Mingle

A Framework for Project Management in User Experience Design

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Abstract

Studies show that many UX designers experience poor project management, because of the project managers lack of knowledge, understanding of the UX process and rigid plan management. Though these factors are an issue, the intersection between UX and project management faces numerous problems, which will be investigated further in this thesis.

This thesis presents a new framework, *Mingle*, that is specifically aimed at project management in User Experience design (UX). The main goal of Mingle is to narrow the gap between project management and the UX designers. Mingle is built from existing principles and research on agile methods and UX processes, as well as interviews with experienced project managers and a survey distributed to professional UX designers. Mingles main objectives is to make room for creativity and exploration for the UX-designers, provide transparency between project manager and UX-team to prevent confusion and set structural requirements for planning that can accommodate change.

The framework was implemented in a UX process where I acted as the project manager for a group of four students/UX designers. The focus of the UX process was to create a second screen application for NRK's slow-TV concept "Minutt-for-minutt" (Minute by minute). The framework was analysed through autoethnographic research and interviews with the team.

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1.0 Introduction

In a study done by the Nielsen-Norman Group in 2017 on management in User Experience (UX) teams, several concerns were raised (Pernice, 2017). The survey showed that many UX professionals experience poor project management. Many believed the reason for the struggle with their project manager was because of a lack of understanding of the UX process and tasks. Most of the respondents had previously worked with a project manager that had no experience or knowledge about the UX process, which in turn caused the respondents to lack the resources needed to conduct research, explore the problem space, and deliver high quality results. Though a lack of knowledge and understanding of the UX process is an issue, the intersection between UX and project management faces numerous problems, which I will investigate further in this master's thesis.

A few days after I had decided on the research subject for this thesis, I talked briefly about it with a colleague who has worked in the UX-fields for many years. When the subject of project management in UX was presented, I was met with a sigh and "I hate project management". I asked my colleague to elaborate as to why I got that response. The simple answer? "Project management is boring and strict."
My colleagues answer is far from rare. In the field of UX, it seems like there is a common understanding that project managers inhibit the designers' workflow and process. This disruption is easily achievable by constant and close monitoring of their work, pushing hard towards goals in mind and not allowing the UX team to explore outside of the projects scope. UX, or User Experience design, can be looked at as a "melting pot" for several different design sciences and research methods such as interaction design, usability design and user research. To successfully complete a UX project, UX designers use a combination of established design principles and user research methods to design for a good experience. In simple words, if the user must contemplate on how a product should be used, or worse, read an instruction, the user experience is bad. When UX designers need to discover new ideas or explore the problem area, they need space for creative freedom. It is in this phase that project management and UX usually comes to a halt. In a normal project management process, everything is planned out beforehand, and keeping on schedule and following the projects scope is as important factors to achieve project success. However, when project managers work in a UX project, they work with people that instead of choosing a technical path, chose

a creative direction. (Lund, 2011, p. 11) This means that standard project management frameworks such as the Project Management Body of Knowledge (PMBOK) industry standards (*PMBOK Guide*, 2017) may inhibit the UX-designers when exploring the problem.

Although there are many great frameworks put in place for good practices in UX project management, the resentment against project managers in this field has left me to wonder. Arguably, project managers may play one of the most important roles in a team. The project managers should know the ins and outs of the project, communicate with stakeholders, facilitate the team, and plan the process, all while being a good leader for the team. Without them, it would be difficult to ensure a high level of contact within team members, business, and users. In this thesis, I will explore how one can improve the communication between project manager and UX team and if it is possible to manage a project without disrupting the creative and exploratory UX process.

1.1 About the project

In the fall semester 2020, I was assigned the role as project manager for a team of four students in a UX design process. During the UX process, I implemented a new framework specifically aimed at narrowing the gap between the UX team and project manager. The framework was developed during the summer of 2020 and is based on existing research within the field of project management and UX, interviews with project managers and a survey directed at UX designers.

The UX design process was done in with my fellow students Vemund Fjeld, Katarina Kroken, Kristin Mjelde and Martin Norvoll. We worked together to develop a functional prototype for and with NRK. The prototype is revolving around the concept of second screen applications and should provide viewers with a new approach to following along on NRK's slow-tv show that will air in the summer of 2021. The UX process happened through several iterations, where the main goal was to deliver a prototype to NRK that they can either take inspiration from or put in production. As the prototype had to be finished before January 2021 for NRK to use it for their summer production, we were on a strict schedule and it was essential that we worked well together as a team to deliver on our goal. Assigning everyone with clear roles was therefore a priority at the beginning of the project. As we are studying

interaction design, it is no surprise that the group exists predominantly of interaction designers. However, this presented the challenge of hierarchy and decision making. To ensure efficiency and accuracy in the group when developing the application, we decided that I should take on the responsibility of being the project manager. The main activities and responsibilities a project manager has in a development process is integrating the necessary activities to develop a project plan, execute it and make necessary changes to the project plan as limitations and challenges occur. (Kerzner, 2006, p. 13)

