Attracting more international talents to work in Finland — Mixed-method user research

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Abstract

This thesis investigates the mixed-method user research throughout the Work in Finland website redesign project, aiming to enhance Finland's visibility and attractiveness to international specialists. The study employs qualitative and quantitative data analysis, including semi-structured interviews, thematic analysis, web analytics, tree testing, usability testing, and User Acceptance Testing.

The project follows the "double diamond" design framework, comprising four key phases: Discovery, Describe, Design, and Build. Initially, user research was conducted to gain insights into the needs, preferences, and pain points of international talent working in Finland. Based on the findings, a comprehensive design solution was developed, incorporating Promotional, Call-to-action, and Informational user journeys. Subsequently, user testing was conducted to evaluate and validate the solution, gathering feedback from target users on various aspects, including structure, design, and implementation. The outcomes of these user tests demonstrated a positive reception of the Work in Finland project.

The utilization of mixed-method user research proved instrumental in facilitating effective communication between the Work in Finland project team and

the target audience. It established a user-friendly foundation for the concept and design, contributing to the project's widespread acceptance.

1. Introduction

This thesis focuses on the user research conducted for the Work in Finland website redesign project. The research aims to analyze the motivation of international specialists for relocating and provide insights to enhance Finland's image and attractiveness as a destination for work and living.

The Work in Finland website redesign project was a part of the Work in Finland initiative launched by the Finnish government to meet their specific requirements. This initiative falls under the jurisdiction of Talent Boost, a nationwide program focused on attracting foreign talent and supporting their integration and migration to Finland (Talent Boost, n.d.). Talent Boost is directly managed by the Ministry of Economic Affairs and Employment of Finland (TEM) in collaboration with the Ministry of Education and Culture.

Work in Finland is a meticulously coordinated project managed by Business Finland, a Finnish public organization operating under the Ministry of Economic Affairs and Employment. This initiative works closely with KEHA, the Development and Administration Centre for ELY Centres and TE Offices, as well as several other national governmental organizations. Its primary objective is to attract international talent to Finland, with Business Finland

playing a central role as the operational coordinator. The project's website serves as a vital portal solution, facilitating seamless access and engagement. The inclusion of cities and municipalities across Finland enhances the collaborative framework and expands the project's outreach.

The Work in Finland website redesign project is a collaborative effort between Business Finland and Accenture. Accenture, a global professional services company, signed a lead agency agreement with Business Finland in October 2021, enabling the delivery of services across Finland Promotion Services. Work in Finland is one of the units within this service area. I participated in the project as a user researcher and product designer representing Accenture.

The process of rebuilding the workinfinland.com website began in December 2021, with formal implementation starting in January 2022, and the initial version was released on November 21st, 2022. As a User Researcher and Interaction Designer, I have been involved in all stages of the research and design phases since the project's inception. Due to the collaborative nature of the project, many individuals contributed to its development, and below is a list of all participants who made significant contributions:

- **Accenture:** various team members from Accenture played crucial roles in different phases of the project, including Project Managers, Design Leads, Business Designers, Design Researcher, Product

Designer, Visual Designers, Analysis Consultants, Product Owners, Content Strategists, SEO Specialists, Software Developers.

- **Business Finland:** the members of Business Finland provided invaluable guidance, feedback, and influence throughout the project. This includes the workinfinland.com Product Owner, jobsinfinland.com Product Owner, Work in Finland Project Manager, and Marketing Manager.

During the thesis-focused sections of the project, I collaborated with a Business Designer to conduct user interviews and create user journeys. In other sections, I independently conducted usability tests and User Acceptance Testing.

The overall objective of the project is to design a national platform that strengthens the country's brand, making Finland an attractive destination to work and live in. The platform aims to provide information about applying for jobs in Finland, and Finnish working life, and ultimately contribute to achieving talent boost targets. In the initial release, the primary target audience of the national platform is international talent. The project is conducted in collaboration with a working group representing different stakeholders such as TEM, KEHA, and ELY. The platform is intended to integrate content and services from various stakeholders in Finland to meet the needs of global talent. The specific scope and nature of these integrations will be clarified during the project.

The main objective of the thesis is to present the qualitative and quantitative user research conducted for the project, demonstrating how it provides reliable user data and valuable insights for the website redesign. The thesis showcases the iterative process and evaluation of different phases, highlighting the significance and usefulness of user research. Additionally, the thesis aims to encourage user researchers, project decision-makers, and other audiences to recognize the importance of various forms of user research.

User research in the project includes the following tasks: user interviews, web analytics, as-is and to-be user journeys, information architecture, prototype usability testing, and User Acceptance Testing (UAT). The study aims to first understand international specialists' motivation to come to Finland and relocation factors, from which qualitative data is collected and analyzed. Thematic Analysis is the primary method for analyzing user interviews, and it will receive the most attention in terms of writing. Quantitative data from current workinfinland.com is then used to gain insight into users' main focus. Google Analytics is employed in this phase to gather user information and interaction data. After the initial phase of user research, a user journey is created based on the research outcomes. The project later conducts two rounds of user testing: usability testing of the Figma prototype and UAT of the QA environment implementation.

For research and design in the project, the Design

Thinking “Double Diamond” Process Model, as proposed by Ball (2019), is used for overall orchestration. This model combines two diverging and converging processes to address a design question and is widely accepted as a depiction of the design process (Ball, 2019). Figure 1 demonstrates the project’s process using the “Double Diamond” model. User interviews, web analysis, to-be user journeys, usability tests, and User Acceptance Testing will be emphasized in the writing, while the other tasks will be mentioned but not the main focus. Tasks in the Work in Finland project that are not relevant to the thesis are not included in the chart.

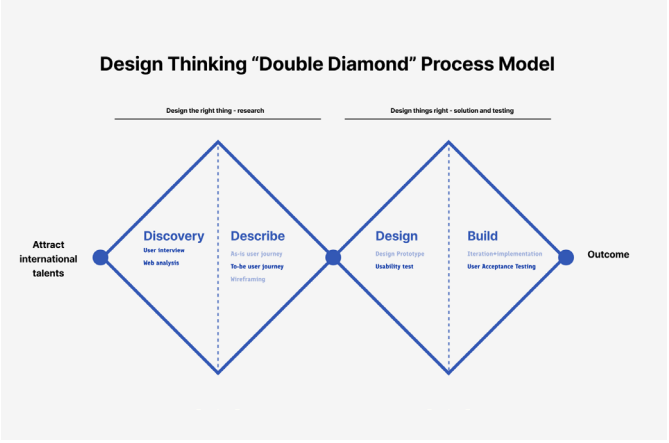


Figure 1. Design Thinking “Double Diamond” Process Model

1.1 Background

The talent shortage in Finland

The aging population and skills shortage are the main reasons Finland is attracting international talent (Ministry of Economic Affairs and Employment of Finland, 2020). The Ministry states that job opportunities in Finland requiring a diverse range of skill sets are increasing due to the demographic change in the country, with an aging and decreasing population. According to the forecast, the working-age population (aged 15-64) is projected to decrease by 40,000 by 2030. The demographic dependency ratio is estimated to reach 66.4 percent in 2040 and 75.2 percent in 2060, significantly higher than the global average (Ministry of Economic Affairs and Employment of Finland, 2020). This ratio measures the pressure on the productive population by dividing the non-working-age population by the working-age population. A report by Paavola et al. (2020) highlights that more than 105,000 people will retire in the public sector by 2029, accounting for close to one-third of the current workforce in that field.

Finland's changing societal landscape, transitioning from an industrial economy to a service and technology-driven society, necessitates an increasing number of specialized skills (Ministry of Economic Affairs and Employment of Finland, 2020). Similarly, other countries strive to retain their domestic

workforce while attracting foreign nationals for employment opportunities within their borders (European Labour Authority, n.d). Consequently, emerging and highly specialized skill sets are in high demand, including in Finland (Ministry of Economic Affairs and Employment of Finland, 2020).

Brain drain is also a growing concern for Finnish authorities, as the number of highly educated individuals moving to Finland is significantly lower than the number of highly educated employees leaving the country (Ministry of Economic Affairs and Employment of Finland, 2020). Countries are increasingly implementing strategies to attract their expatriated citizens back, capitalizing on technological advancements and intensifying competition for skilled talent. This approach is also gaining traction in Nordic countries, facilitating the return of skilled workers with established international networks.

Change in lifestyles

The ongoing lifestyle change adds complexities and opportunities for global talent attraction. A literature review conducted by Hagen-Zanker (2008) suggests that income and the need for security are the primary factors considered when making migration decisions. However, a more recent study by Castelli (2018) explains that with the influence of modern communication technology, such as social media, people are increasingly aware of living conditions in the 'affluent world.' People's migration decisions are

driven by factors such as urbanization, climate, sexual identity, religion, education, and more (Castelli, 2018).

Furthermore, the COVID-19 pandemic continues to significantly impact and accelerate various trends related to global talent attraction. Although the pandemic temporarily reduced the immediate need for global talent, there are several influencing factors progressing in the background. According to the International Labour Organization (2021), the pandemic has exerted significant pressure on the global economy, leading to downsizing and business closures. They estimate that the world lost 230 million full-time workers due to the pandemic.

Complexities in talent attraction

Attracting an international workforce is not only a responsibility for companies but also for nations or municipalities (Ministry of Economic Affairs and Employment of Finland, 2020). According to the report, traditionally, public sectors have been responsible for creating recruitment platforms. However, with increasing difficulties in recruiting skilled labor for more demanding positions, talent attraction requires greater attention from cities and governments. As a result, many public sectors are investing in and collaborating on international talent attraction, innovation, and migration policies.

Cities in Finland are actively involved in talent attraction. Given the ongoing trends of talent

shortage and the global competition for talent, Finland, as one of the competing countries (Paavola et al., 2020), needs to develop a more effective talent attraction strategy (Ministry of Economic Affairs and Employment of Finland, 2020). The mixed model involving both the country and its cities is advantageous: national governments establish the overall legal conditions, while cities have direct involvement in specific campaigns. Additionally, cities often have closer relationships with local businesses, allowing for a combination of city branding and employer branding.

Digitalization has become a crucial element in facilitating collaboration, as it supports increased interactions among various stakeholders. An appropriate platform is essential for achieving this. Through digitalization, all stakeholders can benefit from improved communication, streamlined processes, more efficient permit procedures, and an overall enhanced user experience.

One outcome of the aforementioned trends is the facilitation of relocation, which is influenced by all the areas discussed so far. Cities have a contextual and up-to-date knowledge of regional labor markets as they regularly interact with companies. This understanding enables them to recognize the growing talent needs in different sectors. Additionally, through increased collaboration, stakeholders can better identify the local needs of various regions and industries within the labor market. Consequently, they can create service

models tailored to accelerate the employment of global talent in specific regions or industries.

The government aims to attract the right talent, at the right time, and in the right place. To accelerate and enhance the attraction of global talent, as mentioned previously, governmental collaboration and internal discussions are necessary to define individual local labor demands. The opportunities must then be effectively communicated to the appropriate target groups. Furthermore, as digitalization can ease administrative burdens and streamline processes, it enables the creation of highly targeted campaigns for talent groups with specialized skills that are most needed by the city or country.

In addition to targeting, creativity is essential in marketing efforts. As mentioned earlier, Finland requires integrated national and regional campaigns. Moreover, through digitalization and AI, the best campaigns combine scale with an experience that feels almost personally tailored to the individual. With this understanding, the question arises: How can we better understand global talent and their preferences and establish connections through follow-up information and services?

1.2 Goal of the Study

The goal of the thesis is closely aligned with the objectives of the main stakeholders. The first step in the research process is to understand the goals of each party and establish a feasible and meaningful plan. Subsequently, a detailed prioritization and study plan are developed. User research serves as the primary approach to achieving the stakeholders' goal.

1.2.1 The Goal of the Finnish Government

As discussed in Section 1.1, the government of Finland is the primary stakeholder in the project, and its objective is to increase the work-based immigration of experts through the Talent Boost program (Ministry of Economic Affairs and Employment of Finland, 2020). The Talent Boost program has three specific objectives outlined.
Firstly, it aims to encourage employers in Finland to be willing to recruit international talent.
This objective is crucial as talent shortage is an ongoing issue not only in Finland but also in many other countries. Many companies are interested in expanding internationally, and the project must incentivize and guides employers to hire international talent.
Secondly, Finland aims to establish its unique selling points to attract and build an appealing reputation

among international audiences. It is important to create an attractive attribute and reputation that sets Finland apart from other countries.

Lastly, by ensuring the right expertise is matched with the appropriate environment and positions, Finnish companies and organizations can thrive and flourish with the infusion of international talent.

The term "international talent" encompasses various groups and positions. The Talent Boost document provides a clear definition of the following groups as international talent: international specialists, employees, start-up entrepreneurs, students, and researchers.

1.2.2 The Goal of Work in Finland Project

The project Work in Finland aims to support and fulfill the objectives of the Talent Boost program. However, due to the broad scope of the objectives, it is necessary to provide further clarification on several aspects.

One important consideration is the diverse nature of the "international talent" target group. This group encompasses a wide range of individuals, and within it, there are numerous potential segments with distinct needs and motivations. For instance, the motivations of a start-up entrepreneur and a doctoral researcher in a university may greatly differ.

Another key factor to address is the significance of employers in Finland for talent attraction. The willingness and ability of employers to hire international talent are clearly outlined in the Talent Boost objectives. While the research and design efforts should take into account the needs of Finnish employers, it should be noted that they will not be the primary focus. Nevertheless, studying both target groups can yield mutual benefits.

Additionally, it is important to acknowledge that talent attraction is a long-term goal. However, there is a sense of urgency among various stakeholders to observe positive outcomes from the Talent Boost program within a reasonable timeframe.

To address these points, the project should consider targeting a narrower and more specific group within the international talent pool. It is crucial to understand the unique needs and motivations of this selected group. Moreover, while the needs of Finnish employers should be taken into consideration, they will not be the main area of focus. Establishing a timeline and prioritization will be essential to drive the project forward. Following extensive discussions between Business Finland, Accenture, and stakeholders, it has been decided that the website workinfinland.com will specifically target work specialists in digital industries. The first release of the website is scheduled for late November 2022, approximately one year after the initial discussions. Initially, the pages and functions dedicated to employers will be developed as a Minimal Viable Product (MVP).

1.2.3 The Goal of User Research

In summary, the Work in Finland project has a target audience of international specialists and aims to launch a website with a renewal design. To achieve this, gathering information from international specialists regarding their behavior, opinions, preferences, and comments is crucial. Additionally, once the product reaches certain points, it would be beneficial to collect data or measurements related to usability and user satisfaction.

The primary objective of this research is to utilize insights from user research to design a valuable solution for international talent. During the initial stages of the project, the research will focus on identifying the needs and desires of potential international talent and assessing their interest in coming to Finland. As workinfinland.com is a website renewal, it will eventually become a publicly available product catering to a wide range of potential users. User research will play a key role in designing a solution that effectively meets the needs and expectations of international talent. Additionally, user research will evaluate whether the solution aligns with user goals and assess its usability in terms of effectiveness, efficiency, and user satisfaction.

1.3 Research Questions

To ensure a comprehensive understanding of the topic and address specific aspects, it is essential to formulate focused research questions. In this thesis, two distinct questions were posed during different phases of the project, each serving a specific purpose. The question asked in the research phase is “How is the journey of international talent coming to Finland?”; the question asked in the solution and testing phase is “How easy the solution is to understand and use?”. Both questions target international talent and try to understand their opinions. Figure 2 illustrates two different research questions in the double diamond model.

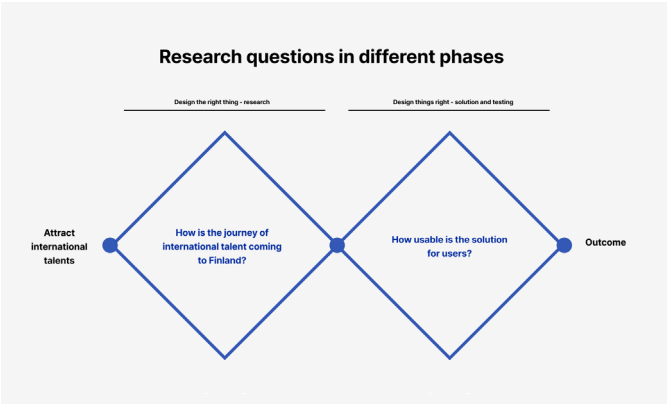


Figure 2. Research questions in different phases

1.4 Research Scope

The research conducted in this thesis aims to address the two aforementioned research questions outlined in Section 1.3. Given the relatively limited timeframe, a combination of primary research and secondary research methods is employed to ensure a comprehensive investigation. The secondary research involves a literature review, which examines existing studies, and relevant topics, and provides valuable insights into the Work in Finland project. Specifically, the literature review explores the double diamond model as a guiding principle and compares various user research approaches, data sources, and methods of measurement. Additionally, user engagement is studied as a significant aspect, which is discussed in Chapter 2 of the thesis.

The primary research in this study predominantly focuses on answering the first research question, "How is the journey of international talent coming to Finland?" The main sources of insights for this question are international specialists who have experienced the process of relocating to Finland firsthand. Chapter 3 delves into the detailed investigation conducted to address this question. The scope of this study encompasses understanding the motivations and relocation factors of international specialists, as well as analyzing the attractiveness of Finland as a country for employment and living.

By analyzing the current user journey on workinfinland.com, the project aims to propose improvements that better serve the needs of users. The subsequent steps involve constructing a to-be journey based on the findings of this analysis.

