is to tell a story about the organizational culture, which differs from the regular kit's intentions.

8.2 Strengths and limitations

During the process of creating the pre-onboarding kit, both strengths and limitations were encountered. In this sub-chapter, these are addressed and explained.

8.2.1 Strengths

Firstly, one of the strengths of the kit is the close cooperation between Ecare and the researcher. As research suggests how onboarding should be a personalized experience, collaborating closely with the company enabled the researcher to specifically tailor the kit towards the wants and needs of Ecare and apply their house style correctly. This could be seen in the evaluation results, as all questions regarding the house style received positive feedback.

Secondly, the diverse range of components can be considered a strength of this project. When choosing the final selection of components, learning styles were taken into account. Literature suggested how understanding one's learning style and offering a diverse selection of learning methods has a positive effect on adult learning (De'Neen McArthur, 2009)(Ismail & Azman, 2010). As the final kit offers a range of learning techniques such as audio, visual, and kinaesthetic learning, the kit tailors to most learning preferences and can thus be considered inclusive in this aspect.

Lastly, implementing the pre-onboarding kit can hold great benefits for both employer and employee, which can be considered a strength of this project and the concept of a pre-onboarding kit. As described in the evaluation results, the kit made the user feel welcome and showed how a company pays interest to help the new employee integrate with the company culture. Furthermore, the evaluation results of the different components showed how the user felt informed of the company culture and organizational connections after interacting with the kit. These benefits do not only contribute to the starting employee arriving with a head start at their first workday but may also lead to possible cost reduction on the employer's side. As the integration of a starting employee costs time and thus money, sending the pre-onboarding kit in advance may lower the time necessary for the integration period as the employee is already partly onboarded during the pre-onboarding process. Furthermore, as found in the background research, implementing a pre-onboarding process is correlated with retaining first-year hires, therefore securing the investment made during the selection and recruitment process.

8.3 Limitations

During this research, limitations occurred which could have had an impact on the research findings. In this subchapter, the biggest limitations are covered and explained.

Firstly, the VR headset component offered limitations in two ways. The VR headset was used to display a 2D video in a 3D setting, causing the participants to not feel as immersed as opposed to watching a 360-degree video. This made the participants question whether the VR headset was a valuable addition, which could potentially skew the results for this component of the kit. A second limitation was the level of discomfort when using the headset. As over half of the participants encountered some sense of discomfort, the participants might not have been fully focused on the content of the video. This may lead to inaccuracies when asking about the information and atmosphere conveyed in the movie.

Furthermore, the number of user tests can be considered a limitation. Seven people took part in evaluation sessions, five of which were employees at Ecare. Although the researcher intended to evaluate the prototype with four people from each user group, this plan did not continue due to canceled evaluations and one extra evaluation with the first user group. This change in the planning causes a skewed balance between the two user groups. As both groups were used to evaluate the functionality and content of the kit the first user group had a significantly higher impact on the final results.

Continuing on the topic of user tests, it has to be noted that the two groups used for evaluation were not the actual user groups of the pre-onboarding kit. As the user group consists of people who are currently in the pre-onboarding phase, it was not possible to find enough people in the timespan of this project. Furthermore, it would pose a risk for Ecare as any potential misinformation that could be present in the first prototype would be conveyed to new colleagues without a filter or feedback loop.

The previous limitation may be elaborated upon by addressing one of the evaluation results: some of the participants mentioned how the kit might cause pressure on the starting employee's side to use the pre-onboarding kit to please their future colleagues or to create a good image. Whether this is truly the case could not be measured in this evaluation since the kit was not tested with the end users.

Finally, the last limitation that will be discussed is the intervention of the researcher during the user tests. As explained in the setup of the evaluation, the researcher sometimes intervened during the evaluation process. As the VR video was located on the phone of the researcher, it was decided to help out with placing the phone in the headset as to prevent damage to the phone or any stress related to this by the participant. However, this means that the functionality questions of the VR headset could be skewed as the user did not have to go through this process alone.