This thesis will present the research I did along with the group project and my role as the project manager. Throughout the project, I developed, implemented, and tested my own framework for Project Management in UX environments. The framework is called *Mingle* and seeks out how we can narrow the gap between UX designers and their project manager by integrating the project manager in the process, while keeping the project manager at a distance in the exploratory and creative phases. To discuss the problem area, theories and principles from agile development methods, user experience design and existing project management frameworks will be utilized. The framework was created in three increments. The first step was to create the structure of the framework. The structure was based on existing literature, and by gathering additional information about the relationship between project managers and UX designers through a survey distributed to Norwegian UX designers. In the second step, the framework was discussed with three experienced project managers, and refined before the last increment. The last step of this study was an autoethnographic study of the framework being implemented in an actual UX process.

1.2 Research questions and hypothesis

This thesis aims at uncovering how one can better the UX process for both the project manager and the UX designers by introducing a new framework that is catered to both roles. The framework was built off research with project managers and UX designers and existing research within both fields, with a special emphasis on agile development methods. The research questions for this thesis are:

RQ 1 Which principles from the user experience design process and agile development can we implement in a framework for project managers to create an effective process without disruption?

RQ 2 Will introducing a framework where the project manager is not an active part of the exploratory and creative phase impact the UX process in a negative way?

The thesis is working under the following hypothesis:

H 1 User experience design is a creative field that should be treated as such by the project manager.

The research questions will be answered by introducing the problem areas in Chapter 2. This chapter presents theories on User experience design as a design science, Project Management, and different forms of leadership. Chapter 3 presents the methods utilized in this study to create the framework and implement, observe, and analyse the framework and its impact in the UX process. In Chapter 4, an analysis of the interviews with experienced project managers, and the distributed survey to UX designers will be presented. This research, together with research on existing literature, is the background for the framework's principles, philosophy and life cycle which will be presented in Chapter 5. The framework was used in a UX process and researched through an autoethnographic study. The findings from the study are presented in Chapter 6. Lastly, this thesis presents a conclusion and desired research areas for future work.

2.0 Background

To understand why project managers often struggle to lead UX projects and why UX designers perceive project management in a negative light, we must gain a general understanding of the science and disciplines behind the two fields. This chapter introduces User experience design and its processes before introducing project management and different management frameworks that are currently favoured within UX.

2.1 User experience design

User experience design, hereby abbreviated to UX, is a term that was coined by cognitive scientist Don Norman in 1993 while he worked as a computer architect at Apple. Per his definition, the term UX should "cover all aspects of the person's experience with the system, including industrial design graphics, the interface, the physical interaction and the manual." (Lyonnais, 2017) Though Norman is often seen as the "founding father" and one of the most fundamental characters in User Experience Design, he only gave UX its name while it as a concept has existed for thousands of years. The first recorded description of design with the user experience in mind can be found in document written by Hippocrates describing a hospital dating back to 400BC (*Ergonomics in Ancient Greece*, 2006). As technology advanced, the importance of designing for a good user experience became even more important. Before the term UX existed, many scientists and designers described the concept of UX and emphasized the importance of having the user in mind when designing a product. Henry Dreyfuss who worked as an industrial designer in the 1950s released *"Designing for people"* in 1955. In his book, Dreyfuss explained the concept of UX by stating that the industrial designer fails if the contact between product and people becomes a point of friction, but succeeds if it leaves the customer happier. (Dreyfuss, 1955, p. 25-26)

UX can be found in several different areas of research, where each discipline has its own interpretation. This thesis will mainly focus on UX as a topic within the field of Human Computer Interaction (HCI). HCI is a multidisciplinary field with connections to cognitive science, computer science and human factors engineering. The scientific approach to HCI is relatively new, as HCI as an academic discipline was first founded in 1982. (Lazar, Feng and Hochheiser, 2017, p. 1) Traditionally, the primary focus of HCI has been being "concerned

with the design, evaluation, and implementation of interactive commuting systems for human use and with the study of major phenomena surrounding them". (Hewett *et al.*, 1992, p. 5) The study of this phenomena takes in to account several different design practices such as interaction design, usability studies and UX design. So long as the study is applicable to a human, computer and the impact and communication of and between the two factors, it can be considered as HCI research. As technology has advanced, the field of HCI has grown exponentially. Today, the most common areas within HCI research contains "not only the design of the interface but also the setting in which computing is embedded, the needs of people in various contexts, and the activities they engage in while using various forms of computing." (Kellog and Olsson, 2014, p. 1) UX design has been a buzzword within HCI research for quite some time, but it has taken a long time for the word to gain foothold as an academic discipline. One of the reasons why is because many struggles to differentiate UX from other design science research areas in HCI. UX is in fact an umbrella term as it covers many already existing disciplines such as interaction design, usability, and user-centred design (UCD), who are all important aspects of designing a good user experience. UX and UCD in particular are usually intertwined and confused with one another, as UCD is "an iterative design process in which designers focus on the users and their needs in each phase of the design process." (*What Is User Centered Design?*, n.d.) This may sound relatively similar to UX, but it is important to emphasize that UX entails "all aspects of the end-user's interaction with the company, its services and its products". (Norman & Nielsen, 2006)