Regarding the second research question, which explores the ease of understanding and usability of the proposed solution, the primary sources of information are international talent who possess limited knowledge about Finland but are considering relocation. Their perspectives are crucial in assessing the effectiveness of the solution. Chapter 4 provides a comprehensive account of this research, including the utilization of various user testing methods to evaluate the outcomes of the project.

1.5 Research Ethics

The present master's thesis, being affiliated with Aalto University, adheres to the guidelines for ethical principles of research and integrity established by the university (Aalto University, 2018). In line with these guidelines, various parties have been involved to ensure that the thesis meets the requirements in terms of ethical acceptability and reliability.

To address research ethics in this thesis, Pimple's

organizing scheme for the responsible conduct of research is introduced. This framework consists of three fundamental questions: "(A) Is it true? (B) Is it fair? (C) Is it wise?" (Pimple, 2002). Throughout the process of writing this thesis, all three aspects have been taken into careful consideration to uphold research ethics and integrity.

1.5.1 Truth of the Research

The research in this thesis aims to avoid data manipulation and falsification. The primary objective of this project is to gather honest comments from participants to gain a better understanding of the requirements for attracting international talent. As a researcher, I must avoid collecting manipulated data and to prevent the use of leading and misleading questions. Such practices can lead to false understandings of the subject matter and misdirect the project in an unpredictable and incorrect direction.

Before initiating the project, several techniques were employed by me and my organization. One approach involved avoiding the use of leading and misleading questions when formulating interview questions. The research questions were discussed with researchers, consultants, and managers from Accenture Song, as well as specialists from Business Finland. This collaborative process ensured that the research questions were not influenced by a single individual's biased perspective. Additionally, the questions were designed to be neutral,

without any underlying intention to influence participants' responses. During meetings with participants, I always refrain from encouraging or guiding them toward a preferred answer. Ensuring equal preliminary understanding is crucial to avoid misleading participants through varying levels of information. Therefore, both the other researcher and I provide equal information to all subjects to prevent unintentional bias.

After gathering the raw data, I employ a peer review process to avoid subjectively fabricating data and results. When presenting the research outcomes, I engage in discussions with talent attraction specialists from Business Finland to ensure the data's representativeness.

1.5.2 Fairness of the Research

Ensuring academic integrity and avoiding any form of plagiarism is a crucial aspect of this thesis. Appropriating ideas, processes, or results from another researcher's work without proper credit is not acceptable. The thesis takes careful measures to avoid any offense against the community of researchers and scientists. All research approaches and frameworks utilized in the project are commonly used and not original inventions by myself or the team. Therefore, when documenting thoughts and ideas in the thesis, the APA citation style is employed, and all references are properly listed in the bibliography. The thesis will undergo a plagiarism check conducted by Aalto University before publication.

Data privacy is given utmost consideration throughout the research process. Before each interview session, participants provided their consent for data gathering and usage by Business Finland. As a public sector entity, Business Finland has authorized the use of the data in this thesis. However, it is essential to protect the individual identities of the participants. Therefore, in the thesis, no participants will be identified by name or personally identifiable information.

1.5.3 Wiseness of the Research

The wiseness of the research is closely tied to its contribution to the common good. In the case of the Work in Finland project, which is conducted for Business Finland, a governmental organization providing public services, the aim is to enhance the conditions for international talent coming to Finland to work and live. By reducing barriers and facilitating the relocation of foreign specialists, the project aims to alleviate the talent shortage situation currently faced by Finland as a country.

This thesis does not inflict harm upon any research subject or the research community. The feasibility of achieving the project's goals has been thoroughly discussed between myself, the thesis supervisor, and advisors. In addition to the efforts made by myself and the stakeholders involved, I am open to receiving public scrutiny without any temporal constraints.

1.6 Thesis Structure

The thesis is structured into five chapters to comprehensively address the research objectives.

- **Chapter 1** introduces the background of the Work in Finland website renewal project and its goal in meeting stakeholder needs. The research questions are formulated based on this context, and the project scope is defined. This chapter also discusses the ethical considerations associated with user research.
- **Chapter 2** reviews relevant theories, frameworks, and methods from the existing literature that are applied during the research process and contribute to decision-making.

Chapters 3 and 4 present the detailed process of user research, corresponding to the two research questions:

- **Chapter 3** focuses on data gathering from users using various research methods, exploring the overall direction and concept of the website.
- **Chapter 4** presents the proposed solution and provides insights into its effectiveness through two rounds of user testing.
- **Chapter 5** concludes the thesis by restating the research topic and emphasizing its significance. It also addresses the limitations of the thesis and discusses potential future development possibilities for the project.

2. Literature Review

The literature review demonstrates the most important theories and literature influencing the study. The thesis applies Double Diamond Model for storytelling, uses multiple qualitative methods in research, and considers improving user engagement in all phases.

2.1 Double Diamond Model

The Double Diamond design process model, introduced by the British Design Council (2019), is widely recognized and utilized. It visually represents two rounds of divergent and convergent thinking, symbolized by the two "diamonds," with the aim of defining and solving a problem. The model consists of four phases: Discover, Define, Develop, and Deliver. Figure 3 provides a visual representation of the Double Diamond model as a typical design process (British Design Council, 2019).

The Double Diamond model is not only applicable as a strategic approach in management but is also

viewed as a framework for storytelling by Ball (2019). He considers the Double Diamond as a beautifully simple framework capable of conveying various design stories. The first diamond primarily focuses on defining the problem statement, i.e., "designing the right thing." The second diamond, on the other hand, is centered around exploring, demonstrating, and developing the solution, referred to as "designing the thing right" (Ball, 2019).

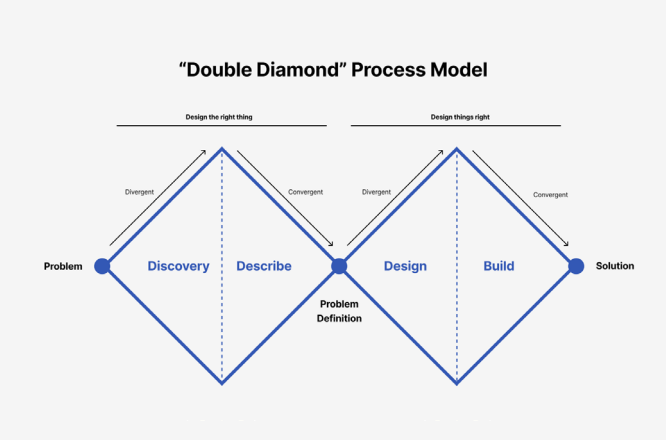


Figure 3. A typical Double Diamond Process Model (based on the concept of British Design Council)

2.2 Research Methods

In the field of human-computer interaction, researchers commonly employ objective and subjective measurements as the primary approaches for collecting research data. Objective data sources involve direct measurement methods. These measurements can be categorized into physiological measurements and behavioral measurements. Physiological measurements, such as electroencephalography and body temperature, are directly obtained from participants and can be compared across different individuals. On the other hand, behavioral measurements capture the actions of participants, such as mouse movement and eye movement. However, these measurements are not directly comparable across participants.

In contrast, subjective measurements are based on the opinions and ideas expressed by participants. The results obtained from subjective measurements are often unique to each participant, making them less comparable among individuals. In this study, both objective and subjective measurements are utilized to gather data and insights.

2.2.1 Qualitative Research

Although the research in the Work in Finland project involves the collection of both qualitative and quantitative data, a predominant focus is placed on

qualitative approaches. The academic community extensively discusses the appropriate utilization of qualitative research methods, with many of these methods originating from psychological research.

According to Hammarberg et al. (2016), qualitative research is suitable when the research question necessitates "factual" data or when information cannot be effectively quantified. Qualitative research primarily involves gathering qualitative data, encompassing opinions, ideas, and preferences. Therefore, ensuring trustworthiness, credibility, applicability, and consistency throughout the research process is crucial. The article further emphasizes that qualitative research can maintain scientific rigor and should receive greater attention and recognition from journals and wider audiences. The study conducted by Hammarberg et al. (2016) serves as a valuable and instructive resource, offering clear directions and guidelines for the qualitative research conducted in this thesis.

2.2.2 Thematic Analysis

Harper & Thompson (2011) introduce several commonly used qualitative research methods that contribute to understanding the foundations of human thinking, feeling, and behavior. Among these approaches, thematic analysis emerged as a qualitative method initially developed for psychology research and later adopted in various fields. The thematic analysis aims to identify, analyze, and interpret patterns of themes within qualitative raw

data, maintaining analytical depth while highlighting prevalent themes. It is recognized as a systematic, transparent, and traceable approach (Harper & Thompson, 2011). In Chapter 3 of this thesis, thematic analysis is selected as the appropriate qualitative research approach aligned with the project's objectives.

The term "thematic analysis" gained increased recognition when Braun & Clarke (2006) introduced it in their article "Using Thematic Analysis in Psychology." They argued that existing qualitative analysis methods fundamentally incorporated thematic analysis. Therefore, thematic analysis was positioned as a fundamental method within the broader context of qualitative research, emphasizing its flexibility and accessibility. The researchers provided guidelines for conducting thematic analysis deliberately and rigorously, outlining a non-linear six-phase framework:

- Familiarizing yourself with your data.
- Generating initial codes.
- Searching for themes.
- Reviewing themes.
- Defining and naming themes.
- Producing the report (Braun & Clarke, 2006).

In another study, Braun & Wilkinson (2003) explained concrete steps to be taken within each phase. These steps will be elaborated upon in Subsection 3.2.4 of this thesis. Additionally, the study encouraged researchers to adapt thematic analysis to suit the

unique characteristics of their research projects, aligning with the approach taken in the Work in Finland project.

Labra et al. (2019) described a step-by-step process of applying thematic analysis to explore the reasons why men pursue social work. Despite the difference in research topics, their study utilized the same six-phase framework proposed by Braun & Clarke (2006), which aligns with the approach taken in this thesis. Both studies highlight the importance of reproducible results, as emphasizing individual occurrences can introduce risks. The distinction between certain phases, particularly phases 4 and 5, was found challenging in both analyses. However, the information hierarchy differs between the two studies: Labra et al. (2019) utilized themes, subthemes, and codes, whereas this thesis considers themes and codes sufficient. Another difference is that Labra et al. (2019) presented the results with one main theme, while the analysis in the Work in Finland project explores user journey perspectives, resulting in three main themes.

2.3 User Engagement

User engagement refers to the evaluation of individuals' reactions to various objects, such as websites, applications, services, or products. The

level of engagement can vary and may be assessed directly through interactions or observed through user behaviors. Users perceive a product or service as engaging when they find it valuable.

User engagement is considered one of the goals of user experience (Damala et al., 2017). User experience, as defined by ISO 9241-210 (Ergonomics of human-system interaction-Part 210: Human-centered design for interactive systems), encompasses a person's perceptions and responses resulting from the use and anticipated use of a product, system, or service. It focuses on the overall experience of individuals using a product, such as a website or mobile application, particularly in terms of ease of use and satisfaction. Undoubtedly, user experience is a critical aspect to consider when designing a website.

Designers consistently highlight the importance of engaging users, a sentiment shared by cognitive scientists and psychologists who consider user engagement as an essential goal within the realm of user experience. In the early 1920s, modernist design was predominantly driven by usability, with designers primarily focusing on the form of a product. However, since the 1950s, the goals of user engagement have increasingly shifted towards emphasizing the experience of individuals using a product or service, although usability remains a fundamental consideration. The focus of web development has transitioned from the previously termed "user-centered system design" to cater to the needs of

users, placing greater emphasis on attracting users through factors such as interface aesthetics.

User engagement can be measured through various combinations of activities that indicate user involvement and participation. It encompasses specific behaviors, such as mouse clicks, mouse movements, and mouse drags, as well as more abstract behaviors like sharing, liking, and commenting. These metrics often drive commercial rewards and financial gains. Ultimately, a visualization that is more engaging and viewed more frequently is perceived as more successful and meaningful (Nosheen et al., 2019).

However, while user engagement can be measured and managed at a basic level, such as tracking mouse movements, evaluating user engagement related to emotions, cognition, and behavior poses greater challenges. Consequently, an examination of the influencing factors of user engagement in modern web development becomes necessary.

2.3.1 User Engagement Classification

User engagement is measured differently across various fields, but there is a common classification that divides it into objective behavior and subjective experience. Objective behavior refers to the evaluation of user engagement through automatic tracking of usage patterns. In the field of behavioral science, these patterns encompass metrics such as the number of logins, time spent online, and the

quantity and type of content accessed (Diana et al., 2016).

On the other hand, in the context of human-computer interaction (HCI), user engagement is conceptualized as a subjective experience that emerges during the momentary interaction with a system (Perski et al., 2016). Subjective evaluations often employ measurements such as self-reports and questionnaires. Social psychologists also argue that user engagement is influenced by individual characteristics of users, which include the perceived personal relevance of the intervention, the tendency to process information elaborately (known as the need for cognition), user expectations, and the perceived usability of the intervention (Diana et al., 2016).

2.3.2 Visualization in User Engagement

Data visualization is a common method used to present information on websites. A study conducted by Steve Haroz et al. (2015) investigated user preferences in data visualization, specifically focusing on the use of ISOTYPE. ISOTYPE, which stands for International System of Typographic Picture Education, is a technique that represents social-scientific data using abstract pictorial symbols. Unlike traditional charts that use simple shapes like lines or rectangles, ISOTYPE charts depict data using pictographic images. For example, the data about

dogs might be represented by simple outlines of dog images (Haroz et al., 2015).

The research findings indicate that users exhibit more accurate recall and recognition of ISOTYPE visualizations compared to rectangular bar charts. One approach employed in the study involved using "Tufte-style" gridlines, which are black-and-white bar charts with evenly spaced divisions. This method allowed users to make numerical estimates in addition to length judgments. The results showed that for values lower than 4 or 5, users' numerical estimates were fast and accurate. However, as the values increased, the accuracy of numerical estimates decreased rapidly. Therefore, dividing the bar chart into multiple sections using gridlines is unlikely to be beneficial. In contrast, ISOTYPE visualizations may be more advantageous for continuous data presentations that involve different types of information, such as visualizing sales of various products or displaying food preferences across different regions. Despite the increased visual complexity, users can still accurately interpret the information (Haroz et al., 2015).

However, the research conducted by Haroz et al. (2015) suggests that ISOTYPE visualizations may not always contribute to user engagement, particularly in terms of memorability. Breaking down larger objects, such as bars in a bar chart, into smaller components can be helpful. However, excessive visualizations can be distracting and confusing for most users. For instance, if the ISOTYPE images representing dog data are presented against a background of fish,

users may still find the ISOTYPE images visually appealing, but it can negatively impact their short-term and long-term memory. The study reveals that pictographs, as a form of data visualization, can aid users in remembering and engaging with the data, but the provision of superfluous or ambiguous visualizations can have the opposite effect. In demanding tasks, it can be concluded that visualized ISOTYPE charts can enhance attractiveness for users and improve memorability in certain situations.

As social media has become increasingly important in contemporary society, visualizations in social media applications often differ from those in other applications due to their high dependence on users. These mobile applications enable users to upload and share images for communication and self-expression. Over the past decade, social media platforms like Instagram, Snapchat, and Facebook have become popular channels through which users can strengthen their relationships with products, brands, and companies. For these large companies that own social media platforms, understanding their target users is crucial for maximizing benefits. However, many marketers face challenges in determining the best ways to satisfy their target users on mobile application development platforms and measuring user engagement in social media marketing activities, as well as calculating the return on investment for such activities.

A study conducted by Jaakonmäki et al. (2017) explores the most common and influential images on

Instagram, one of the popular social media platforms. The researchers analyzed a dataset of over 140,000 Instagram posts, collecting context and content variables. They then filtered and created a data frame for regression analysis, using LASSO regression to identify the most influential features. The study presents the results and compares them with existing studies, highlighting the most common emojis and image categories. The findings indicate that Instagram users tend to favor emojis with emotional expressions and images related to natural and relaxing experiences. For example, images classified as "mountain," "ice," "river," "sand," and "town" were found to be the most influential (Jaakonmäki et al., 2017).

This approach to identifying and quantifying factors that influence user engagement in web application development demonstrates how data analysis can generate business value for marketing organizations. The methods employed by the researchers can also be applied to maximize the impact of web application development activities and increase interaction with potential customers. The findings and methods can guide companies and marketers in creating engaging content, selecting influential creators, and creating successful marketing campaigns.

Engagement in mobile application development varies due to the diverse reactions of users toward visualizations. To address this, Mahyar et al. (2015) introduced a taxonomy framework for user engagement in information visualization.

The framework consists of five levels, each representing a distinct state of engagement. These levels are as follows:

- Expose: The user is just looking or viewing, knowing how to read the data.
- Involve: The user interacts with the visualization and processes the data.
- Analyze: Users analyze data to find trends that they can use.
- Synthesize: the user is able to form and evaluate hypotheses or testing.
- Decide: the user is able to draw final decisions based on evaluations of different hypotheses (Mahyar et al., 2015).

3. Research

At the beginning of the Work in Finland project, the key objective is to define the problems that need to be solved by the team, as the saying of "design the right thing". The first diamond of the project includes two steps: discover and describe the problems. Key activities in Discovery and Describe phases are listed in Figure 4.