To conclude, the limitations mentioned may have caused a level of inaccuracy in the results of this prototype, and thus the results should be interpreted with caution and further validated through additional testing and refinement.

8.4 Future work

The client Ecare is very positive after this research and is considering improving and deploying the pre-onboarding kit. This sub-chapter aims to provide recommendations for future implementations and work for the kit.

Firstly, improvements of the current components are discussed. Regarding the card holder, the biggest recommendation would be to slightly alter the welcome videos to ensure that, after interacting with the cards, the starting employee has a few topics of interest

which they might discuss with the corresponding colleagues. Furthermore, it is recommended to have a broader collection of colleagues with business cards so the kit can be personalized depending on what department the new employee will end up in.

For the VR experience, it is recommended to either remake the video and change it to a 360-degree video, or remove the headset from the kit. In the case of the 360-degree video, possible negative implications such as discomfort should not be taken lightly. It is thus recommended to emphasize how it is an optional part of the experience and offer an alternative way of watching the video in 2D if discomforts arise.

Finally, for the cultural puzzle, it is recommended to explore different venues for the cultural clues. Right now six clues are embedded, what if there are more? Or could you make a storyline out of them, making the user follow a story to find out more about the company's culture?

The current prototype consists of three different components and the website. If the pre-onboarding kit would be developed further, multiple components could be added or replaced to conform to the wants and needs of the company. As the participants of the evaluation mentioned repetitiveness in the two components which focused on the culture (the VR headset and the puzzle), it might be considered to focus one component on another one of Bauer's four C's (Bauer, 2015). For example, a component could focus on compliance to prepare the starting employee by explaining what exactly is expected from them on the first work day / period. By experimenting with components focusing on different C's, it can be researched whether the user group has clear preferences or not. This leads to another recommendation for future work: testing with end-users.

As the prototype currently was not tested with end-users, it will be a good improvement to test the product with employees about to start at their job. As the prototype would be fully autonomous by then and thus no human intervention is possible, the researcher and company involved have to make sure that all information conveyed with the kit is accurate and truthful. If this would not be the case, it could have negative effects on the onboarding experience of the starting employee. Thus, severe caution should be taken when deploying the kit for the first time. Furthermore, it could then be tested whether receiving the pre-onboarding kit is paired with any kind of pressure on the starting employee's side.

By adding these improvements to the kit, the pre-onboarding kit could turn out to be an innovative addition not only to Ecare's onboarding process but also to those of other companies, both supporting employer and employee by offering an engaging and informative pre-onboarding experience.

Chapter 9

Conclusion

The aim of this research was to develop a pre-onboarding kit to be used during the pre-onboarding phase of new employees, preparing them for their first workday. By combining literature research, expert interviews, and client input, the first prototype of the pre-onboarding kit was constructed. This prototype combined three different components (a card holder with scannable business cards, a VR experience and a cultural jigsaw puzzle) with a guiding software tool to create a pre-onboarding experience. By applying different learning techniques (audio, visual and kinesthetic learning), an inclusive learning experience was created. The house style of Ecare and the organizational culture were embedded to match the kit with the organizational context. When evaluating the prototype, both employees at Ecare and external testers showed a positive response. The idea of receiving a pre-onboarding kit gave the participants the feeling of being welcomed at their new job, perceiving it as an indication of the company's effort to integrate new employees into the organizational culture. Furthermore, the client of this project, Ecare, was very positive about the results and has intentions of implementing parts of the kit in their pre-onboarding process. However, points of improvement were also addressed. Mainly, the evaluation showed how the VR experience should either be improved or removed from the kit. Future work may include improving the VR experience and fine-tuning the other components of the kit. Furthermore, multiple components could be added to test which components offer the best combination for the pre-onboarding experience. It is suggested to perform user tests with the end users, starting employees, to see which components and learning styles are preferred by the user. Overall, the concept of the pre-onboarding kit holds promising potential for creating an inclusive and innovative pre-onboarding process for starting employees.