2.2 The UX process

The aim of a typical UX process is to meet requirements and goals set by stakeholders in the project. To meet these requirements and perform the different phases of the UX process, there are several different approaches. A favoured methodology is Lean UX, which was developed as a direct consequence of the IT-industry's adaption of the agile methodology. As UX-teams often work closely with developers, working in a process that builds on the same principles is important to ensure the project's success. The iterative process of agile is rooted in four principles that describes how processes, documentation, negotiation and planning should be forgotten and emphasis should be put on interaction, fast development, collaboration and iterations. (Beck et al., 2001) Lean UX follows all principles of agile and is a deeply collaborative and cross-functional methodology that inhibits the team of working in isolation.

Gothelf and Seiden (2016, p. 4) proposed three new principles for UX design that should "combine the best part of the designers toolkit and recombine them in a way that makes them relevant to this new reality". The three main principles Lean UX are built on are Design Thinking, Agile Software Development and Lean Startup. Design thinking is "a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity." (Gothelf and Seiden, 2016, p. 5) This principle is important to the business because it encourages the designers, developers, and other team members to use design tools and principles to form the process and final product. By constantly being aware of the design, the team is prompted to collaborate on a more efficient level, which in turn lines up with the principles of Agile Software Development. When forming the principles of Lean UX, Gothelf looked at the four principles in the agile manifesto and analysed each principle and found the best way to adapt them into Lean UX. He emphasises the importance of the first principle in the Agile Manifesto, "Individuals and Interactions over processes and tools" (Beck et al., 2001) as the only way Lean UX will work in agile is if the entire team participates together in each stage of the development process and requires that everyone's attendance must be successful. (Gothelf and Seiden, 2016, p. 101) The last principle of Lean UX stems from Eric Ries' "Lean Startup Method" where the focus is to minimize risks and build and learn quickly throughout the process. The main goal in Lean Startup is for the team to build Minimum Viable Products (MVPs) and deploy them as quickly as possible to get the best possible learning curve. Gothelf argues that each design is in itself an hypothesis, or a proposed business solution (2016, p. 7)

Though Lean UX is a popular methodology in UX, adapting the methods and achieving a successful process and product proves difficult in circumstances where the product is not predefined. This is because the Lean UX method is so dependent on the user feedback. If one was to define and develop an entirely new product, it would be difficult to do so if one were to solely rely on the principles of Lean UX. The introduction of Jeff Knapp's *Design Sprint* in 2016 sought to solve some of these struggles. The main goal of the design sprint is to send out as many ideas as possible in a matter of five days and vote together as a team on the best ideas and elements. Even though the design sprint methodology is still new, it has been adapted, used, and favoured by big companies such as AirBnB, Lego and McKinsey. Even the British Government and the UN has utilized design sprints as a method to tackle problems

and sketch out solutions. (Knapp, 2016) Many UX designers now agree that the problems left in the field of UX are just minor bumps, not huge barriers, and the industry has finally reached a place where UX is no longer of hindrance in the development process. In modern UX processes, many designers choose to do a Dual Track Design, where design thinking is at the forefront, powered by a design sprint, followed by iterative experiments powered by Lean UX and Agile methodologies.

2.3 Research approaches in UX

Understanding UX is difficult, as designing an experience is nearly impossible. Every person's perception of a certain object will be different based on "nature and nurture", meaning their hereditary traits and environment. If you were presented with a new software and had previous experience using a similar software, but the person next to you had no prior knowledge, your experience using the new software would most likely be very different. UX designers should therefore strive to design for a good experience, not design the experience itself. (Preece, Rogers and Sharp, 2015, p. 8) Designing for a good user experience is a complex activity that is built up of several design sciences that are all part of HCI research. We can view UX as a layered process of design sciences that are intertwined in an iterative process. Inevitably, if performed correctly, the different practices sum up to a good user experience. In this chapter, I will present the most important research approaches central to UX, and how they contribute to the designers' aim at making a good user experience.

2.3.1 Interaction design

Interaction design (IxD) and UX are often confused with one another, as both approaches are working to "Design interactive products to support the way people communicate and interact in their everyday and working lives". (Preece, Rogers and Sharp, 2015, p. 18) However, IxD can only be seen as the backbone of UX as the principles of IxD only builds the body of UX. IxD does not focus on the users' feeling of using a product but is one of many factors that can contribute to a successful user experience. When performing a UX process, designers are following principles of interaction design when developing the system or product. According to the Interaction Design Foundation, which is the industry leading organization within Interaction design in HCI research, IxD consists of 5 dimensions. The five dimensions are

words (1D), visual representations (2D), physical objects/space (3D), time (4D), and behaviour (5D). (*What Is Interaction Design?*, n.d.) The dimensions encompass elements and practices that facilitates for undisturbed interaction between the user and product. The dimensions provide different forms of communication with the user. Where dimension 1D which are interactions in themselves, and dimension 2D and 3D provide direct interaction with the user by using the product or pushing a button, dimension 4D and 5D does not enable interaction but provides the framework for the user to operate the system and interact in dimension 1D through 3D.