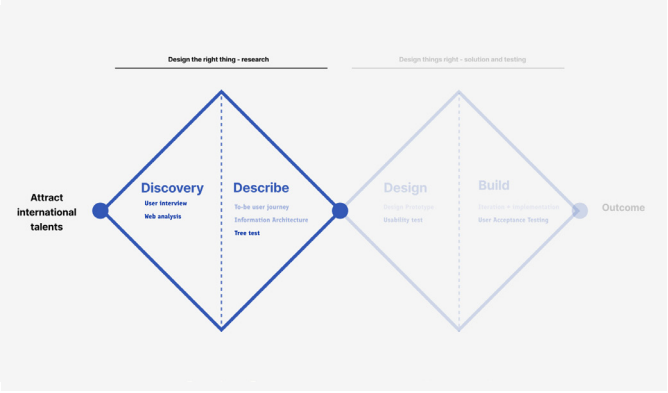


Figure 4. The key activities in Discover and Describe phase

The research question for the Discovery phase is: "How is the journey of international talent coming to Finland?" The question can be divided into two: the current state and improvement. To understand the current state, researchers in the team considered the following two questions necessary and important to answer:

1. How do international talent think about Finland?
In the Discovery phase, it is of great significance to know what steps the target group, international talent, go through to work in Finland. If certain things prevent the expat group from doing some required steps, it is worth a deeper investigation. Thus, user research should be conducted. In such research, the thematic analysis process and the result can well-describe the target users' main themes or common insights.

2. How easy is the current workinfinland.com to use for target users?
After listing the current pain points, further research should be done for current workinfinland.com. The project uses Google Analytics to gather a series of data of user actions, serving as behavioral and objective measurements. Data such as the clicking area of the web page, time spent within the site, and user browser settings are being measured. In web analytics, usefulness, and effectiveness are considered the major metrics.

3.1 Semi-Structured Interviews

The research employed semi-structured interviews as the primary method for data collection. The objective of these interviews was to gather qualitative insights into expatriate motivations and explore the key factors that influence their decision to move abroad. Additionally, the interviews aimed to gain an understanding of the end-to-end expatriation process, including information gathering and management, as well as the experiences that impact their decision-making from the users' perspective. Furthermore, the interviews helped define and justify the type of information that is valuable for the current target user group, laying the groundwork for future development.

3.1.1 Participants

In qualitative research, the selection of interview participants is typically purposeful, but it is important to follow a standardized process and ensure randomized results to minimize potential bias and mitigate the influence of other factors (Sargeant, 2012). Specific participants need to be chosen to align with the research questions and provide a more comprehensive and diverse understanding.

The target interviewees for this study were international talent who have already settled in

Finland and had gone through the relocation process. They have firsthand experience with the procedures involved. Since EU/EEA citizens do not require residence permits in Finland, the focus was primarily on participants from non-EU/EEA countries who undergo a more complex relocation process, as they may offer additional insights.

The study aimed to gather data from an adequate number of interviews. In qualitative research and thematic analysis, there are no strict standards or requirements. Existing research provides varied guidelines. However, Braun & Clarke (2006) suggest that 6-10 interviews are suitable for small projects, while Ando et al. (2014) argue that 12 interviews are sufficient for thematic analysis as they provide all the themes and a high percentage of codes (92.2%). The subsequent interviews mainly focus on code modifications. Therefore, the study concluded that conducting 12 interviews would be sufficient to generate codes for thematic analysis. Ando et al. (2014) and Guest et al. (2006) also observed data saturation after 12 interviews in their studies involving relatively homogeneous groups. Considering the need for sufficient data and the codes and themes derived from the interviews, the project aimed to invite 12 or more participants for interviews.

In this project, the identification and recruitment of suitable participants were crucial steps in initiating the interview process. As discussed in the first chapter, international talent is a broad concept, so the target group was narrowed down to international specialists

working in the digital industries. Potential participants were selected through company connections and personal networks of colleagues. Each potential participant received an invitation email, which provided an overview of the project, and the objectives of the interview, and expressed an expectation of receiving both positive and negative responses. Out of the invited participants, 10 accepted the invitation. These participants represented 6 different countries and 3 continents outside of the EU/EEA region. Among the 10 interviewees, 8 were working in technology-related roles directly related to digital technology. The interviewees had diverse levels of experience and job positions.

3.1.2 Materials

To ensure the collection of adequate and diverse data, the interview questions were carefully designed. The initial step involved listing out the interview questions, followed by clustering and grouping questions with similar themes.

The main topics and categories of the interview questions were as follows:

- **Attraction:** This theme aimed to gain insights into the participants' backgrounds, factors influencing their decision to relocate, and their process of acquiring information.
- **Reception and Integration:** This theme explored the participants' expectations before and after relocation, their experiences with soft-landing

activities, and their transition into their new lives in Finland.
- **Retention and Reputation:** This theme encouraged participants to reflect on their entire relocation process. It sought their perspectives on factors that influenced their decision to stay in Finland and their perceptions of Finland's reputation as a destination for international talent.

By organizing the interview questions around these main topics and categories, the study aimed to collect comprehensive data and elicit a range of responses from the participants. The full set of interview questions can be found in the Appendix.

3.1.3 Coordination

Two researchers, including myself, were responsible for coordinating and conducting the interviews. I individually coordinated one interview, while the other researcher coordinated three interviews independently. For the remaining interviews, both researchers were involved, with one researcher serving as the interviewer and the other as the notetaker.

Both researchers were also responsible for collecting the data. All interviews were conducted online using Microsoft Teams as the communication platform. Before each interview, the interviewer (either myself or the other researcher) requested permission from the participants to record the audio of the session. All participants provided their consent for voice

recording. To ensure data privacy, the interviewer read a data privacy statement at the beginning of each session, outlining the purpose of data collection and obtaining participants' agreement with the usage of the data. Participants were aware that their identities would remain anonymous, and their consent allowed Business Finland to use the interview data in projects and reports while ensuring confidentiality.

3.1.4 Analysis

In this project, Thematic Analysis was employed as the chosen approach for analyzing the raw data. The foundational framework used for conducting the analysis was adapted from Braun & Clarke (2006). This framework served as a fundamental starting point for the analysis process. However, it was also necessary to justify and tailor the process to align with the specific characteristics and requirements of the project at hand. The framework includes:

1. Familiarizing with data;
2. Generating initial codes;
3. Searching for themes;
4. Reviewing themes;
5. Defining and naming themes;
6. Producing the results (Braun & Clarke, 2006).

1. Familiarizing with data

Braun and Clarke (2006) emphasize the importance of transcribing verbal data into written form as the initial step in the analysis process, as it provides a solid

foundation for gaining familiarity with the raw data and identifying relevant codes. In the Work in Finland project, QuickTime Player was utilized for voice recording during the interviews, and Otto, an audio-to-text application, was employed for transcribing the recorded audio (APA, 2020). The resulting transcripts underwent manual editing and documentation, with redundant words being removed after thorough proofreading. These edited and readable transcripts were then considered as the raw data for further analysis.

In thematic analysis, researchers are required to get adequate familiarity with the content. Already as I got involved with interviewers and analysis, many preliminary analytical ideas and thoughts started occurring. The ideas were documented and served as the foundation and inspiration for the codes. To understand the data more deeply and broadly, I re-read the raw data multiple times to decide and apply codes, as well as write new codes.

2. Generating initial codes

Matching codes with supporting data is a time-consuming process that requires careful attention. Following the initial step, a range of preliminary ideas emerged and were recorded as starting points. In the subsequent step, these ideas served as a reference for generating initial codes. The coding process involved multiple iterations of re-reading the interview transcripts, ensuring equal consideration of each data point and code.

Once the data was extracted and coded, I proceeded to mark the frequencies to indicate the number of participants who mentioned specific codes. For instance, if a particular code was matched with data from one participant, it was marked as "Code(1)". An illustration of the coding process, including data extraction and coding, is presented in Figure 5.

Data Extract	Coded for
P4: "I didn't want to continue my life there and raise my future children there (in home country). So then I started looking for a country where such things would...	**Consider next generation during relocation (1)**
P7: "Basically, I know nothing about Finland when I came here" **P1:** "I first came to Finland because a temporary...	**Knew little about Finland before relocate decision (2)**
P4: "My primary reason for going there (to Finland) at that time was the fact that my plan to go to Germany changed",	**Finland was not the first considered destination (1)**

Figure 5. Examples of data extracts, code applied and frequency

3. Searching for themes

In qualitative research, a theme refers to a category that groups similar codes together and holds significance to the research question (Labra & Castro, 2019). The present study adopts a "theory-driven" approach, wherein specific questions guide the data collection process (Braun & Clarke, 2006). During this phase, detailed data such as raw data and coding are not considered. Instead, the focus lies on documenting codes into meaningful themes that accurately describe the observed phenomenon.

After compiling a comprehensive list of coded data, I began examining the relationships between codes and analyzing how they could be combined to form overarching themes. Based on the interview questions, the codes were distributed across four potential themes: Relocation factors, Informational sources, Integration, and Retention. Within each theme, codes were listed according to their frequency: High frequency indicates that at least five participants referred to the code, low frequency signifies that only one participant supported the code, and the remaining codes fell into the mid-frequency category. Figure 6 provides an illustration of how the codes are distributed across the dimensions of themes and frequencies.

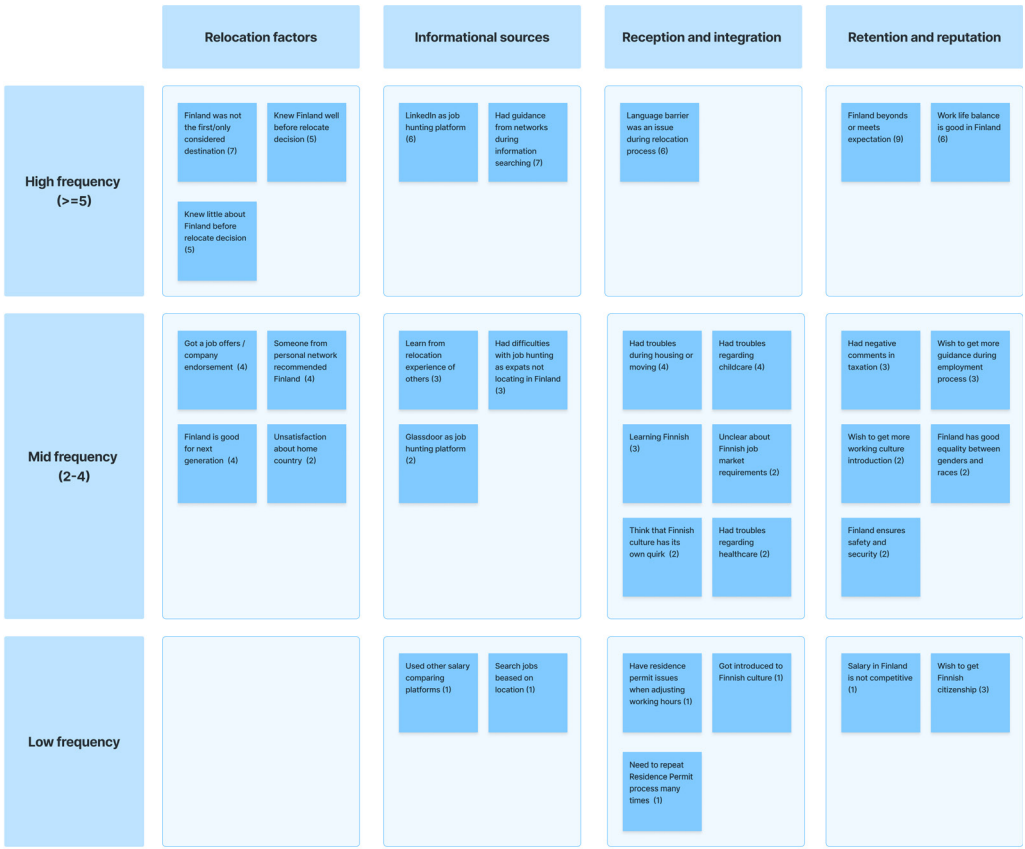


Figure 6. Initial thematic map, showing 4 main themes

4. Reviewing themes

The primary objective of this step is to refine the grouping of codes into distinct themes. I maintained the horizontal themes as they effectively represent different aspects of relocation. However, I revised the vertical categorization by dividing it into "positive feedback" and "need for improvement." The themes, along with their corresponding colors, indicate areas within each theme that require improvement.

In addition to refining the themes, certain codes were reviewed and re-categorized. To ensure the representativeness of the codes, those with low frequencies were either merged with other codes or formed as new codes. By the end of this phase, each code had references from at least two participants, and all codes were assigned colors indicating whether they represented positive aspects or areas in need of improvement. Figure 7 depicts the outcome after reviewing the themes.

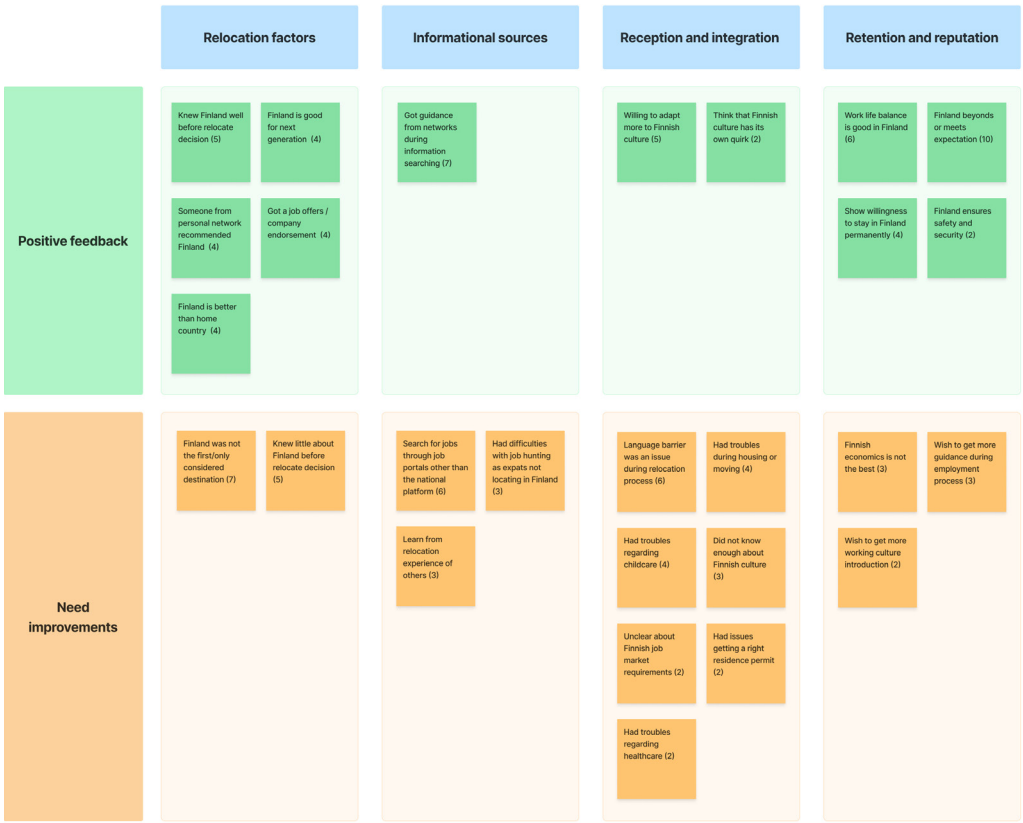


Figure 7. Reviewing themes

5. Defining and naming themes

This step provides a high-level solution from the perspective of the Work in Finland project and conducts a comprehensive analysis of the data in a systematic and meaningful manner. It involves refining the specifics of each horizontal theme. Through a careful review of the data and identification of recurring patterns, the original themes are reorganized, and the codes are recategorized into three main themes: Finland promotional, Call-to-action, and informational.

The theme "Promotional" encompasses the motivations and general impressions of participants regarding Finland. The "Call to action" theme includes interactive practicalities related to the relocation process. The remaining codes are grouped under the theme "Informational". Figure 8 illustrates the themes in the final version.

Figure 8. The final defined themes

6. Producing the results

The findings of the study reveal insights into the current relocation journey to Finland for international specialists. It considers and combines the perspectives of promotion, call-to-action, and information.

From a promotional perspective, it is evident that while Finland may not be the primary or exclusive destination for many participants, they still maintain a positive impression of the country. This positive perception is primarily driven by factors such as excellent work-life balance, high living standards, and promising opportunities for the next generation. Additionally, some participants highlighted that Finland's reputation for safety, security, and equality contributes to its attractiveness, despite certain concerns about the economic situation in the country.

Regarding the call-to-action aspect of the relocation process, participants expressed encountering various challenges, including language barriers, difficulties in finding employment, and a lack of familiarity with the working and living culture in Finland. Online job portals were identified as the primary resource for job hunting. However, several participants faced obstacles in securing employment within Finland, highlighting the need for better integration into the Finnish job culture before their arrival.

When it comes to information gathering, international specialists primarily depend on their networks in Finland for support and guidance.

However, they encountered obstacles in several crucial areas such as housing, childcare, healthcare, employment, the job market, and the residence permit process. Despite these challenges, a notable number of specialists expressed a positive inclination towards extending their stay in Finland for a longer period or even considering permanent residency.

These findings provide valuable insights into the experiences and perceptions of international specialists during their relocation journey to Finland. They highlight both the positive aspects and areas for improvement to enhance the overall relocation experience.

3.2 Quantitative User Data

Quantitative measurement in user research is used to assess the degree of a specific attribute. Lehmann et al. (2012) propose online behavior as an approach to evaluate the depth of user engagement with a website. They categorize user engagement evaluation metrics into subjective and objective measurements. User engagement itself is a subjective experience, and while subjective measurements capture and assess user perceptions, objective measurements quantify tangible metrics that can reliably indicate subjective states, such as the number of mouse clicks, task completion

time, or retention rate (Attfield et al., 2011). Objective data is collected using Google Analytics.