Appendix A

Interview questions - Background research

Pre-interview:

1. Is it okay for you if I record this interview for transcription purposes?
2. Do you give permission for the information from this interview to be used for the further research of my thesis?
3. Would you mind if the name of your company is mentioned in either the graduation report or in any presentations regarding this thesis?

Interview part 1 - current onboarding process:

4. Could you tell me about the standard procedure of the onboarding process at your company?
5. What kinds of technology (either hardware or software) do you use for the onboarding process? Think of for example onboarding software or any goody bags which the employee receives. Which people are involved in the onboarding process, and which functions do they hold in the company?
6. Is the onboarding process constantly changing, or mostly consistent?

Interview part 2 - remote onboarding

7. Are there any parts of the current onboarding process that take place remotely? If so, which ones? If not, why not?

[Explanation of remote onboarding]

8. How would you as an onboarding manager develop a remote onboarding experience? Any specific elements you would adjust compared to the current process? What would you consider the biggest challenge of remote onboarding?

[explanation of the current idea of the onboarding kit and the challenge behind it]

As a professional in the field of onboarding, what would be your opinion of using such an onboarding kit?

Post-interview:

9. Thank you very much for taking the time for this interview. Would you mind being contacted in the future about this graduation project?
10. For this project, it would be of great value if I could have a company as an actual stakeholder. This would mean that there would be some additional interviews and, once a prototype is ready, it would be deployed at the company. Would you be interested in helping with this?

Appendix B

Information letter - Background research

Information Brochure

This Bachelor thesis is a Creative Technology graduation project. The aim of this project is to design an onboarding kit that will narrow the gap between remote and physical onboarding. In order to gain insights into the field of onboarding and to add expert opinions to the research, interviews will be conducted with experts in the field of onboarding. The interview will consist of four parts.

The first part consists of the participant being greeted and asked to read this information brochure and read and sign the consent form. Once this is done, the second part of the interview will take place. During this part, the participant will be asked about the current onboarding processes of the company they are employed at. The third part will consist of a series of questions which relate to the use of hybrid/remote onboarding at the company. Next to this, the personal opinion of the expert will be asked regarding the use of remote/hybrid onboarding and the potential deployment of a remote onboarding kit. Finally, the participant will be asked whether they would be willing to be part of this research in the future and thus give permission to be contacted after this interview.

The data collected from the users would be the answers that they have provided in the interview. This data will be collected by writing down notes and recording an audio fragment of the interview. The data will remain confidential and will not be disclosed to third parties without the permission of the participant. All data will be anonymized; data will be stored on encrypted drives to which only the researchers related to the project have access. All data will be deleted after the end of this graduation project. You have the right to be forgotten, which means that you can ask your data to be removed for up to 24 hours after data collection.

The participation for this research is voluntary at all times. Participants may express their wish to withdraw from the interview without the need to give reasons. Participants may also refuse for their data to be used (up to) 24 hours after the data has been collected. There are no adverse consequences for the participants should they choose to do the aforementioned actions. There will also be no remuneration for participating in this research.

If the user requests further information about the research, now or in the future, the participant may contact Ben Ligthart [Redacted: address and mail address of researcher]. If you have any complaints about this research, please direct them to the Creative Technology Programme Coordinator [Redacted: Name and mail address of Creative Technology Programme Coordinator].

Appendix C

Consent form

I hereby declare that I have been informed in a manner which is clear to me about the nature and method of the research as described in the aforementioned information brochure. My questions have been answered to my satisfaction. I agree of my own free will to participate in this research. I reserve the right to withdraw this consent without the need to give any reason and I am aware that I may withdraw from the experiment at any time. If my research results are to be used in scientific publications or made public in any other manner, then they will be made completely anonymous. My personal data will not be disclosed to third parties without my express permission. My personal data will be anonymized and stored on encrypted drives to which only the researchers related to the project have access.