2.3.2 Usability

Historically, the primary concern of HCI was usability, and how one could improve the usability in the interaction between human and computer. Nielsen (2012) refers to usability as a "quality attribute that assesses how easy user interfaces are to use… and refer to methods for improving ease-of use during the design process." We often see the standards of usability as "usability goals" and by Nielsen's definition, the usability goals should be used as evaluating questions when assessing the design. Usability can be broken down in to six specific goals that give the designers a concrete means of measurement when evaluating the design.

The first goal is the most general goal, and refers to effectiveness which is "how good a product is at doing what it is supposed to do". (Preece, Rogers and Sharp, 2015, p. 19) If a designer was evaluating the design of an online store, questions the designer might ask themself regarding the first goal is whether the product enables the user to find what they are looking for or be able to purchase the product.

Efficiency is the second goal, and though similar to effectiveness, efficiency is concerned with the support the products give when completing a task. In the online store, this could for example be if all personal details were stored from a previous visit, which makes the process more efficient and easier for the user.

The third goal focuses on the safety of the product and "involves protecting the user from dangerous conditions and undesirable situations". (Preece, Rogers and Sharp, 2015, p. 20)

When assessing the third goal, the designers should look at all possible situations where a user might misunderstand a message or cue which may result in an error.

To have good utility is the fourth goal in usability. This means that the designer should provide all the necessary functions required for the user to do the tasks they need to do. If we were to take the example of an online store, having the possibility of adding items to a shopping cart instead of having to buy each item individually would be a good example of utility.

The fifth and sixth goal refers to the learnability and memorability of the product. Both goals go hand in hand where the learnability refers to how easy it is to use the system, while memorability refers to how "easy a product is to remember how to use, once learned." (Preece, Rogers and Sharp, 2015, p. 22) Appropriate symbols, text and workflow should be put in place for the user to understand how to use the system.

2.3.3 User research

Understanding user behaviours and user needs is one of the most fundamental aspects of UX design. User research is also a continuous phase in the UX process, as the user input is invaluable to the designer and the success of the product. Without input from the targeted users, the designers will have no empirical data to build their assumptions on what will be received and perceived as a good user experience. When conducting user research in UX, both qualitative methods such as interviews and observation, and quantitative methods such as surveys are used. They are often used in combination to give an in depth understanding of the user as well as a general overview of the targeted group.

Susan Farell, previous member of the Nielsen Norman Group suggested that one should apply different techniques for user research based on which phase of the project one might find oneself in. She made the distinction between the different phases of UX-research and named them accordingly; discover, explore, test, listen. (Farell, 2017)

The Discovery phase's focus is to gather preliminary information about user behaviours, user needs and stakeholder's motivation for the project. Performing observational studies is a

good approach to the initial information from users as it “helps designers understand the users’ context, tasks, and goals.” (Preece, Rogers and Sharp, 2015, p. 252) The main goal of observational studies is for the designers to observe the participant doing a specific task. This can either be done in their natural setting, or in a controlled lab experiment. Observational studies are a good starting point as some participants might find it difficult to give correct answers in an interview setting. The focus of the observational studies should be to validate or discard personal assumptions to avoid biases when making design choices later in the project. In this phase, the designers should also conduct interviews with stakeholders in order to set requirements and understand the constraints for the project. (Farell, 2017)

In the second phase of exploration, the designers might find themselves with a clear understanding of what the users’ needs are, but they need more “methods for understanding the problem space and design scope and addressing user needs appropriately.” (Farell, 2017) In order to address the user needs, a popular method is to build user personas (Figure 1), which is a rich description of the characteristics and activities of a regular user, that the designer can use in a scenario-setting to understand the user requirements. (Preece, Rogers and Sharp, 2015, p. 357)

Figure 1: A user persona we created in the UX process

The focus of the third phase is testing the product and making sure it fulfils the user needs. According to Farell (2017), testing is best performed through continuous iterations of usability testing with a variety of people. Usability testing aims at answering if “whether an

interface is usable by the intended user population to carry out the tasks for which it was designed." (Preece, Rogers and Sharp, 2015, p. 457) The testing is usually performed in a controlled setting, and the data is gathered through experiments and observations when the user is interacting with the product and followed up with interviews and/or questionnaires.