The websites targeted and designed for international talents are Work in Finland (The current workinfinland.com redirects users to an URL under Business Finland, https://www.businessfinland.fi/en/do-business-with-finland/work-in-finland) and Jobs in Finland (URL: https://jobsinfinland.fi/). The Work in Finland page is a one-page minimal variable product, as per the document from the Finnish Ministry.

The Jobs in Finland page, on the other hand, is a temporary beta version. The objective of web analysis is to track user engagement using quantitative data, such as popular topics and preferred browsers. Additionally, the analytics aims to provide insights for future design and structure improvements.

3.2.1 Data Collection

Google Analytics is utilized in the project as the tool for gathering specific user data. It enables website owners to monitor and analyze various aspects of their website's traffic and performance. By providing detailed information on visitor origins, page visits, duration of stay, and other relevant data, Google Analytics helps in understanding the site's usage and identifying areas for future improvement (Tyler et al., 2009).

To track website performance and collect visitor statistics, Google Analytics employs a Javascript page tag (Chai, n.d.). Since the old workinfinland.com now

redirects to a URL under Business Finland, the data is obtained from the Google Analytics account of Business Finland, specifically from the "99 Raw Data" view. In the segment settings, the inclusion criteria are set to "page: include 'do-business-with-finland/work-in-finland'," which ensures that only data from the specified URL is being tracked. The analytics data for Work in Finland covers a duration of 12 months, from January 1st to December 31st, 2021.

The duration for the analytics data of jobsinfinland.com differs. As the site was launched on July 1st, 2021, after the old workinfinland.com, the data for Jobs in Finland spans 10 months, from July 1st, 2021 to February 28th, 2022. The objective of this report is to gain insights into the user profile and journey of the old Work in Finland site and to provide recommendations for future development.

3.2.2 Data Analysis

The purpose of the Google Analytics report is to gain a comprehensive understanding of the user profile and user journey on the Work in Finland website, to provide valuable insights for future development. The analysis in this report follows the Awareness Engagement Completion (AEC) model proposed by Gott (2019). The AEC model encompasses three main themes, which are:

Awareness. Data demonstrates the users' basic information through browser settings. As Figure 9 shows, data of devices demonstrates that mobile users are the majority for both sites.

The demographics data shows that India and Turkey sent the most users to the old Work in Finland site, as Figure 10 shows. The data of "users by countries" can be highly influenced by marketing strategy during the duration.

Engagement. This theme focuses on user behavior on the website, which helps to track user actions and understand website performance. The tracking of bounce rate, as Figure 11 shows, means that when a user opens a single page on the site and then exits without triggering any other requests to the Analytics server during that session. Scroll depth describes how far website visitors scroll down a page as Figure 12 shows.

Completion. This helps to better understand what kind of information users are looking for and what they try to achieve on the site. Figure 13 shows data on Outlink, listing the most popular external links the users clicked through. The top two Outlinks are for job searching and residence permit.

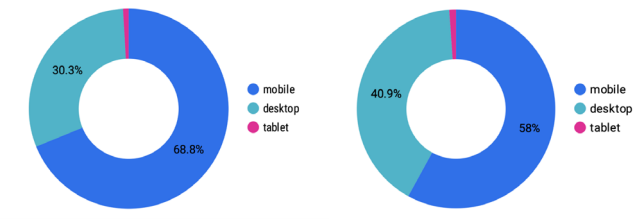


Figure 9. Users by devices (left: workinfinland.com, right: jobsinfinland.com)

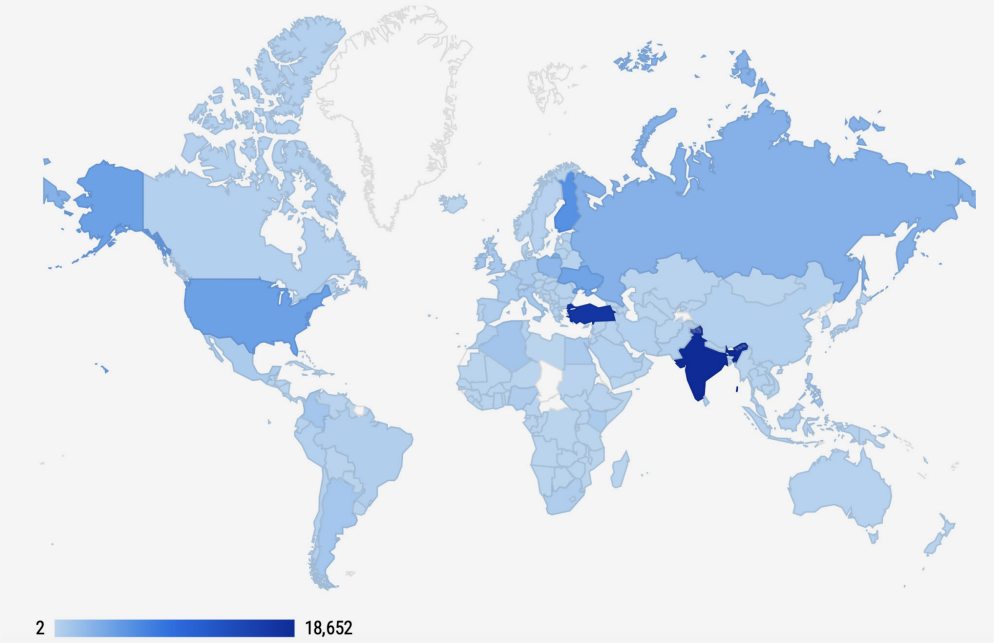


Figure 10. Users by country (Source: Business Finland Google Analytics & Data Studio)

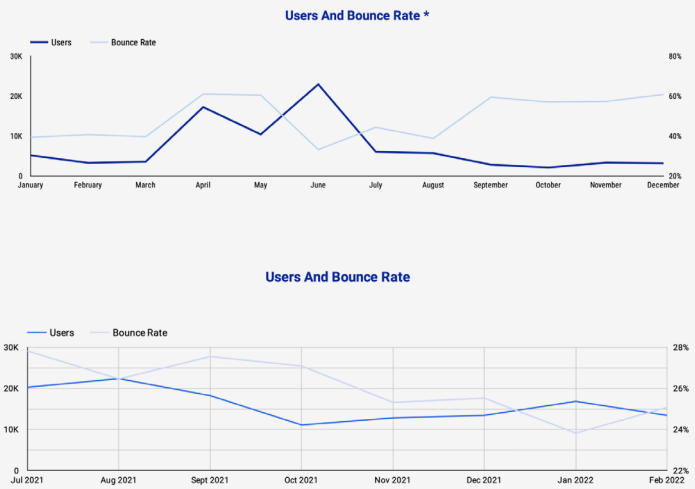


Figure 11. Users and Bounce Rate (Source: Business Finland Google Analytics & Data Studio)

Event - Outlink

	Event Action	Total Events ▼
1.	https://jobs.workinfinland.fi/	
2.	http://migri.fi/en/i-want-to-apply	
3.	https://www.infofinland.fi/en/moving-to-finland/non...	
4.	https://finland.fi/facts-stats-and-info/how-about-gett...	
5.	https://www.ihhelsinki.fi/	
6.	https://shortlist.net/finland-works-usa/	
7.	https://www.goodnewsfinland.com/category/society...	
8.	https://www.studyinfinland.fi/	
9.	https://www.linkedin.com/showcase/13017961/	
10.	https://www.suomi.fi/company	

Figure 12. Scroll Depth of old workinfinland.com (Source: Business Finland Google Analytics & Data Studio)

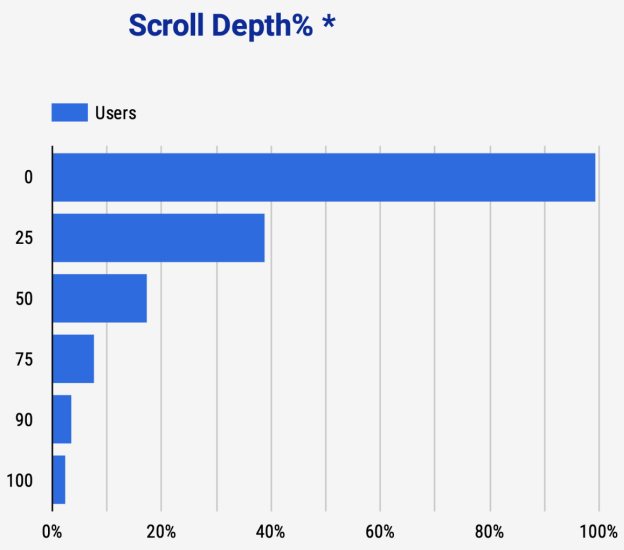


Figure 13. Outlink of old workinfinland.com (Source: Business Finland Google Analytics & Data Studio)

3.3 Website Architecture

This section further develops into the first research question of the thesis: "How is the journey of international talent coming to Finland?" Building upon the conclusions drawn in Subsection 3.1.4 regarding the current relocation journey for international talent, as well as the insights obtained from the analysis of website data in Subsection 3.2.2, the Work in Finland team develops a proposed user journey. Subsequently, an information architecture for the future website is constructed. To validate the robustness of the architecture, unsupervised user research is conducted. Throughout this process, a wealth of information gathered from the previous qualitative and quantitative research converges into a comprehensive high-level structure.

3.3.1.To-be Journey

The researchers in the Work in Finland team have created a visual representation of the proposed user journey, depicted in Figure 14. This journey illustrates the relocation process from the perspective of international talent, encompassing the Promotional, Call-to-Action, and Informational stages. While the visualization presents a linear progression, it is important to note that users may navigate back and forth between different stages based on their individual needs and circumstances. Each stage of the journey is associated with specific goals that users

aim to achieve, and the purpose of the website is to assist them in accomplishing these objectives. Given that users possess diverse backgrounds, knowledge levels, and motivations, the solution must promptly cater to their needs through well-defined and intuitive entry points.

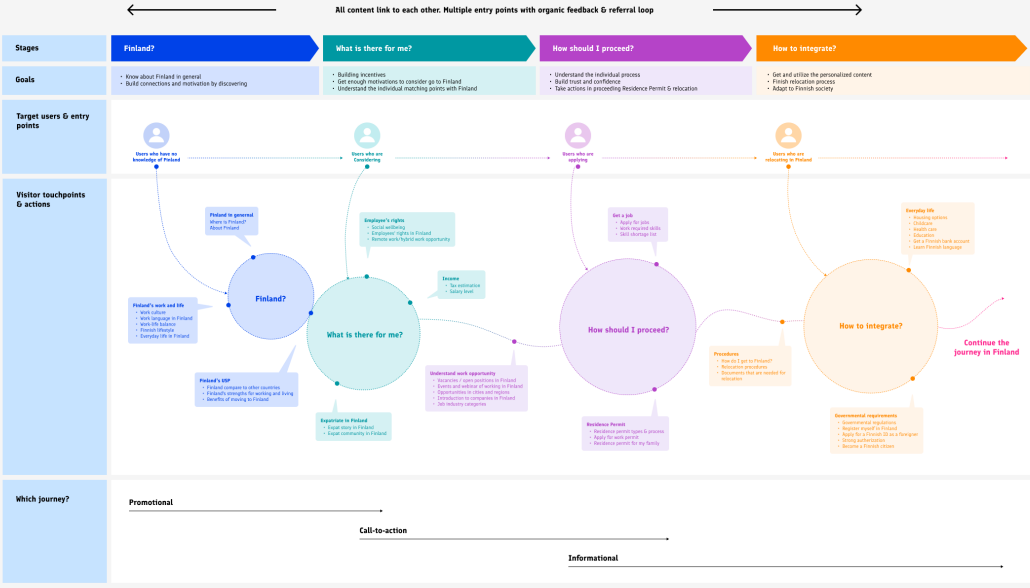


Figure 14. To-be journey with different stages

3.3.2 Information Architecture

According to Rosenfeld and Morville (1998), the objectives of information architecture are to establish the content and information that a website will include and to determine its organization and navigation structure. In line with these objectives, Figure 15 presents the initial version of the information architecture, which has been developed based on an understanding of the user journey and project feasibility. This visualization outlines the structure and hierarchy of content elements within the website, as well as the navigation pathways that users will follow to access and navigate through the information.

3.3.3 Unmoderated Tree Testing

The main purpose of tree testing is to evaluate and validate Information Architecture. In a tree testing, a group of participants are asked to find the locations of certain information in a hierarchical structure (Whitenton, 2017). Tree testing also helps in understanding the relationship between different topics and considering alternative entry points on a page. For example, if many users access the topic "Labour market" from the "Open jobs" page instead of the designated page "Why Finland - Working in Finland," it indicates a need to add an entry point for "Labour market" on the "Open jobs" page.

To conduct the tree testing, participants were invited via email, which included information about the

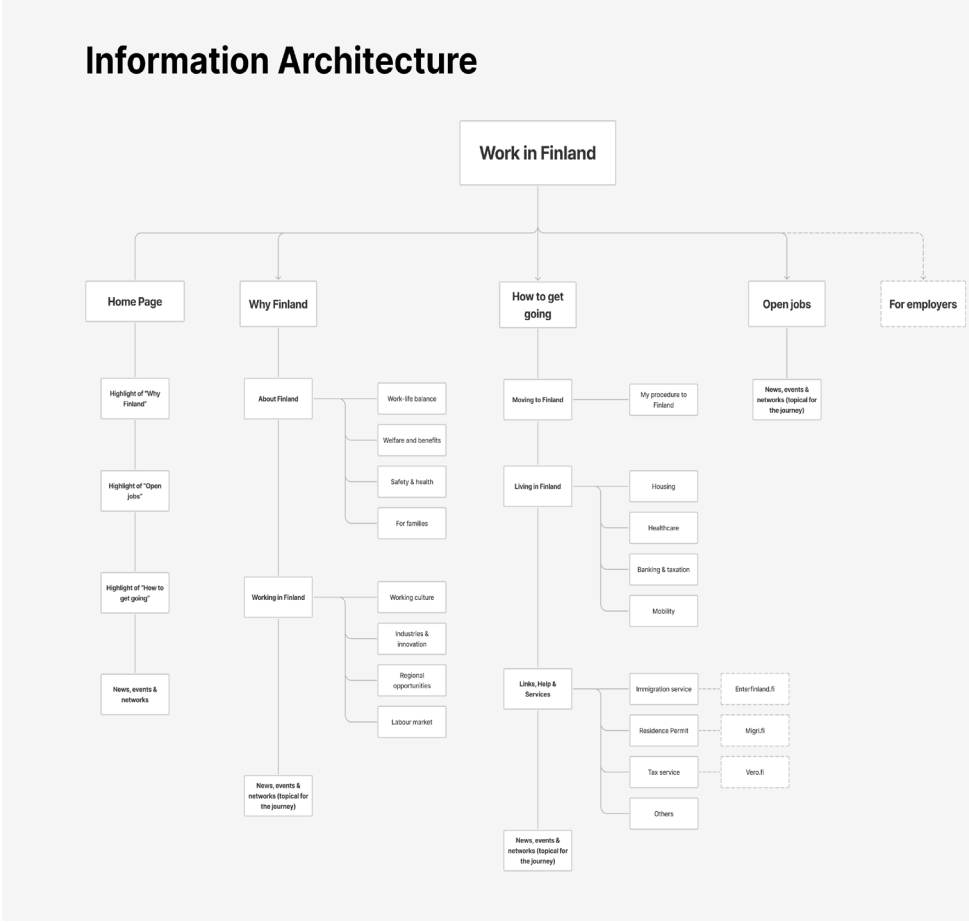


Figure 15. The first information architecture

purpose of the Work in Finland project, the objectives of the test, a link to the test, and the data privacy agreement. Invitations were sent to 16 participants, out of which 12 completed the tasks. Among the participants, 2 were from EU/EEA countries, while the remaining participants were from outside the region. All participants were proficient in English or capable of using English as their working language. Additionally, most participants had a background in digital studies or work.

The test was conducted with an online unmoderated approach. There is no direct interaction required between me and the participants in an unmoderated

Figure 16. A tree test example from Optimal Workshop

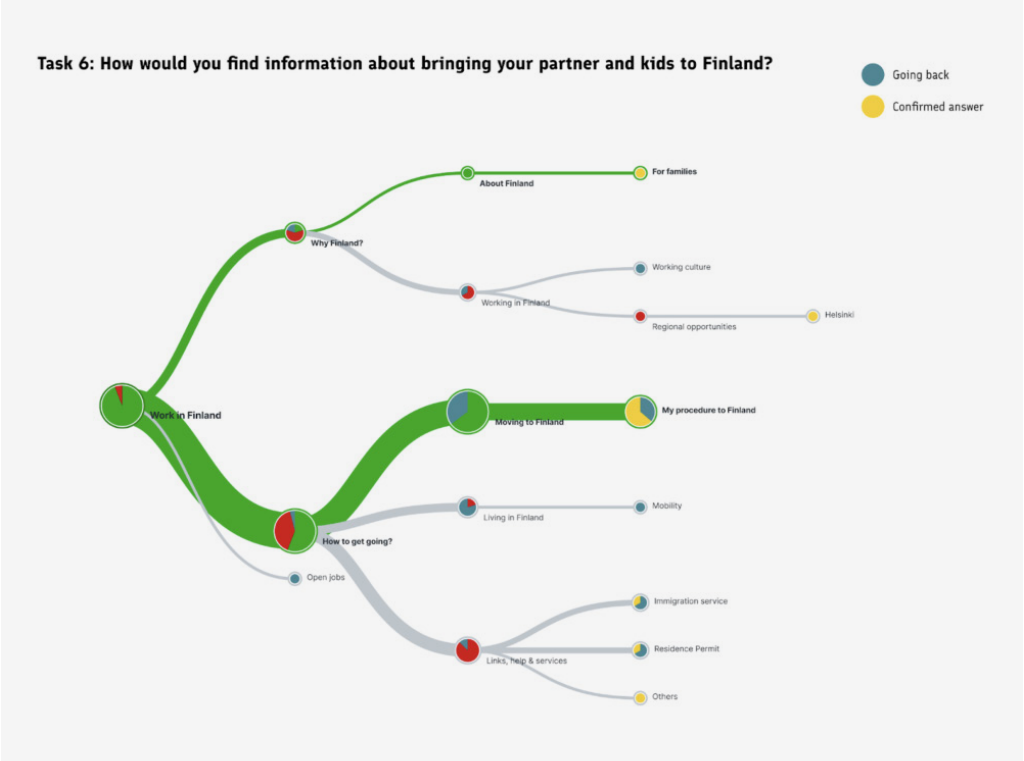


Figure 17. One visualized path from Optimal Workshop

test, and thus it saves time and effort from the team and the researcher (Whitenton, 2019). The testing software, Optimal Workshop, was used to document the Information Architecture structure. This online software provides instructions to participants, records their choices, and includes predetermined follow-up questions. Participants accessed the online test through the provided link.