If I request further information about the research, now or in the future, I may contact Ben Lighthart [Redacted: mail address of researcher]. If you have any complaints about this research, please direct them to the Creative Technology Programme Coordinator [Redacted: Name and mail address of Creative Technology Programme Coordinator].

Signed in duplicate:

.....

Name subject

.....

Signature

I have provided explanatory notes about the research. I declare myself willing to answer to the best of my ability any questions which may still arise about the research.'

.....

Name researcher

.....

Signature

Appendix D

Information letter - Evaluation

Information Brochure

This Bachelor thesis is a Creative Technology graduation project. The aim of this project is to design a pre-onboarding kit which will prepare a starting employee for their first work day/period. This will be done by introducing the employee beforehand to the company culture and colleagues within the organization. During this user evaluation session, the pre-onboarding kit will be tested by letting the participant interact with the prototype. The process consists of three components:

The first part consists of the participant being greeted, being asked to read this information brochure, and read and sign the consent form. Once this is done, the second part of the evaluation will take place. During this part, the participant will be asked to read the instructions that come with the pre-onboarding kit. After this, the researcher will give no further hints or tasks to the participant unless necessary. The participant will interact with the pre-onboarding kit as is described by the instructions on the screen. After this is done, the third part of the evaluation takes place. The participant will be asked a couple of questions regarding their experience and opinions regarding the prototype. Next to this, an anonymous survey will be filled in regarding the functionality of the kit. After this is done, the evaluation is ended.

The data collected from the users would be the answers that they have provided in the interview afterwards and in the anonymous survey. The data of the interview will be collected by writing down notes and recording an audio fragment of the interview. The survey answers are stored online. The raw data will remain confidential and will not be disclosed to third parties without the permission of the participant. This also includes any person related to Ecare. All data will be anonymized; data will be stored on encrypted drives to which only the researchers related to the project have access. All data will be deleted after the end of this graduation project. You have the right to be forgotten, which means that you can ask your data to be removed for up to 24 hours after data collection.

The participation for this research is voluntary at all times. Participants may express their wish to withdraw from the interview without the need to give reasons. Participants may also refuse for their data to be used (up to) 24 hours after the data has been collected. There are no adverse consequences for the participants should they choose to do the aforementioned actions. There will also be no remuneration for participating in this research.

If I request further information about the research, now or in the future, I may contact Ben Ligthart [Redacted: mail address of researcher]. If you have any complaints about this research, please direct them to the Creative Technology Programme Coordinator [Redacted: Name and mail address of Creative Technology Programme Coordinator].

Appendix E

Interview questions - Evaluation

User group: Ecare employees

1. What did you think of the experience in general? Certain emotions, things that went through you while you were doing it?
2. Since you work here, you are very familiar with Ecare's culture. These are the norms and values, but also unwritten rules and customs. To what extent do you think this kit has been able to convey this? Or is something still missing?
3. If you were to start working somewhere new, what feeling would it give you if such a pre-onboarding kit appeared on your doorstep?

User group: recently started employees outside of Ecare

1. What did you think of the experience? Certain emotions, or thoughts that went through your mind while you were doing it?
2. Before this evaluation you were not yet familiar with Ecare and its culture. After interacting with the prototype, how would you describe Ecare's culture in a few sentences?
3. Do you see any improvements to better convey the culture?
4. The components of this kit have been selected with the wishes of the specific company in mind, in this case Ecare. Do you think the same components could also be used to convey the culture of the company you currently work for, and if so why? Or would you add/remove certain components yourself?
5. If you were to start working somewhere new, what feeling would it give you if such a pre-onboarding kit appeared on your doorstep?