The listening phase is a continuous phase throughout the entirety of the UX project. The designer is encouraged to look out for common issues the users are expressing to be able to discover issues that might not have been found earlier. This phase is often a natural consequence of other phases in the UX-process, where the UX-designer has not planned or prepared to do user research, but important input might still emerge. The designers should therefore facilitate for the users and make it easy for them to give feedback. This is often seen on websites with a "feedback"-button or other accessible points of contact. The designers should analyse this feedback periodically to discover the top usability issues and trouble areas. (Farell, 2017)

2.3.4 Visual design

Creating a graphical user interface (GUI) is another vital aspect in the UX process. However, many often confuse UX design with graphic design. The main difference between UX design and graphic design is the step taken before, during and after the creation of the GUI. For the graphic designer, a simple idea may be enough to put pen to paper, but for a UX designer, tons of research and data should be gathered before creating the GUI, and the GUI must be susceptible to change as the process moves forward. How the UX designer choose to do their designs vary immensely from project to project and stage to stage. For a proof of concept, many designers will choose to do easy sketches to wireframe their ideas and test them on users. Most designers will move on to use digital tools such as Figma or Sketch to design and test the product thoroughly before they finish the project. It is in the design and UI phase that the designers' creative abilities are challenged, as they must explore different outcomes based on their user research and requirements.

There are many different principles and theories on how one might design the GUI of a system based of insight from users. One favoured set of principles for good design are Don Norman's six (later revised to seven) design principles that was originally published in 1988.

Normans' principles are built upon the belief that human biology and sociology evolve at a slower pace than technology, and technology should be designed to fit our current cognitive abilities. By saying this, Norman is arguing that technology, if impossible to understand, is not impossible to use - it is just designed badly. He proposed six different principles (visibility, feedback, consistency, mapping, affordances, discoverability and constraints) that all focus on the users perception of the system - in what he refers to as the users conceptual model. (Norman, 1988) The conceptual model shows how the visual design of a product contributes to the user's experience using the system.

2.4 Project Management

Within the field of project management, there is an ongoing discussion on whether project management is a practice or an academic discipline. As a practice or profession, project management can be traced back several thousand years to the construction and engineering of the Colosseum or the Egyptian Pyramids, who share similarities with the practices we see in modern project management. When reviewing project management as an academic discipline, there are several allied disciplines that impact the research and studies in the field. Söderlund (2004) argues that project management consists of two main theoretical traditions. The first tradition is rooted in engineering science and applied mathematics that focuses on the technical aspect of project management, hereby project planning and methods. The other tradition is rooted in social sciences such as psychology and sociology that emphasizes research on the importance of human resources and behavioural patterns within the project team. The assumption that project management as a scientific field is comprised of two main areas of research is supported by Paul O. Gaddis. He published an article in the *Harvard Business Review* in 1959, which is perceived as one of the most fundamental academic articles within project management. Gaddis explained that the "project manager's business is to create a product - a piece of advanced technology hardware. The primary tool available to him is the brainpower of men who are professional specialists in diverse fields." (Gaddis, 1959) Thereby referring to the technical and human aspect of project management. To this day, these are still main practices in project management though the practice changed slightly after the introduction of cars and airplanes and other technological advancements between the 1900s and the 1950s. Researchers and scientists argue exactly when we first saw the emergence of job titles specifically aimed at project management, but most agree that it was

around this time period. (Kwak, 2003, p. 3) These new technologies gave room for better telecommunication and mobility and in turn the demand for a shorter project schedule in development processes increased. This required better and more structural boundaries around project management to handle the rapidly changing stages of development.

To fully comprehend the impact and importance of project management from a business perspective, one must understand what a project within an organization is. Harold Kerzner, Emeritus Professor of Systems Management at Baldwin Wallace University is highly influential within the field of project management research. He defines a project as being any series of tasks that have a focus on creating value for the business within a certain time frame, cost limitations and whom utilizes human and non-human resources. (Kerzner, 2006, p. 2) The project manager is as the name suggests the manager of said project. When viewing project management as a practice, the project managers responsibilities is to plan the process in such a way that the goal of the project is met, while both the human and non-human resources are utilized.

A successful project manager needs to hold both the qualities of a leader and of a manager. The difference between the two, though subtle, is the managers ability to complete tasks and plan the process, and the leader's ability to inspire and set a vision for the process. However, the manager may become stifling and bureaucratic without leadership skills, and a leader without management may never be able to carry out the tasks necessary to fulfil a vision. (Northouse, 2009) The following chapter will introduce common project management tasks and lifecycle and the characteristics and traits required for a good leader.

2.4.1 Leadership

As with project management, leadership is a practice and an academic discipline with roots in humanities, management, and social sciences, in particular psychology. It is important to emphasize the impact a person's psychology can have on a leader, as a good leader's personality traits and personal psychology often are what determines his or her ability to be a good leader. Over the last century there has been much research on leadership, but there is not yet one definite answer that says which factors make up a good leader. While some researchers see leadership from a relational standpoint or an information-procession

perspective, others perceive leadership as a trait or a behaviour. (Northouse, 2009, p. 32) This gap in the perception of the leadership role means that there is no consensus of what the definition of leadership should be. There are however made several attempts to define leadership, and though it has changed drastically over the years researchers agree that the definition by Martin Chemers which says "leadership is a process of social influence in which one person is able to enlist the aid and support of others in the accomplishment of a common task." (Chemers, 1997, p. 1)