In this project, the Information Architecture is designed to be a maximum of 3 levels deep, requiring

participants to click at least two times to access specific information. Figure 16 illustrates how users navigate and select the location of an example within Optimal Workshop. Once participants completed the test, a visualized path was provided for each question. This path was continuously updated as new test results were recorded. Figure 17 presents the results for a specific question.
To assess whether the structure effectively serves the needs of the target audience, I identified 13 important questions based on the preliminary information gathered from the interviews. These questions are directly related to the journey of potential target users.

1. How would you explore information about social welfare?
2. How would you explore different industries in Finland?
3. How would you search for jobs only in a certain city?
4. How would you find what type of Residence Permit should you apply for?
5. How would you explore the approach to opening a Finnish bank account?
6. How would you find information about bringing your partner and kids to Finland?
7. How would you find out if your occupation is popular in Finland's job market?
8. How would you find information of ordering a tax card?
9. How would you find information about Finnish public healthcare?

10. How would you search for a job in a certain industry?
11. How would you explore working opportunities and conditions in Tampere?
12. How would you explore Finland's work culture?
13. How would you find information about renting an apartment in Finland?

The results of the tree test indicate that the majority of tasks were successfully completed. For tasks that did not achieve predefined "direct success," it was observed that some topics did not have a single "correct" answer, as the user journey on the website is not always clearly defined. However, further investigation is warranted for tasks that resulted in "failures." The main issues identified in these cases were overlapping information and confusing labels, which should be addressed in the future structure and design of the website (Whitenton, 2019).
One advantage of conducting a tree test at an early stage is that it allows for flexibility in making changes. Since the project has not yet finalized specific content or detailed decisions, there is room to connect or modify topics and their locations. Based on the test results, the project proceeded with a modified Information Architecture to address the identified issues and improve the user experience.

4. Solution and Test

After defining an initial solution of a to-be user journey and information architecture, the key objectives of the Design and Build phase are to visualize and iterate the possible solution and implement it. At the end of the Design phase, I conducted usability testing to evaluate and give suggestions for iteration. With the final Work in Finland website implemented, User Acceptance Testing was conducted to validate the degree of acceptance. Figure 18 illustrates the "solution and testing" process and its activities in the project roadmap.

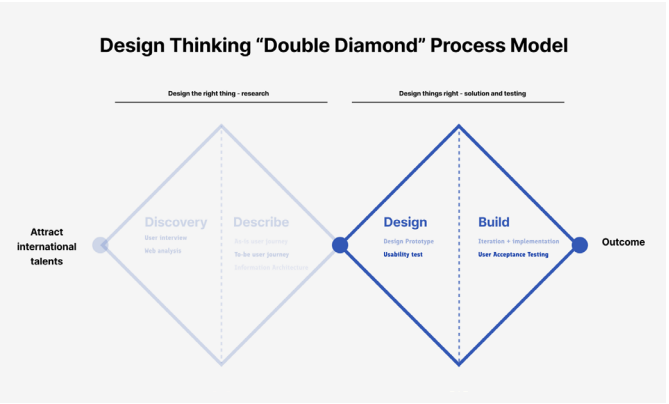


Figure 18. The process in the second diamond - "Solution and testing"

The second phase of the project focuses on addressing the second research question of this thesis, namely, "How easy is the solution to understand and use?" Building upon the findings from previous research, a proposed user journey and preliminary information architecture have been established to outline the high-level structure. However, when presenting these ideas to users, it is crucial to convey the structure in a visualized and realistic manner. Therefore, in order to provide insights into the aforementioned research question, a visual design solution has been developed.

4.1 Design Prototype

The previous phase defines three journeys for talent relocation: The promotional journey, the Call-to-action journey, and the Informational journey. The team visualizes the journey concept, applying information architecture as structure in the Design phase, combining with Work in Finland brand guidelines. A Prototype with more than 30 pages (including external links) was created in Figma, a collaborative interface design tool.

The main page showcases the key highlights of each journey and serves as the entry point to access them. Each journey is represented by a dedicated block, offering users a glimpse into its content. Figure 19

depicts the main page of the Work in Finland website, illustrating its layout and design.

The promotional journey, as Figure 20 shows, includes various sections that have been developed based on interviews. The "Life in Finland" section highlights the benefits of choosing Finland as a living destination, including work-life balance, welfare and benefits, safety and stability, and advantages for families. The "Working in Finland" section emphasizes the attractiveness of the Finnish working culture, emerging industries, numerous opportunities, and the rights and benefits enjoyed by workers. Furthermore, the "Opportunities across Finland" section features a map enabling users to explore major cities and access specific websites for detailed information on job opportunities in each location.

Call-to-action journey incorporates an Application Programming Interface (API) from the jobs in Finland website, facilitating the comprehensive listing of available job opportunities stored within the database. These jobs are categorized based on job types, such as "Engineering" "Academics" and "Technology". The design allows search and filtering functionalities that allow users to refine their job search based on specific criteria, including job type and location. A visual representation of this design is presented in Figure 21.

The Informational Journey page, as shown in Figure 22, provides essential practical information for international individuals interested in relocating

to Finland. The first section of this page provides insights into governmental regulations like acquiring a residence permit. The subsequent section focuses on providing guidance regarding various aspects related to settling down in Finland, including taxation, housing, healthcare, and commuting. The last section of the page gives an overview of all other Finland official websites.

Figure 19. Design prototype - Main page

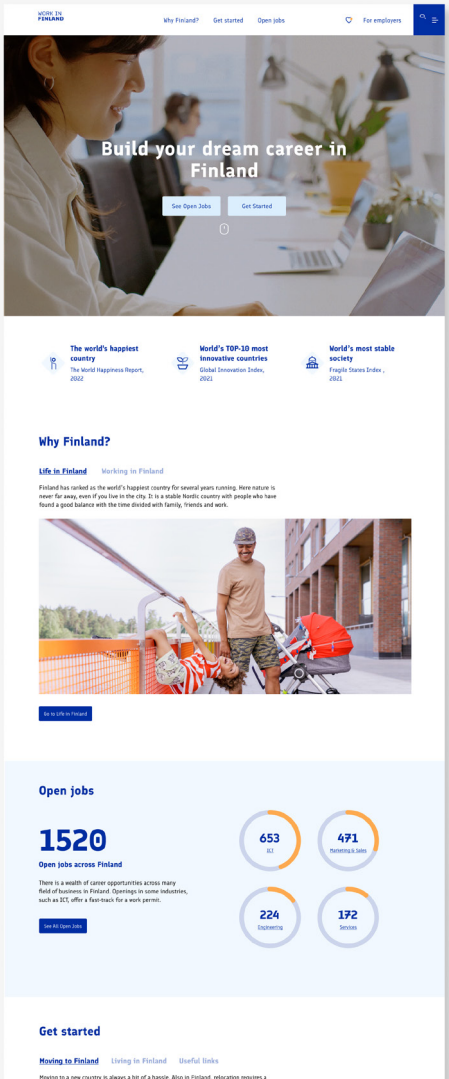
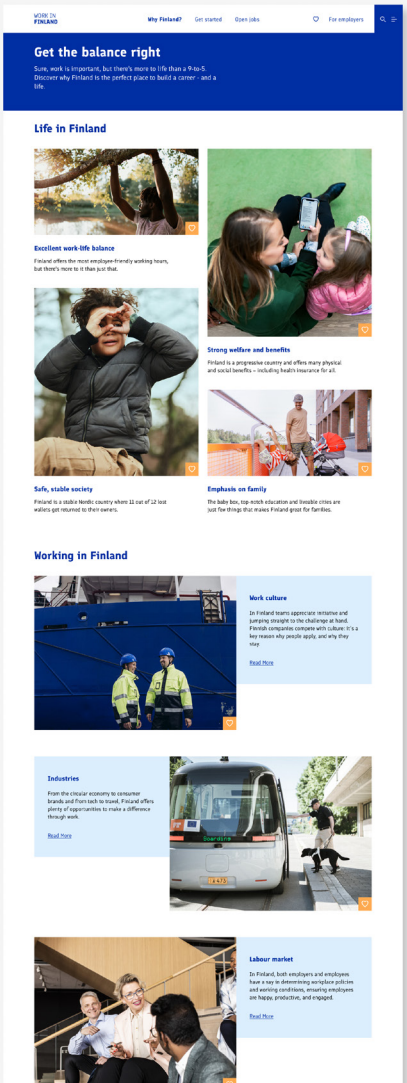
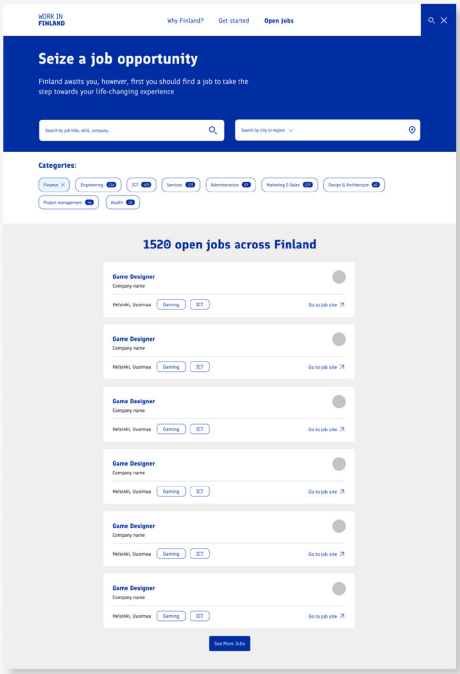


Figure 20. Design prototype - Promotional Journey





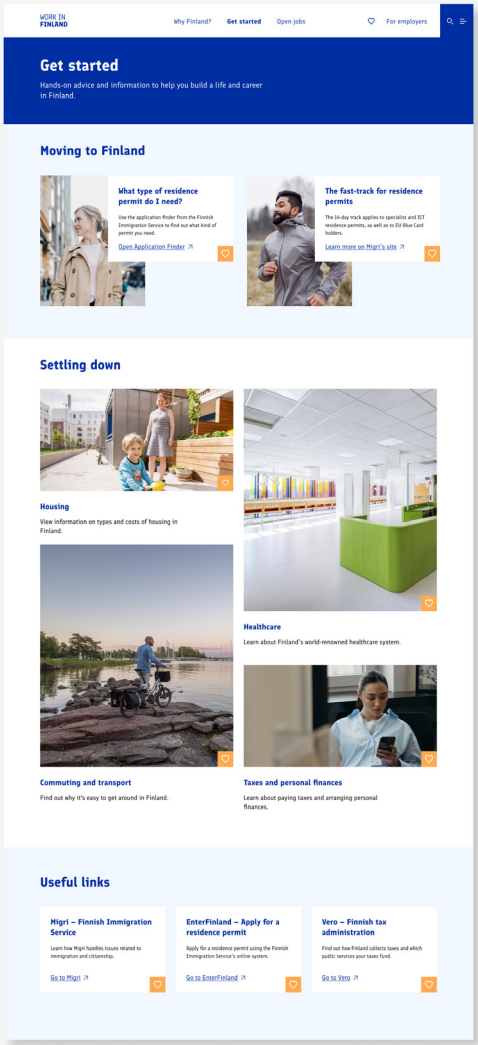


Figure 21. Prototype - Call-to-action journey

Figure 22. Prototype - Informational journey

4.2 Usability Test

4.2.1 Goal

Usability testing is essential for products as it helps identify errors, uncover opportunities for design improvements, and gain insights from target users regarding their behavior and preferences (Moran, 2019). Another objective of usability testing is to assess whether the prototype of workinfinland.com is easy to understand and use for the intended users.

The project uses the Figma prototype for usability testing. Before the testing, the structure and design of the prototype were validated by the team, although the content on many pages was not fully developed at that stage. Nonetheless, the prototype aimed to simulate the real and future product of workinfinland.com by incorporating the best available knowledge. Its main purpose was to provide a visual representation of the concept, allowing both the team and target users to understand it more effectively.

From a user research perspective, the Figma prototype facilitated the evaluation of the usability and correctness of the proposed solution. User feedback and thoughts were carefully considered throughout the research process. Additionally, the

prototype offered insights for predicting resource allocation in later phases, as it presented a tangible example of the potential product.

4.2.1 Preparation

Participants
According to a study by Nielsen (2012), it is generally sufficient to have 5 participants in usability testing to uncover most usability problems. Numerous case studies from the Nielsen Norman Group also suggest that testing with more than 5 participants may not yield significantly different results and could be a waste of resources (Nielsen, 2012). In this project, the team conducted remote usability testing via Microsoft Teams with 6 participants.

Ideally, the participants in usability testing should align with the target user profile or possess similar backgrounds, needs, and mindsets to the target user group (Moran, 2019). The target users of Work in Finland are English-speaking international specialists who are interested in working and living abroad. While the willingness to relocate can be challenging to define, the team specifically sought individuals with experience working and studying abroad, preferably outside of EU/EEA countries, and who use English as their working language. The team reached out to personal contacts and leveraged the internal network of Accenture, a large international company with a diverse workforce experienced in working

globally. Participants were selected from Asian and South American countries, working in digital industries at middle, senior, or manager levels.

Facilitators

In usability testing, my role is that of a facilitator, responsible for coordinating the testing sessions and administering tasks to participants. During the testing, I observe the participants' behavior and take detailed notes of their responses and comments. I need to maintain the quality of the testing process and ensure that there is no bias introduced, such as influencing participant behavior or leading them towards specific outcomes.

Tasks and questions

During the testing sessions, participants were given open-ended questions or tasks that required them to interact with the website. They had the freedom to explore various pages and sections, and they could choose to skip certain parts if they wished. Following the interactive phase, the facilitator conducted a series of follow-up questions to delve deeper into specific aspects of the website.

Moreover, the "think-aloud" method was employed during the testing. This method involved participants verbalizing their actions and thoughts as they performed the tasks. By using the "think-aloud" method, researchers can gain insights into participants' decision-making processes and identify

areas of confusion or difficulty they may encounter while using the website (Eccles & Arsal, 2017).

The following questions were asked during the session:

1. How would you find out about work culture/ lifestyle in Finland?
2. How would you find a job in Finland?
3. How would you find info about moving to Finland?
4. Going back to the landing page - does it provide relevant info?

The following follow-up questions were asked at the end of the session:

1. What were your first impressions of the page?
2. Did you feel the website motivates you to work in Finland? If so, please specify what sparked your interest.
3. What did you find useful?
4. Are you missing any relevant information?
5. How would you improve the website?
6. Any other comments you would like to share?

Schedule

As the main purpose of the Design phase is to design interfaces, the team worked in Sprint, indicating that a scrum team works to complete a set amount of work in a short, limited period of time (Rehkopf, n.d.). Thus, the project has a very tight schedule for user testing, and a minimal version of usability testing is applied. The simple version introduced by Moran

(2019) fits the project well. The testing took Three days for planning, conducting and analyzing:

Day 1: Plan the study.
Day 2: Conduct the test with 6 participants.
Day 3: Analyze the findings and convert them into redesign recommendations for the next iteration.

4.2.2 Data Collection and Analysis

Data in the user testing phase primarily consisted of online sessions with users. During these sessions, audio recordings were made with the consent of all participants. However, due to time constraints, transcripts of the sessions were not created. The data collection process mainly involved direct observation of participants and taking notes on their responses.

For data analysis, the research employed the Atomic UX Research approach, which involves organizing data into four columns: experiments, facts, insights, and opportunities (Pidcock, 2018). In the "Experiment" column, a description of the specific section in the prototype is provided in an objective manner. The "Facts" column presents factual observations and direct quotes from the users. In the "Insights" column, these facts are interpreted and analyzed. Finally, the "Recommendations" column outlines concrete steps for future development based on the insights gathered. Figure 23 provides an example of how the Atomic UX Research approach was applied during the user testing phase.

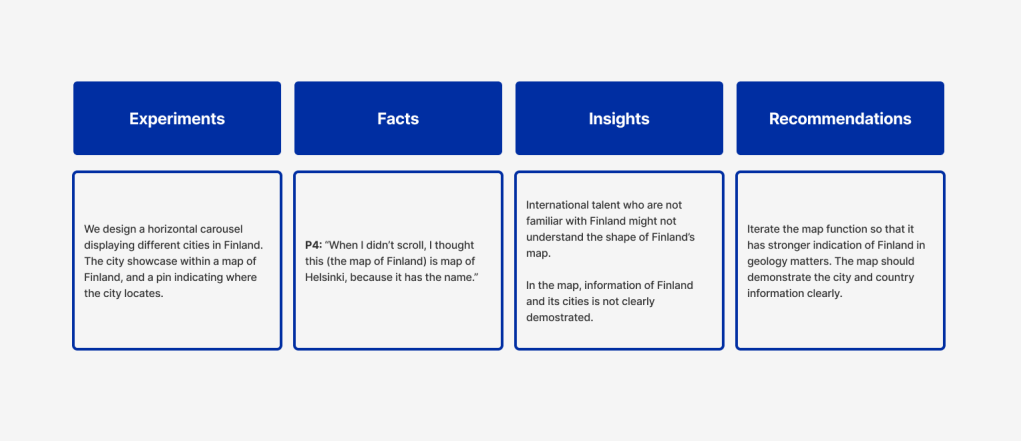


Figure 23. an example of applying Atomic UX research.