Appendix F

Survey questions

In case a question is only asked to one of the two user groups, this is indicated. [E] indicates how the question was only asked to Ecare employees, whereas [EX] indicates how the question was only asked to external starting employees outside of Ecare. The type of question is also indicated: a Likert-scale [L], open-ended question [O] or multiple choice [M].

Section 1: Cardholder

1. How easy was it to place and remove business cards from the cardholder? [L]
2. How intuitive was the process of scanning the business cards? [L]
3. Which of the scanning methods did you prefer/use the most? [M]
4. Did you encounter any errors during the scanning process? [M]
5. If yes, what were those problems exactly? [O]
6. How informative did you find the job explanation from the employees? [L]
7. How informative did you find the 'what can you talk with me about' sections from the employees? [L]
8. Did the video give you a welcoming feeling? [L]
9. Does the information in the video link with your own experiences at Ecare? [L][E]
10. To which extent do you think the design of the card holder and business cards match with Ecare's house style? [L][E]
11. Would you like to add a component or content to the videos which currently are not present? [O]
12. If you have any additional remarks or questions regarding this component, you can mention them there [O]

Section 2: VR experience

1. How easy was it to set up the VR headset? [L]
2. Did you experience any discomfort, such as motion sickness or eye strain? [M]
3. If so, could you elaborate on the type and extent of the discomfort? [O]
4. How informative did you find the content about the company's workplace? [L]
5. How informative did you find the content about the company's day-to-day practices? [L]
6. How informative did you find the content about the company's after-work activities? [L]
7. Does the information given in the video correspond with your own experiences at Ecare? [L][E]
8. If you have any additional remarks or questions regarding this component, you can mention them here [O]

Section 3: Culture puzzle

1. How intuitive was the process of assembling the jigsaw puzzle? [L]
2. How engaging did you find the process of assembling the jigsaw puzzle? [L]
3. What did you think of the time you had to spend on completing the puzzle? [L]
4. How well did the clues integrate with the completed puzzle? [L]
5. Did you encounter any difficulties or issues while assembling the puzzle? [M]
6. If yes, what were the issues you encountered [O]
7. How informative was the cultural information received when solving a part of the puzzle? [L]
8. To what extent do you think the design of the puzzle matched Ecare's house style? [L][E]
9. Does the cultural information which you received match with your own experiences at Ecare? [L][E]
10. If you have any additional remarks or questions regarding this component, you can mention them here [O]

Section 4: Website

1. How intuitive was the layout and structure of the website? [L]

2. How clear were the instructions provided for using the VR headset, scannable business cards, and cultural puzzle? [L]
3. Did you feel confident in understanding how to use each component after reading the instructions? [L]
4. How helpful were the instruction videos and pictures on the website? [L]
5. How user-friendly was the design of the website? [L]
6. How well did the website integrate the three different components into a cohesive experience? [L]
7. Are there any additional features or functionalities you would like to see included in future versions of the website? [O]
8. If you have any additional remarks or questions regarding this section, you can mention them here [O]

Section 5: General questions

1. How would you rate the onboarding experience you underwent when starting with your current job? [L][EX]

2. If you want, elaborate on your answer [O][EX]
3. From one to five, how would you rate the idea of implementing the pre-onboarding kit in the onboarding process of a starting employee? [L]
4. To which extent was the Ecare house style implemented in the prototype? [L][E]
5. If you want, elaborate on your answer [O][E]
6. How feasible do you think the implementation of this kit will be? Think of i.e. the scalability of the components [L]
7. If you were to invest in such a product as a manager or director, how much would you be willing to pay per onboarding kit? A rough estimation is fine for this question [O]
8. Please rate the different components of the kit, placing your most favorite to engage with at number one and your least favorite to engage with at number three [M]
9. If you have any final remarks regarding this section or the evaluation as a whole, you can mention them here [O]

Appendix G

Usage of Generative AI

During the preparation of this work, the author used the AI tools ChatGPT and Grammarly in order to paraphrase and correct the grammar and spelling of this thesis. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the work.

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