To understand the factors and circumstances that facilitates a good leader, researchers have tried to conceptualize leadership into different approaches. I have chosen to look at leader centred approaches that do not take in to account the followers' (team's) influence on the leader. In the leader centred approach there are two main categories that enable researchers to look at the human behaviours that make up a good leader. The first approach is based on the leaders' traits. Certain personality traits, such as drive, dominance, and persistence, are often perceived as what makes a person "a natural leader", and many believe that leaders should inhibit certain traits to do a good job. However, it is difficult to conceptualize traits in itself as it must be seen as the traits must be seen relative to "a relationship between people in a social situation". (Northouse, 2009, p. 67) A dominant man or woman may be able to lead in certain situations, but if not carried out correctly in a social situation, the trait may be perceived in a different light. In the 1990's, researchers started to look at which traits were associated with social intelligence. Over several iterations and categorization of personality traits compared from leaders to non-leaders, there are five personality traits that are generally seen as what makes a good leader. (Northouse, 2009, p. 67) Though leader focused, all five traits which are self-confidence, determination, integrity, sociability, and intelligence, are still traits that can be placed in social situations without interruption. The traits-based approach to leadership is highly criticised as personality traits are very difficult to teach and learn, meaning that a good leader must be born with certain traits to be able to succeed in their career as a leader. Most of these traits are however inevitable if one is to become a leader. If one was to have a leader whose main job is to motivate the team, but the leader has no confidence, portraying the level of motivation for the team to move forward and live up to the mission may be very difficult, both for the team and the leader.

The second approach is based on the leaders' skills and are differing from the traits approach as skills can both be learned and developed further. The skills approach was first proposed by American psychologist Robert L. Katz in the Harvard Business Review and is still seen as one of the most important contributions to the conceptualization of leadership. He wanted to remove the bias of looking for certain traits when finding the next leader in a company because it would "stand in danger of losing sight of their real concern: *what a man can accomplish.*" (Katz, 1974) On the basis of this statement, Katz concentrated on three skills the leader should inhibit, or be able to learn. The first skill, technicality, is one most are familiar with. The technical skill can be found in the job description and is what is required for most people. The second skill is the human skill where "The person with highly developed human skill is aware of his own attitudes, assumptions, and beliefs about other individuals and groups; he is able to see the usefulness and limitations of these feelings." (Katz, 1974) This implies that a good leader should be able to communicate while putting away their own biases if necessary. This means that the leader creates an environment where their subordinates feel free to express themselves and safe from judgement. The conceptual skill is deemed the most important by Katz and entails the leaders ability to "recognize how the various functions of the organization depend on one another." (1974) This will have grave impact on the leaders' coordinative skills if a change in the company or project was to happen and will have direct consequences for the success of the leader's abilities.

2.4.2 Project management life cycle

As project management has intellectual roots in several academic disciplines, finding a standardized method for project management will be necessary for project management as a practice to move forward. In a study done by Crawford and Pollack (2007), it was found that standardizing project management across projects and countries was possible as the projects could be considered generic across industry sectors. They found that the correlation between industry standards and knowledge from participants was significant in Human Resource (HR) and time and cost management, while communicative skills differed between industries and standards. (Crawford & Pollack, 2007) This study proves that standardizing project management may be considered possible as it is generic work. But, as each project usually has its own limitations and scope, a standard set of rules may not be applied to each project. There are however several professional interest organizations within project management

whose main objective is, in addition to hosting conferences, to " promote the standardization of project management and certification programs for project managers." (Söderlund, 2004) The industry leading interest organization within project management is the Project Management Institute (PMI), whose main interest lies in standardizing terminology, guidelines, and practices within project management. When referring to terminology and practices from project management, I will refer to the principles written as the industry standards in the "The Project Management Body of Knowledge 6th edition" (PMBOK).

The modern project management role commonly consists of five stages, or life spans. The stages cover the technical and managerial aspects that are required for the project manager to lead a team to deliver a valuable product to the stakeholders of the project. According to the PMBOK, the project manager should be able to work through these stages by applying techniques and knowledge to the project activities in order to meet the project requirements. (*PMBOK Guide*, 2017, p. 422) The project manager is also expected to have knowledge about the business and technical aspects of the project, they should have the necessary skills to lead the project team and they should provide a communicative work environment between all parties.

1. Project initiation

The first stage in the project management lifecycle happens when the project is initiated. This is often done in collaboration with the client or company simultaneous or right after they have decided to proceed with the project. The main goal for this first stage is to build a foundation for the project. Administrative tasks such as financial inquiries and identification of stakeholders are both important steps to this first stage, but most importantly is defining the scope of the project. The scope gives a detailed description of the project and product. The scope should describe the product, service provided, boundaries to the result and the acceptance criteria. (*PMBOK Guide*, 2017, p. 422)

2. Planning

The planning stage "consists of those processes that establish the total scope of the effort, define and refine the objectives, and develop the course of action required to attain those objectives." (*PMBOK Guide*, 2017, p. 410) In this phase, the project manager is responsible

for creating documents that gives a clear overview of the project's life cycle, which development approaches will be taken and how the project manager wishes to manage the team in effort to produce the best possible outcome. These documents should be provided to the team and the business, to have full transparency about the process, in turn avoiding any obvious mistakes.