4.2.3 Insights

The results of the testing focus on the insights gathered from the previous step. It can be categorized into Three levels: structure, design, and content.

Structure

In general, all participants were able to find the required information easily, although they took different paths to complete the tasks. The presence of different entry points on the prototype allowed for various ways to access specific content or sections. Most participants agreed that the site provided the necessary information for relocating to Finland, with some specifically highlighting the usefulness of the immigration process content for expats. However, some participants expressed a

desire for the immigration process information to be more prominently displayed and easily accessible. Additionally, a few participants wished for a more readily available sitemap of workinfinland.com, although the majority found the current navigation menu and sitemap to be easily accessible.

Design

Participants had a positive impression of the design, with many expressing favorable feedback and specifically appreciating the visual aesthetic of the prototype. When tasked with searching for a job, most participants opted to use the keyword search function, while only a few utilized the industry category filters. A small number of participants explored the location search even if they didn't have a specific city in mind. Many participants expressed a desire for official guidelines on moving to Finland. While browsing through the prototype, participants enjoyed discovering new knowledge and positive surprises. However, some participants found manual information searching to be time-consuming. Additionally, a few participants suggested the possibility of personalized relocation steps. Certain design elements, such as the horizontal carousel of Finnish cities, took participants longer to understand.

Content

Overall, participants found the content of the prototype to be useful and relevant, with a particular emphasis on job-related information.

Many participants expressed interest in the various opportunities available in different industries and cities. However, a few users found certain titles and copywriting to be less intuitive. For instance, the titles “Get started” and “Getting around” did not accurately represent the corresponding topics for some users. Additionally, participants shared their personal preferences regarding additional content that could be included in specific pages and articles.

4.3 Design Iteration and Production

The project plan states that the iterative design at this stage should be the final version for implementation. The design iteration considers multiple aspects. One of the primary goals of usability testing is to provide specific steps for iteration, and therefore, the recommendations column from the Atomic UX Research approach was given priority during this phase. Additionally, production feasibility was considered, taking into account factors such as responsiveness, design reusability, and user engagement. Figures 26 to 30 provide a visual comparison between the original design and its iteration, highlighting the changes made based on the feedback and recommendations gathered during the usability testing phase.

Recommendations from usability testing

Figure 24 represents the final version of the Information Architecture for the project, incorporating the changes and improvements based on the recommendations gathered during the usability testing phase. Some design decisions were influenced by the findings, such as the recommendation to iterate the map function to provide a stronger indication of Finland on a map and to demonstrate city and country information. As a result, the decision was made to replace the horizontal carousel with a map service that better fulfills the needs of the users. The content on the site was also revised and improved based on the feedback received during the testing phase, ensuring that it meets the expectations and requirements of the target users.

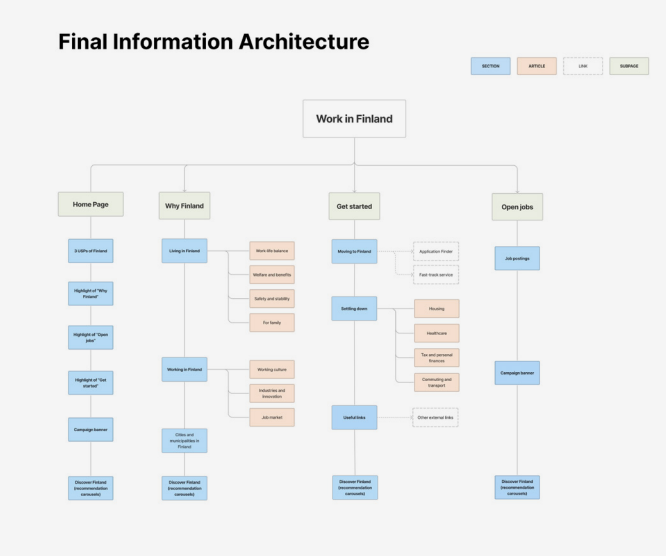


Figure 24. The final Information Architecture

Production feasibility

Atomic Design: The implementation of workinfinland.com follows the principles of Atomic Design - the website should be structured using hierarchies of modules (Frost, 2016). In the Work in Finland project, the team categorized the simplest design elements, such as fonts, colors, shapes, spacings, images, and icons, as “atoms”. UI elements, like buttons, are composed of multiple atoms. A component, which represents a section of a page, is formed by combining specific UI elements. Multiple components are then used to construct a page template.

Each component can have multiple variants, allowing for flexibility and customization. Different variants of the same component can be created by enabling or disabling specific UI elements. Figure 25 provides an example of four designs that utilize different variants of the same component. This design approach emphasizes reusability, ensuring that design elements can be reused across the website.

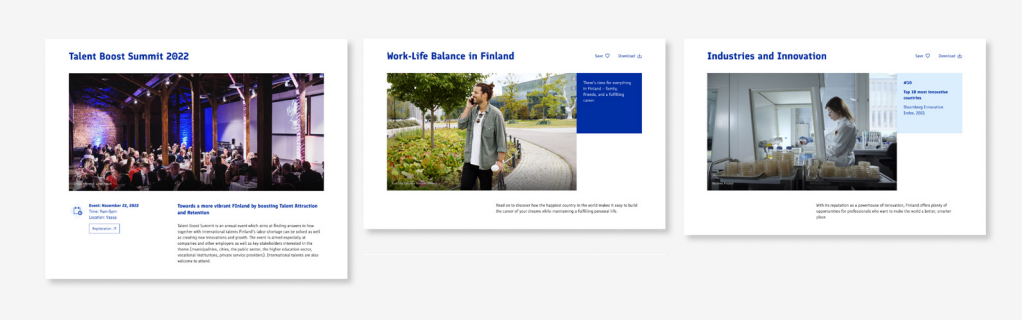


Figure 25. Similar designs using variants of a component (Source: Work in Finland Component Library)

Responsiveness: Although the prototype in its final stage has high fidelity, it was designed specifically for horizontally scalable screens, typically used for desktops. However, to ensure a responsive design, it is crucial to make sure that the design looks pixel-perfect on all screen sizes.

Based on data from Google Analytics, it is important to prioritize responsiveness for smaller screen sizes. In the past year, 68.8% of users visiting workinfinland.com accessed the site using mobile devices. Therefore, it is essential to optimize the design for screens under 600 pixels wide, as this will cater to the majority of users. Additionally, while only 0.9% of users access the site using tablets, it is still important to consider their needs and ensure a satisfactory experience for tablet users as well. Figure 26 illustrates how the same component should adapt and change its layout when viewed on screens of different widths.

User Engagement: User engagement studies in Subsection 2.3.2 guide the iterative design of image content. They offer insights into the factors that influence user experience and provide approaches for measurement. Throughout the research, design, and implementation phases, multiple methods and metrics mentioned in the studies have been utilized and further explored.

Figure 27 showcases how the iterative design incorporates more natural images and pictorial icons to enhance user engagement. Drawing from

the study by Jaakonmäki et al. (2017), it is evident that nature images, such as mountains, rivers, and towns, have a positive influence on internet users and contribute to effective information visualization (Mahyar et al., 2015). In addition to realistic pictures, abstract symbols like ISOTYPE aid in conveying visual information, increasing attractiveness, and improving long-term memory of the associated content (Haroz et al., 2015).

Considering atomic design principles, responsiveness, and user engagement, multiple design components have undergone modifications. Figure 28-31 showcases a few examples comparing the original design during the Design phase with the iterative design during the Build phase.

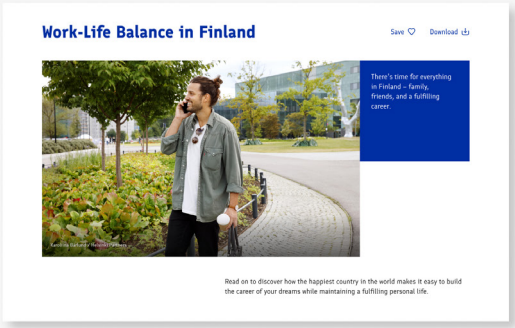
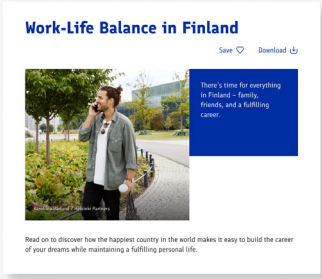
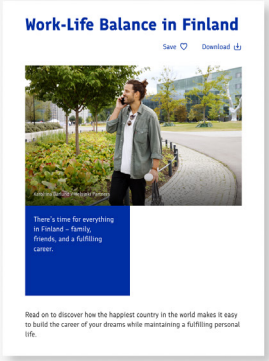
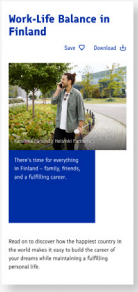
Width of the screen (Pixels)	Design
1024 -	
900 - 1023	
600 - 899	
320 - 599	

Figure 26. An example of responsive design. The design of one block has different layouts in different screen resolutions.

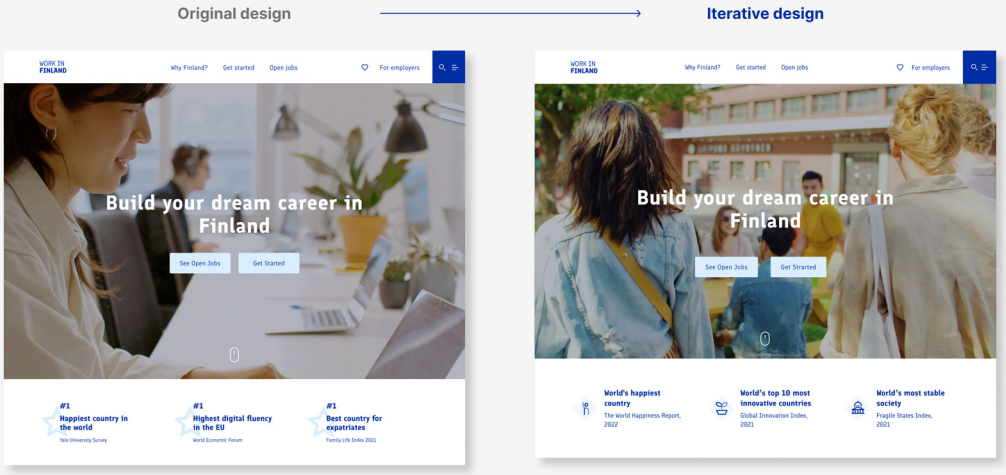


Figure 27. Design comparison of the landing page. The new video clip has more natural and human activities than only showcasing office-related scenes. The new icons are more representable for each "unique selling point".

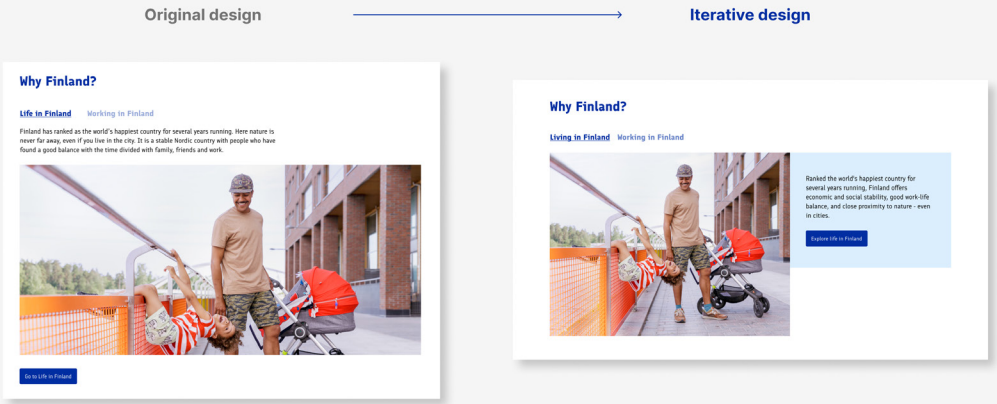


Figure 28. Design comparison of "Why Finland" highlight. The new design is more friendly for horizontally narrower screens.

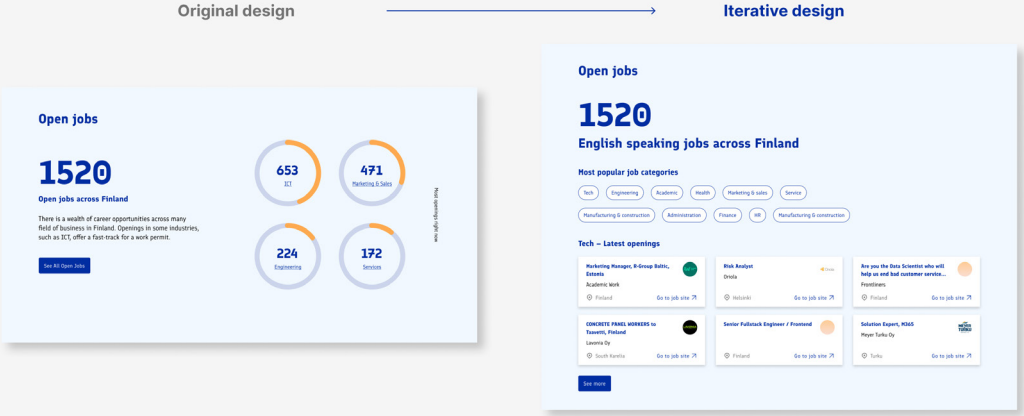


Figure 29. Design comparison of Open Jobs highlight. The new design is more functional and call-to-action based, enabling filtering and showing actual job advertisements.

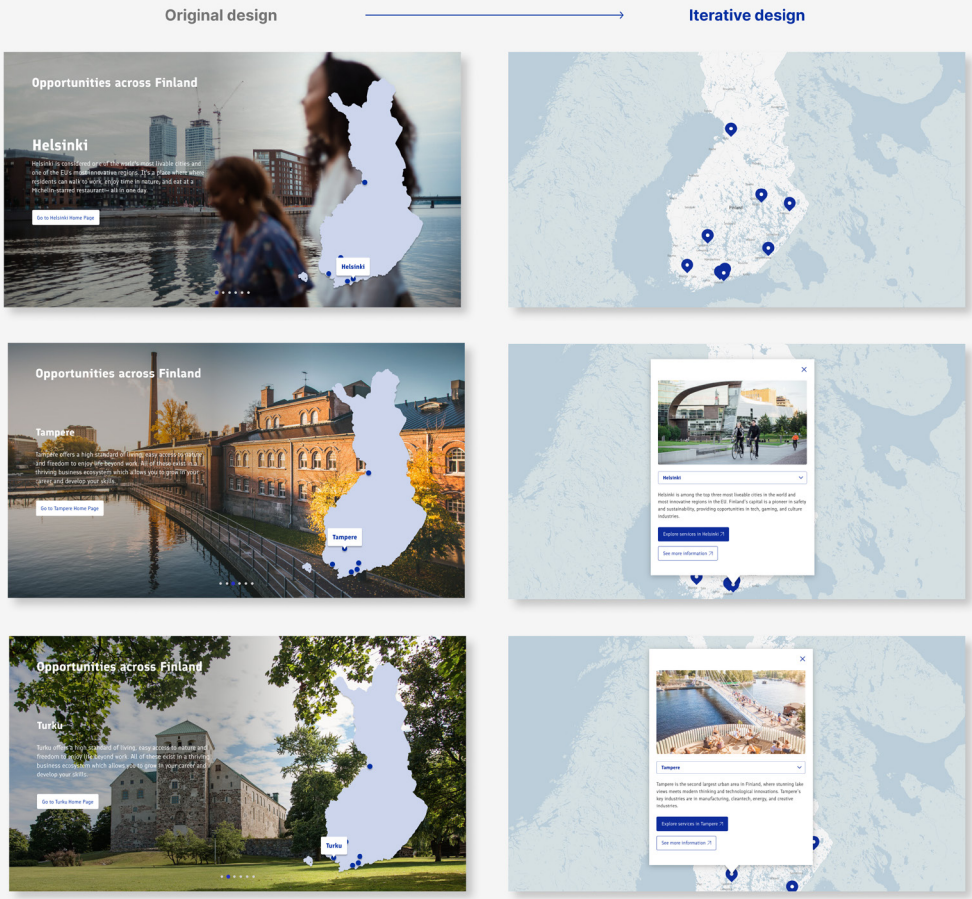


Figure 30. Design comparison of Cities and Municipalities. The new design uses an actual map function.

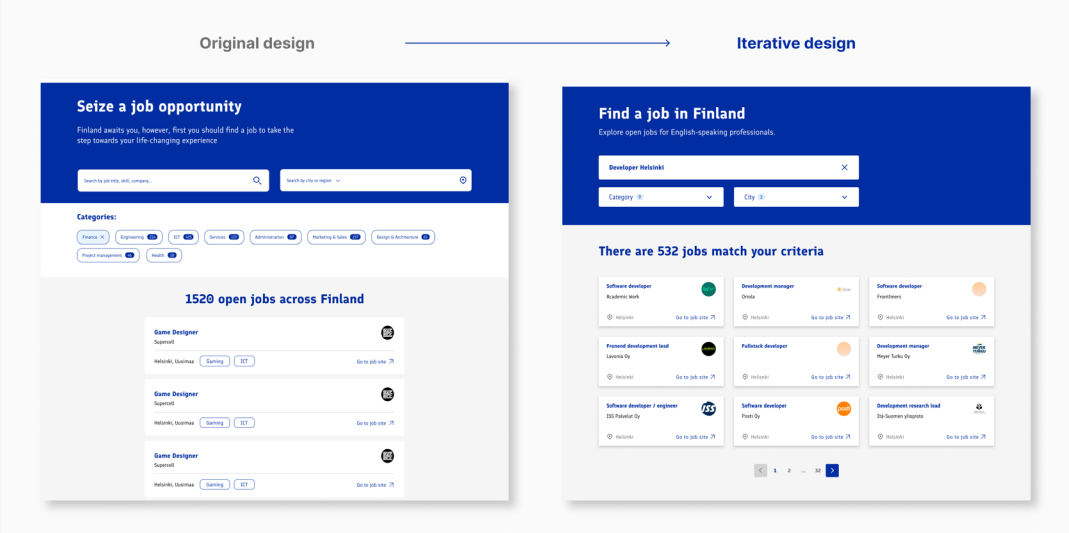


Figure 31. Design comparison of job searching. The new design combines search and filters, while the new job advertisement layout allows more jobs showcased in the screen area.

4.4 User Acceptance Testing

User Acceptance Testing (UAT) serves as the final step before launching the website, aimed at assessing its acceptability to the target users. In the case of workinfinland.com, interviews and the System Usability Scale are utilized to measure the website's acceptability. This testing combines elements of user acceptance and usability evaluation.

Unlike technical tests that have direct measurements and metrics for determining success or failure, there are no specific metrics universally defining user acceptability. This lack of universal metrics allows for flexibility in measuring the success of acceptability. From a measurement perspective, the team has defined two key performance indicators for UAT success: user interpretation aligning with the intended purpose and usability reaching an adequately high level.

4.4.1 Preparation

During this phase, the development of the website took place in a Quality Assurance (QA) environment, which simulates the future production environment and is used to ensure the software product's quality before its public release.

One of the main challenges faced initially was aligning the User Acceptance Testing (UAT) with the Agile timeline. The project followed Agile methodology and was divided into five parts, with each part consisting of two sprints: Design and Build. Each sprint had a duration of two weeks, and the Design sprint always preceded the Build sprint to provide final designs for implementation. The timeline during the Build phase is visualized in Figure 32.

Although the team had the intention of conducting tests, testing was not explicitly scheduled in the project timeline. To address this, the testing was split into two smaller tests conducted at different times,

rather than one comprehensive test. This approach was deemed easier to manage within the project plan. Each test was allocated three days, following the simplified 3-day test plan introduced by Moran (2019). The tests were conducted when a certain number of components were available in the QA environment, with each test planned one week after the completion of the last Build Sprint. The integration of UATs into the project timeline is illustrated in Figure 32.

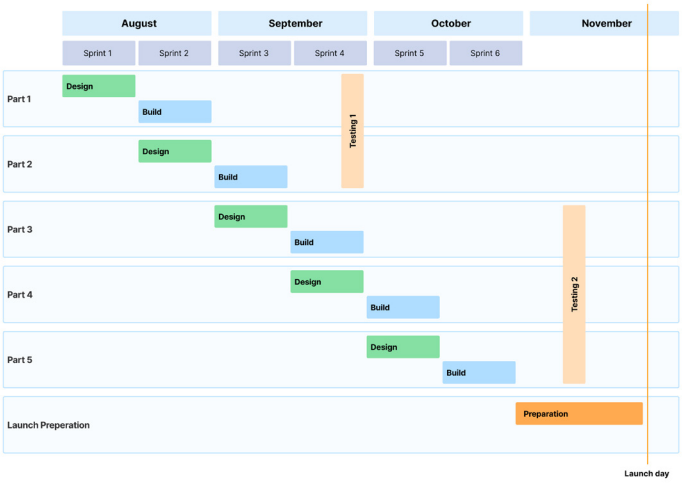


Figure 32. Timeline in the Build phase

4.4.2 Process

In the User Acceptance Testing (UAT) phase, the approach for interview coordination and analysis is similar to the usability testing conducted in the previous phase. The UAT involved eight participants who were Accenture employees working in different countries. Their contact information was obtained from the Accenture Human Resources team. As the facilitator, I coordinated online sessions with each participant, where their behavior was observed through screen sharing.

During each session, I provided the participant with a link to the QA environment and asked them to explore all the implemented components while sharing their interpretations. The tests followed a consistent order, starting from the top and moving left to right. In addition to interpretation, I asked participants questions related to user satisfaction and usability. For instance, one question focused on the sections of the "Why Finland" page and asked participants to share their understanding of each section and what interested them the most. These questions helped assess the accuracy of title expressions and understand participant priorities.

Participants were encouraged to interact extensively with the interface to identify any flaws in the implementation. At the end of each session, participants were asked to complete a follow-up System Usability Scale (SUS) survey, which is illustrated in Figure 32. The survey aimed to gather

feedback on the usability of the website from the participants' perspective.

4.4.3 Results

The user interpretations during the User Acceptance Testing (UAT) phase aligned well with the designed purposes of the website. The majority of participants provided positive feedback on the design and content, indicating a good understanding of buttons and interactions. Although there were some challenges in interpreting certain preview components, participants exhibited a positive attitude and continued to explore the topics. The testing process did not elicit significant frustration from the participants.

Participants expressed their interest in various topics, and this valuable feedback was documented for future development purposes. Overall, the participants' interpretations and feedback suggest that the website is well acceptable to the target users, while also highlighting areas where improvements can be made to enhance the user experience.

Main page
For the main page, participants found the "Hero" section and three of Finland's "unique selling points" eye-catching and intuitive. The highlights of the three journeys served their purpose in providing a good overview. Users found the recommendation carousels useful, even when they occasionally repeated. After

the testing, search optimization was conducted within the workinfinland.com Content Management System. The campaign banner intrigued users to explore further, although it was difficult to judge the exact content based on the preview. Some users interpreted the wording "get started" differently, but the majority showed motivation to click on it. All participants confirmed that the information and structure were easy to understand, although they suggested lowering the threshold even further for accessing the content.

Promotional Journey

In general, the "Why Finland" page was easy to understand and motivating for participants. They provided positive feedback on the imagery and content, expressing interest in many parts of the articles. They found them easy to comprehend and expressed eagerness to explore elaborated content on certain topics. Users also shared their wishes for additional articles on top of the existing ones. Furthermore, users demonstrated a clear understanding of the icons on the navigation menu.

In the "Cities and municipalities" section, which includes an integrated map function, all participants successfully interpreted and interacted with it. They correctly understood the interactive elements on the cards, such as the "close" button, dropdowns, city selection, and buttons. The team addressed some implementation issues identified by a participant and made the necessary fixes.

Call-to-action Journey
On the "Open Jobs" page, participants demonstrated a good understanding of the search and filter functions, as well as their interpretation. The job card, which provides a preview of job information, intuitively displayed the necessary details. Most participants expressed that they were able to find relevant job opportunities in their field.

Informational Journey
Overall, participants found all sections on the page to be easily understandable. As the page focuses on the practical process of moving to Finland, some participants only briefly reviewed certain topics. Many participants shared their preferences and expressed their desires for specific content they would like to see in the articles.

4.4.3 System Usability Scale

At the end of each meeting, participants were asked to complete the System Usability Scale (SUS) questionnaire. The SUS is a standardized questionnaire used to measure the effectiveness, efficiency, and satisfaction of specific user groups. Participants are required to answer 10 questions using a Likert scale, ranging from strongly disagree (1) to strongly agree (5). A final score is calculated based on the responses, which serve as the main metric for measuring user engagement and satisfaction with the Work in Finland website renewal.

§The questionnaire used in the project is similar to the one provided by Jordan et al. (1996), with the only difference being the replacement of the keyword “system” with “website.” Figure 33 provides the exact SUS questionnaire used in the project.

The SUS questionnaire offers several advantages for measuring qualitative behavioral data. Firstly, the results are always quantified as it employs quantitative measurements to capture subjective opinions. This allows for the transformation of rank-ordering ordinal data into interval data.

System Usability Scale for Work in Finland

	1 (Strongly Agree)	2 (Strongly Disagree)	3 (Disagree)	4 (Agree)	5 (Neutral)
1. I think that I would like to use this system frequently.	☐	☐	☐	☐	☐
2. I found the website unnecessarily complex.	☐	☐	☐	☐	☐
3. I thought the website was easy to use.	☐	☐	☐	☐	☐
4. I think that I would need the support of a technical person to be able to use this website.	☐	☐	☐	☐	☐
5. I found the various functions in this website were well integrated.	☐	☐	☐	☐	☐
6. I thought there was too much inconsistency in this website.	☐	☐	☐	☐	☐
7. I would imagine that most people would learn to use this website very quickly.	☐	☐	☐	☐	☐
8. I found the website very cumbersome to use.	☐	☐	☐	☐	☐
9. I felt very confident using the website.	☐	☐	☐	☐	☐
10. I needed to learn a lot of things before I could get going with this website.	☐	☐	☐	☐	☐

Figure 33. SUS questionnaire in the project

The sample size and reliability of the System Usability Scale (SUS) are not always directly related. Even with a small sample size, it is possible to obtain a reliable score. Sauro (2013) conducted research on the sample sizes of SUS and found that the minimum sample size for SUS is 2, although it is recommended to have at least 5 samples, which is considered adequate. The difference in sample size to obtain an accurate score is only 6 points (Sauro, 2013). In the project, a total of 8 SUS questionnaires were collected, with 5 samples for the first test and 3 samples for the second test.

The objective of the project is to achieve a SUS score that exceeds the average score reported by Sauro (2013), who analyzed SUS scores from 500 products and obtained an average score of 68. Table 1 presents the scores for various questions.

Participant / Question	P1	P2	P3	P4	P5	P6	P7	P8
1	4	4	4	3	5	4	4	5
2	2	2	2	2	1	2	1	1
3	4	4	4	4	5	4	5	4
4	2	1	2	2	2	1	2	1
5	4	4	4	3	4	4	5	4
6	2	2	2	2	2	2	1	1
7	4	5	4	4	5	5	5	5
8	2	2	2	2	1	2	1	1
9	4	5	4	4	5	4	4	5
10	2	1	2	2	1	2	2	2
SUS score	**75**	**85**	**75**	**70**	**92.5**	**80**	**90**	**92.5**

Table 1. SUS score for individual participants

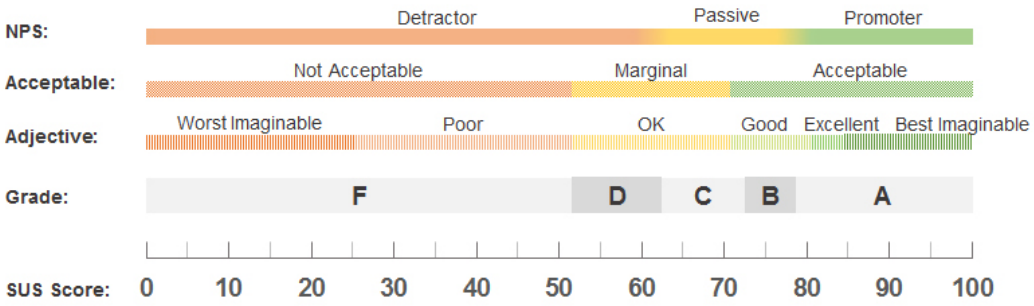


Figure 34. Grades, adjectives, acceptability, and NPS categories associated with raw SUS scores. Image by Sauro (2018)

The SUS score for the initial User Acceptance Testing (UAT) is 79.5 points, while for the subsequent UAT, it is 87.5 points. Overall, the website has an average SUS score of 82.5, indicating a high level of user satisfaction and usability.

Bangor et al. (2008) provide a framework for understanding different degrees of accessibility and what constitutes an acceptable System Usability Scale (SUS) score. According to their definition, a score of roughly 70 or higher indicates that the product can be considered acceptable (Bangor et al., 2008). Sauro (2018) presents a visual allocation of scores across different attributes, as depicted in Figure 34. The SUS scale also exhibits a correlation with other usability and satisfaction measurement approaches. One such example is the correlation between the SUS scale and the Net Promoter Score (NPS) (Lewis & Sauro, 2016). NPS, introduced in 2003, is widely used to measure customer loyalty across various industries (Reichheld, 2012). In essence, a

higher SUS score implies a greater likelihood that users will recommend the website to others.

Based on the final SUS score of 82.5, it can be inferred that the workinfinland.com website is highly acceptable to its target users. With a grade falling into the "A - Excellent" range, the website has achieved a high level of user satisfaction and usability (Sauro, 2018). This suggests that most users would likely recommend the website to others within their networks, indicating a positive user experience.

5. Conclusion

The thesis demonstrates the mix-method user research process in the Work in Finland website renewal project. The objective of the project is to attract more international specialists to choose Finland as a working and living destination. This project has four phases: Discovery, Describe, Design, and Build, with two research questions "How does the journey of international talent coming to Finland look like?", and "How easy is the solution to understand and use?".

I contributed to the project teamwork as a user researcher. To answer the first research question, in the Discovery phase, In the Discovery phase, I participated in conducting interviews and performing thematic analysis to gain insights from expat specialists working in Finland (n=10). Simultaneously, I analyzed user engagement data from the previous workinfinland.com website to comprehend the user journey (n=85180). In the Describe phase, our team ideated the structure of the future product in the form of information architecture, which I validated by conducting an unsupervised tree test. To address the second research question, in the Design phase, the team created a prototype and conducted usability testing to validate the solution. Finally, in the Build phase, I conducted User Acceptance Testing utilizing System Usability Scale questionnaires (n=8). The test

results and matrix indicate that the project was well-received by our target user group.

5.1 Reflection

The mixed-method user research had three main purposes at different levels. Firstly, at the national level, the research was conducted to fulfill the government's requirement of making Finland more appealing to international talent. Secondly, at the level of the Work in Finland project, the research played an important role in guiding the team by providing user perspectives and validating work efforts. It also helped them work more effectively towards the project objectives. Lastly, at an academic level, the research provided the opportunity to gain valuable experience in understanding the target audience - international talent. This thesis demonstrated how user research influences or even drives project direction, and connects with project management, design, content, and other roles within a project team.

This project allows me to develop a deeper understanding of the user researcher role in a complex team. I have learned that conducting user research with a predefined timeline and relatively fast pace is preferable to making assumptions. User

researchers should also take responsibility for raising awareness about the user research importance within the product team. Incorporating user research in a project plan can be time and effort-consuming, but it is valuable based on my experience.

The thesis employs the "narrative inquiry" approach, which makes the project not always guided by theories. The thesis was written toward the end of the project, with evidence and theories found to support or reflect the finished work. On the one hand, this lack of theoretical foundation may raise doubts about the connection between the project and established theories. On the other hand, manually connecting the results' validity and reliability demonstrates the project's adaptability and practicality.

Several theories in this thesis have been validated by existing literature, while others are based on best practices. The double diamond, thematic analysis, and System Usability Scale (SUS) is extensively developed in academic circles. However, frameworks and methods like Tree Test, Atomic UX, and User Acceptance Testing are commonly employed in business development or design practice but may be difficult to associate with academic significance.

On a self-reflection level, in addition to fulfilling its research purpose, my thesis also reflects my personal interest. As a foreigner who has chosen to work and live in Finland, I highly value the opportunity to promote this country to other international

professionals worldwide. Being involved in the project from start to launch and contributing to Finland's growth has been a valuable experience.

5.2. Limitations

Although the project and the user research associated with it proceeded without any significant obstacles and received positive feedback, it is important to acknowledge that using the mixed-method approach has certain limitations from a user research perspective. The following paragraphs discuss and elaborate on the limitations and propose potential methods to improve the methodology.

The most influential factor in this project was schedule constraints. The launch date for workinfinland.com was decided early on, and work had to be prioritized accordingly to meet the deadline. During user testing, due to the intensive schedule, user insights were only briefly documented without thoroughly analyzing the recordings. Many valuable recommendations were gathered from user feedback, but the team could only implement the ones fitting the project scope. The ideal solution without a time limit will be conducting line-by-line coding as in thematic analysis. Fortunately, even though the first release was launched in November 2022, the Work in Finland project is ongoing, and

the remaining insights were documented for future development.

The limitation also concerns project feasibility and stakeholder management. The needs of the target users are not the only consideration when planning a project. As a national project, it was planned with the input of various stakeholders, each with its own needs to be fulfilled. Therefore, the requirements of stakeholders also influence project decision-making, such as financial considerations, legal standards, and team resource allocation.

The participant sample size is another limitation of the project. In general, the project could have obtained more accurate results with a larger participant sample. While some studies suggest that 12 participants are sufficient for thematic analysis (Ando et al., 2014; Guest et al., 2006), only 10 interviews were conducted in the Discovery phase. With fewer participants, there is a risk of potentially undiscovered codes and themes. For calculating SUS scores, a sample size of 5 can provide a score within ±6 points of the real score (Sauro, 2013). However, only 5 participants answered the first SUS questionnaire, and only 3 answered the second one. Thus, the final SUS score of 82.5, calculated using 8 questionnaires, may not be an accurate representation of the product's usability.

The biases in the project can be better avoided. Despite the researchers' efforts to avoid bias during the research as Chapters 3 and 4 discussed, the data in the study were manually interpreted. The study

recommends that interview planners and analysts should be in two separate teams (Labra & Castro, 2019) to avoid potential biases. However, as the user researcher, I was directly involved in both the interviews and the thematic analysis.