3. Execution

The execution stage is where the team looks at the project plan and delivers value according to the plan. During the execution stage, managing the team and "tracking team member performance, providing feedback, resolving issues, and managing team changes to optimize project performance" (*PMBOK Guide*, 2017, p. 441) is one of the main tasks of the project manager. Ensuring that everything is communicated within the team and between stakeholders to keep all parties up to date and ensure that the process is within scope is also an important aspect of this stage.

4. Monitoring and control

The fourth stage in the project management life cycle helps the team and project manager to identify problems in the process, getting feedback from the client or business and implementing the necessary measures to improve the process. Monitoring the process can be done by "collecting project performance data, producing performance measures, and reporting and disseminating performance information". (*PMBOK Guide*, 2017, p. 448) To control the process, the project manager should validate and compare the performance of the team to the initial project plan.

5. Closure

Closing the project or contract is the last stage in the project management life cycle. At this stage, it is expected that the project manager gives the business updates in the project documents, transitions the final product or service, provides a final report, and wrap up the process with the team

2.5 Project management in UX

As previously explained, the project manager should plan the process, communicate with stakeholders and customers, and making sure that the team is staying within scope and are working towards the goals and visions of the project. However, as seen in the study done by the Nielsen Norman Group in 2017, it was found that many UX professionals struggle to work with their PM, as they feel like their leader isn't aware of the processes and workflow UX entails. (Pernice, 2017) This may be because being directly involved in the UX-process is usually not part of the PM's job description. I once worked on a UX project for a big client and experienced the same. There was a big discrepancy between our PM's knowledge about our workflow and process, and their expected outcome. As our project manager had planned the process and set the scope prior to our exploration of different outcomes for the process, we were told to stop as this was not what the client was paying for (Figure 2). We, as the UX team, did however feel like our pivots in the plan was a necessary action to meet the stakeholders' requirements and figure out the best solution for our users.

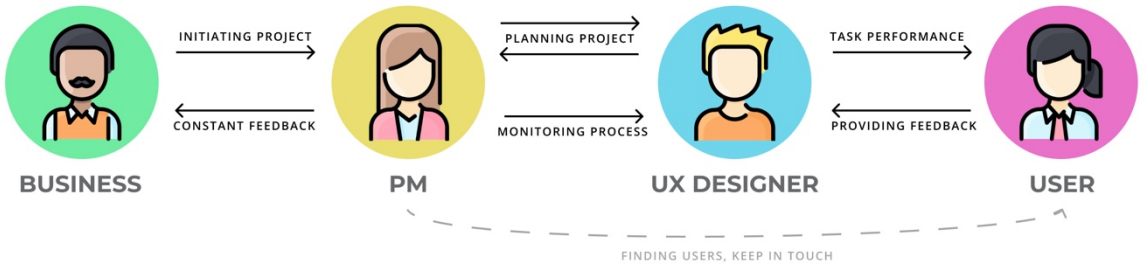

Figure 2: A visual representation of the workflow between UX and PM

Lund (2011, p. 270) argues that a good UX project manager must have the ability to define the UX vision while having the management and leadership skills to make the team achieve that vision. In his book User Experience Management: Essential Skills For Leading Effective UX teams, Lund shares experiences and necessary skillsets to achieve the highest level of expertise for a UX manager. Being a manager that is skilled and knowledgeable within the field of UX is majorly important in the structure and framework Lund proposes for UX managers. The team is more likely to do better when the manager understands their work and can both delegate tasks and evaluate their work accordingly. To be able to achieve this common understanding, Lund proposes that the team and project manager should work

together to find the teams soul, or the team spirit. “Great teams have kind of a soul - something that defines who they are. It infuses their identity and it is woven through how they appear to others, their vision and mission, and their messaging.” (Lund, 2011, p. 121) Talking together with the team to understand and discuss how they perceive their work is a great way to achieve and find the team spirit. The team spirit and soul can be as little as allowing themselves to take a coffee-break every two minutes, or as grand as the goal of becoming bigger than Google. Lund also emphasizes the importance of defining a common mission and vision statement for the duration of the project which can also be perceived as another tool for building team identity. Building a strategic framework to explore the vision and mission statement should therefore be in focus. “The goal of the framework is to inform decision making and to provide a basis for more detailed planning.” (Lund, 2011, p. 128) A common way to build the framework is to perform a SWOT analysis. SWOT analysis’ takes into consideration harmful and helpful forces for achieving the team’s goal, and categorizes them into strengths, weaknesses, opportunities and threats. The vision statement should answer any questions about where the team is heading, while the mission statement should answer why and how one can reach the vision. The mission is simply defining the fundamental purpose of the team. (Lund, 2011, p. 131) The vision statements are usually seen as an internal goal, and not something that needs to be shared with stakeholders or customers - which in turn makes the vision the teams common identity. Missions on the other hand, are usually presented to all external partners, and should set the tone and give them a glimpse into the team’s processes. The last principle Lund emphasises is the contact between the company and the project manager. Selling the idea, research and/or product the team has developed - either to management or to other businesses is of outmost importance for the project manager of the UX project. As UX still is a field that has some scepticism surrounding it, being able to communicate choices and discuss decisions on a basis of factual knowledge is crucial. A good team manager should therefore, as previously stated, have a good understanding of the process. If the UX manager delivers on this point, the team members will trust their manager more, as the manager clearly values and understands their work.