The biases also reflect in the approach to interpreting data. Interpretation of the user study results is based on assumptions, although the researchers in the project attempted to avoid confirmation bias during and after the interviews. Moreover, most participants in the usability test and User Acceptance Testing were from Accenture, the same company that developed the project. This raises the possibility that the participants had a more positive cognitive bias toward the tests, but there is no research to confirm or refute this assumption.

The next limitation pertains to research ethics. Because user research involves human participants, it is the researchers' responsibility to ensure that ethical standards are upheld throughout the research process. For instance, the User Interfaces group, School of Electrical Engineering, Aalto University (n.d.) uses a written and signed information sheet from research participants. However, in the Work in Finland project, while all participants provided verbal consent to participate in the research and were made aware of the project's usage as stated in Section 1.5, no written consent was obtained.

In addition, the absence of standardized data authorization has led to ambiguity. Aalto University

(2021) mandates an official Data Authorship and Acknowledgment Statement form from researchers and the data owner, but the use of data in this thesis is based on verbal consent from the Work in Finland Product Owner. The uncertainty arises from the fact that the research was initially conducted for business purposes and subsequently documented as an academic thesis. Because there are significant differences between business and academic research requirements, it is unclear if further actions are necessary in this case.

An ideal scenario would involve a standardized set of ethical guidelines to determine what qualifies as sufficient research ethics, including considerations such as the adequacy of research ethics, the level of formality required for participant consent, the potential consequences of specific actions, and any differences in criteria between academic research and business research. The implementation of such uniform ethical standards would ensure consistency and transparency in research, ultimately benefiting both the participants and the integrity of the research.

5.3 Future Development

The initial launch of the Work in Finland website serves as a favorable point of departure for attracting

international talent, with Business Finland, Accenture, and other stakeholders continuing their development and marketing efforts. As of May 13th, 2023, the workinfinland.com website has welcomed 213,113 visitors from 79 countries, garnering 1,548,329 views. This website is poised to sustain its utility among the international talent who seek to work and reside in Finland. As one of the researchers and designers involved in the Work in Finland initiative, I offer several suggestions regarding the project's future user research progression from a professional perspective.

Participant selection

I recommend conducting future user research with participants who have no direct or indirect interest in the Work in Finland organization(s). For instance, researchers can reach out to potential participants through social media platforms or utilize intercept recruitment methods. However, it is important to acknowledge that the process of recruiting "ideal" participants typically demands a considerable allocation of resources. Therefore, for future projects, it is crucial to strike a balance between approaching and recruiting suitable participants while managing the overall recruitment effort effectively.

By implementing this approach, we can establish a robust mechanism to ensure that participants remain unaffected by any potential conflicts of interest. This enhances the objectivity and value of the feedback they provide and creates a favorable environment

for unbiased evaluation. It effectively minimizes the risk of participants' perspectives being influenced or skewed by personal interests or allegiances. Consequently, the insights and opinions gathered through this approach are more likely to represent an accurate and unbiased reflection of user experiences and preferences. This, in turn, strengthens the validity of the findings and enables more informed decision-making processes and the development of targeted strategies.

The more comprehensive user group

To ensure a comprehensive representation of user groups, future research should incorporate the comparison and contrast of multiple user segmentations. While the initial focus of the Work in Finland project revolved around digital industry experts with non-EU/EEA nationalities, it is essential to consider other subcategories within the realm of international talent. This includes employees within EU/EEA nations, individuals with corporate sponsorship, international students studying in Finland or Europe, entrepreneurs establishing startups, and researchers in educational institutions. Each of these groups undergoes distinct relocation processes, and incorporating their perspectives can provide a more holistic understanding of the research problem and enable researchers to draw more informed conclusions. Additionally, such an inclusive approach enhances the generalizability of the study results. However, it is important to acknowledge that accommodating all these

requirements within a concise and logically structured informational hierarchy presents a considerable challenge for the project.

Reduce guiding interaction

To ensure a more realistic understanding of user behavior, it is recommended that future researchers adopt a hands-off approach and refrain from guiding users during the exploration of a product or service. Although in the usability study of this particular project, the team provided detailed instructions to track user behavior to specific research questions, minimizing guiding interactions can yield valuable insights. This approach helps to reduce potential biases and artificial behaviors that may be induced by the researcher's suggestions or instructions. By allowing users to explore the product or service freely and without external influence, researchers can gather authentic data that truly reflects users' genuine experiences and natural interactions. Consequently, the findings derived from such an unbiased approach can be generalized to a wider user population, increasing the overall validity and applicability of the results.

Other research techniques

To enhance the research methodology in the future, it is advisable to incorporate additional research techniques that focus on quantifying and utilizing data-oriented approaches. For instance, with the software Microsoft Clarity, researchers can randomly

sample user data and apply specific filters based on relevant demographic factors, which provides a more comprehensive understanding of user behavior and preferences. This data-driven approach allows for the collection of large-scale, objective data sets that can be analyzed to identify patterns, trends, and insights. By leveraging such techniques, researchers can obtain a deeper understanding of user interactions, preferences, and pain points, enabling more informed decision-making and refinement of the product or service. Therefore, incorporating these data-oriented research techniques, such as random sampling from Microsoft Clarity with demographically specific filters, can significantly enhance the depth and breadth of future research endeavors.

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Reflecting back on my master's degree journey, I realize how much I have grown since my first day as a shy exchange student in New Media at Aalto University in August 2019. As my first destination abroad, Finland has introduced me to a brand-new culture and environment, which has been exciting and challenging. Hence, I am grateful for the opportunities and experiences that have shaped me

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Reference

Aalto University. (2018, March 22). *Research ethics and research integrity | Aalto University*. Aalto-yliopisto. Retrieved November 14, 2022, from https://www.aalto.fi/en/services/research-ethics-and-research-integrity

Ando, H., Cousins, R., & Young, C. (2014). Achieving saturation in thematic analysis: development and refinement of a codebook. *Comprehensive Psychology, 3*. https://doi.org/10.2466/03.CP.3.4

Attfield, S., Kazai, G., Lalmas, M., & Piwowarski, B. (2011). *Towards a science of user engagement (Position Paper)*.

Ball, J. (2019, October 1). *The Double Diamond: A universally accepted depiction of the design process.* Design Council. Retrieved November 8, 2022, from https://www.designcouncil.org.uk/our-work/news-opinion/double-diamond-universally-accepted-depiction-design-process/

Bangor, A., Kortum, P. T., & Miller, J. T. (2008). An Empirical Evaluation of the System Usability Scale. *Intl. Journal of Human–Computer Interaction*, 24(6), 576-594. 10.1080/10447310802205776

Braun, V., & Clarke, V. (2006). *Using thematic analysis in psychology*. 3:2, 77-101. https://doi.org/10.1191/1478088706qp063oa

Castelli, F. (2018). Drivers of migration: why do people move? Journal of Travel Medicine, 1-7. 10.1093/jtm/tay040

Chai, W. (n.d.). *What is Google Analytics and how*

does it work? TechTarget. Retrieved December 3, 2022, from https://www.techtarget.com/searchbusinessanalytics/definition/Google-Analytics
Daly, J., Kellehear, A., & Gliksman, M. (1997). The public health researcher: A methodological approach. 611-618.
Damala, A., Maye, L., Lechner, M., Ciolfi, L., & Hornecker, E. (Eds.). (2017). *Cultural Heritage Communities: Technologies and Challenges*. Taylor & Francis Group. 10.4324/9781315522456-5
Design Council. (2019, May 17). *Framework for Innovation*. Design Council. Retrieved December 1, 2022, from https://www.designcouncil.org.uk/our-work/skills-learning/tools-frameworks/framework-for-innovation-design-councils-evolved-double-diamond/
Diana, F., Bahry, S., Masrom, M., & Masrek, M. N. (2016). *Website credibility and user engagement: A theoretical integration*. 10.1109/IUSER.2016.7857963
Eccles, D. M., & Arsal, G. (2017). The think aloud method: what is it and how do I use it? *Qualitative Research in Sport, Exercise and Health, 9*(4), 514-531. https://doi.org/10.1080/2159676X.2017.1331501
European Labour Authority. (n.d.). *Labour market information: Finland*. https://eures.ec.europa.eu/living-and-working/labour-market-information/labour-market-information-finland_en
Frost, B. (2016). *Atomic Design*. Brad Frost Web. https://www.softouch.on.ca/kb/data/Atomic%20Design.pdf
Gott, C. (2019). *Awareness Engagement Completion Model — Cameron Gott, PCC*. Cameron Gott. Retrieved December 6, 2022, from https://www.

camerongott.com/awareness-engagement-completion
Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough? An Experiment with Data Saturation and Variability. *Field Methods, 18*(1), 59-82. 10.1177/1525822X05279903
Hagen-Zanker, J. (2008). Why do people migrate? A review of the theoretical literature. *Maastricht Graduate School of Governance*. Hagen-Zanker, Jessica and Hagen-Zanker, Jessica, Why Do People Migrate? A Review of the Theoretical Literature (January 2008). Maastrcht Graduate School of Governance Working Paper No. 2008/WP002, Available at SSRN: https://ssrn.com/abstract=1105657
Haroz, S., Kosara, R., & Franconeri, S. L. (2015). *ISOTYPE Visualization: Working Memory, Performance, and Engagement with Pictographs*. https://doi.org/10.1145/2702123.2702275
Harper, D., & Thompson, A. R. (Eds.). (2011). *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners*. Wiley. 10.1002/9781119973249
International Labour Organization. (2021, October 27). Employment impact of the pandemic worse than expected. ILO. Retrieved January 18, 2023, from https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_824098/lang--en/index.htm
Jaakonmäki, R., Müller, O., & vom Brocke, J. (2017). The Impact of Content, Context, and Creator on User Engagement in Social Media Marketing. *Proceedings of the 50th Hawaii International Conference on System Sciences*.

Jordan, P. W., Thomas, B., Weerdmeester, B., & McClelland, I. L. (Eds.). (1996). *Usability Evaluation in Industry*. Taylor & Francis Group.
Labra, O., Castro, C., Wright, R., & Chamblas, I. (2019, May 14). Thematic Analysis in Social Work: A Case Study. *Global Social Work - Cutting Edge Issues and Critical Reflections*. 10.5772/intechopen.89464
Lehmann, J., Lalmas, M., Yom-Tov, E., & Dupret, G. (2012). Models of User Engagement. Lecture Notes in Computer Science, 7379, 164-175. https://doi-org.libproxy.aalto.fi/10.1007/978-3-642-31454-4_14
Lewis, J. R. (2018). The System Usability Scale: Past, Present, and Future. *Taylor & Francis*, 34(7), 577-590. 10.1080/10447318.2018.1455307
Lewis, J. R., & Sauro, J. (2016). *Quantifying the User Experience: Practical Statistics for User Research*. Elsevier Science.
Mahyar, N., Kim, S.-H., & Kwon, B. C. (2015). Towards a Taxonomy for Evaluating User Engagement in Information Visualization.
Ministry of Economic Affairs and Employment of Finland. (2020). *Talent Boost - Ministry of Economic Affairs and Employment*. Työ- ja elinkeinoministeriö. Retrieved November 20, 2022, from https://tem.fi/en/talent-boost-en
Moran, K. (2019, December 1). *Usability Testing 101*. Nielsen Norman Group. Retrieved November 28, 2022, from https://www.nngroup.com/articles/usability-testing-101/
Nielsen, J. (2012, June 3). *How Many Test Users in a Usability Study*? Nielsen Norman Group. Retrieved November 30, 2022, from https://www.nngroup.com/articles/how-many-test-users/

Nosheen, M., Sayed, Z., Malik, M. S., & Fahiem, M. A. (2019). An evaluation model for measuring the usability of mobile office applications through user interface design metrics. *Mehran University Research Journal Of Engineering & Technology, 38*(3), 641-654.
Paavola, J.-M., Rasmussen, R., & Kinnunen, A. (2020). *Talent Attraction and Work-related Residence Permit Process Models in Comparison Countries*. Talent Attraction and Work-related Residence Permit Process Models in Comparison Countries. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/162601/TEAS_2020_54.pdf?sequence=1&isAllowed=y
Perski, O., Blandford, A., West, R., & Michie, S. (2016). Conceptualising engagement with digital behaviour change interventions: a systematic review using principles from critical interpretive synthesis. *Translational Behavioral Medicine, 7*(2), 254-267. https://doi.org/10.1007/s13142-016-0453-1
Pidcock, D. (2018, May 16). *What is Atomic UX Research?* | by Daniel Pidcock. Prototypr. Retrieved November 28, 2022, from https://blog.prototypr.io/what-is-atomic-research-e5d9fbc1285c#e009
Pimple, K. D. (2002). Six Domains of Research Ethics. *Science and Engineering Ethics, 8*(2), 191-205.
President of the Republic & Minister of Economic. (2017, December 28). Law on the Innovation funding center from Business Finland and a limited company called Business Finland. FINLEX. Retrieved December 5, 2022, from https://www.finlex.fi/fi/laki/alkup/2017/20171146
Rehkopf, M. (n.d.). *Scrum Sprints: Everything You Need to Know*. Atlassian. Retrieved January 12, 2023,

from https://www.atlassian.com/agile/scrum/sprints
Reichheld, F. (2012, January 3). *Predicting Net Promoter Scores from System Usability Scale Scores – MeasuringU*. MeasuringU. Retrieved December 2, 2022, from https://measuringu.com/nps-sus/
Rosenfeld, L., & Morville, P. (1998). *Information Architecture for the World Wide Web*. O'Reilly.
Sargeant, J. (2012). Qualitative Research Part II: Participants, Analysis, and Quality Assurance. Journal of Graduate Medical Education, 4(1), 1-3. https://doi.org/10.4300/JGME-D-11-00307.1
Sauro, J. (2013, June 18). *10 Things to Know About the System Usability Scale (SUS) – MeasuringU*. MeasuringU. Retrieved November 30, 2022, from https://measuringu.com/10-things-sus/
Sauro, J. (2018, September 19). *5 Ways to Interpret a SUS Score – MeasuringU*. MeasuringU. Retrieved December 2, 2022, from https://measuringu.com/interpret-sus-score/
Talent Boost. (n.d.). *Frontpage | Talentboost*. Talent Boost. Retrieved November 19, 2022, from https://talentboost.fi/en/frontpage
Tyler, M. E., Teixeira, J., & Ledford, J. L. (2009). *Google Analytics*. Wiley. www.wiley.com
Whitenton, K. (2017, May 7). *Tree Testing: Fast, Iterative Evaluation of Menu Labels and Categories*. Nielsen Norman Group. Retrieved November 30, 2022, from https://www.nngroup.com/articles/tree-testing/
Whitenton, K. (2019, October 27). *Unmoderated User Tests*: How and Why to Do Them. Nielsen Norman Group. Retrieved November 28, 2022, from https://www.nngroup.com/articles/unmoderated-usability-testing/

Appendix
Interview Questions

Main topics/categories: attraction, reception and integration and retention and reputation

Attraction

a) Background

- Please provide some background information about yourself and how you ended up abroad.
- How did you find a job?
- Did you initiate contact with the potential employer, or did they approach you? (Company-backed or self-initiated expatriate)
- Did you relocate alone or with a partner/family?
- Did you have any existing networks in the destination country?

b) Relocation Factors

- Did you contemplate moving abroad for a long time, or was it a spontaneous decision?
- What were the main reasons or motivations behind your desire to move abroad?
- Why were these reasons significant to you?
- Was there a final trigger that prompted your decision to move abroad?

- Did you have previous experience studying or working abroad?
- Why did you choose the specific country/region/city for your relocation?
- What were the primary deciding factors in choosing this country/region? Could you rank them in order of importance and explain why they mattered the most to you?

c) Information

- How did you gather and organize information related to your relocation?
- What information was most useful when deciding on and planning your relocation?
- Did the employer or other parties provide any information, or did you find/collect it yourself?
- What information was the most challenging to find?
- Where did you begin your search, and what steps did you take afterward?
- How did you find the job?
- Which sources did you use to gather information about job opportunities?
- Where and how did you prefer to obtain information about job opportunities?
- What information about opportunities were you missing during your search?
- Is there anything else you would like to highlight about your search process?

Reception and Integration

d) Expectations

- What were your expectations before moving to the country?
- Have these expectations aligned with reality?
- What do you wish you had known about life/work in the country before relocating?

e) Soft-landing Activities

- How were the welcoming/soft-landing activities (Visa, social security number, finding a place to live, etc.)?
- Which of these were sorted out before relocating, and which were arranged after reaching the destination?
- What was your experience with different service providers regarding these soft-landing activities? Did it affect your perception of the country, and if so, how? Do you have any suggestions for improving services related to welcoming international talent?

f) Transition and Integration

- How was the transition to living in the new region?
- If you brought a partner/spouse/children, how has their integration been? Was it easy for your partner to find a job? Were you offered any assistance in finding a job for your partner or a school for your child(ren)?

- Are there any specific tools (apps, websites, etc.) that have been particularly helpful to you and that you would recommend to other talents coming to the region?

Retention and Reputation

g) Life in the Region

- What are the main qualities of living and working in the country/region?
- Are there certain things you would like to change or improve?
- h) Retention
- Are there good opportunities for talent mobility within the region?
- How likely would you be to stay in the region if you were to change employers?
- Are you considering relocating to another country/region? If so, why and where?

i) Key Communication Messages

- What do you think shall be highlighted about work/life in Finland in the communications to international talent? What do you think shall be avoided in the communication?

Helsinki, Summer 2023