3.0 Methods

This chapter will present the research methods used to answer which principles from user experience and agile development I have used to create an effective UX process, and how the UX process is impacted when introducing the proposed framework. The development of the framework Mingle was done in three increments. The preliminary phases of the study focused on defining the structure of Mingle through existing literature and a survey. Further the proposed framework was discussed with experienced project managers through semi-structured interviews. The insight from the survey and interviews was used to define the framework before it was tested in an autoethnographic study to record, observe, and analyse the UX process when Mingle was implemented.

3.1 Creating a framework

The first methods utilized in this study laid the foundation for what the framework Mingle should be. I used a combination of qualitative and quantitative methods to confirm or deny any personal biases. In addition, I wanted to get a deeper understanding of the problems and successes UX designers and project managers experience in the intersection between project management and UX.

3.1.1 Survey with experienced UX-designers

To lay a foundation for the framework Mingle I performed a survey targeted at experienced Norwegian UX professionals. Surveys are a popular method that answer specific questions, which in turn can be generalized to a wider target population.(Müller, Sedley and Ferrall-Nunge, 2014, p. 229) The aim of the survey was to gather insight from UX-designer on their relationship to project management, and their perception of what their job entailed. The survey was mainly used as a source of confirmation or contradiction of any personal biases I have towards UX designers and project management to create the structural boundaries of the framework. Additionally, the survey was used in combination with in-depth interviews with professional UX designers and project managers. As the network of professional UX designers in Norway is relatively small, the survey consisted of a combination of open-ended questions and closed questions. This gave room for the respondents to elaborate on certain

topics which in turn gave both qualitative and quantitative data from the results. Though the sample size was foreseen to be small, the sample size was probabilistic, meaning that the targeted sample was known in advance, and only distributed to this particular target group. (Lazar, Feng and Hochheiser, 2017, p. 109)

The survey was distributed through the interest organization UX-Norge and gathered 46 results. The questions that laid the demographic foundation for the survey was extensive, so much so that one of the respondents deemed it unnecessary. However, the demographic results received from the survey allowed me to categorize the respondents' answers and compare them in relation to years of experience, specialities within UX design and how these factors measured up to their perception of the UX field and Project Management in UX.

3.1.2 Research interviews with project managers

Interviews are commonly seen as a conversation where the interviewed and the interviewee have mutual interest for the topic at hand. However, in a research interview, Kvåle & Brinkmann (2009, p. 2) argues that the interview is not done between equal partners, as the researcher is in control of the situation and the direction the conversation is heading. Throughout the interviews, the interviewee gives the researcher an "internal view" into their perception of reality and provides important data for the topic at hand. Though the interview is similar to a conversation, it "goes beyond the spontaneous exchange of views in everyday conversations, and becomes a careful questioning and listening approach with the purpose of obtaining thoroughly tested knowledge." (Kvåle and Brinkmann, 2009, p. 2) There are several different forms of research interviews, but this study will utilize a semi structured interview. This form of interview proposes a set of themes rather than strict questions without the possibility of talking outside of the script. To be able to pick up on the nuances of the subjects' descriptions of their work it will be very important to give room for a natural conversation. As the interviews are intended to gain in-depth insight, semi-structured interview is the right fit for this study.

The interviews conducted in this study was performed with three project managers with 3, 5 and 12 years of experience. All interviewees were recruited through my own personal network. The interviews consisted of two parts and took roughly an hour to complete. The

first parts primary focus was the participants personal experiences, how they normally worked on a project and how they perceived UX and project management in relation to each other. The second part of the interview focused on my research, and the work done prior to the interviews. Lastly, in addition to a brief discussion on the research question, I presented the framework Mingle to get insightful information about elements that needed change before I tested it out on my peers during the fall semester.

3.2 Autoethnographic research

When executing the study on the project management framework Mingle, I acted as the project manager. This meant that my personal involvement and participation in the process allowed me to perform autoethnographic research. According to Adams et. al "Autoethnography is a research method that uses personal experience ("auto") to describe and interpret ("graphy") cultural texts, experiences, beliefs, and practices ("ethno")." (Adams, Ellis and Jones, 2017, p. 1) Autoethnography does therefore balance on the intersection between autobiography, which is the recordings of personal experiences, and ethnography which is a combination of observation, interviews, and participation in the study. (Lazar, Feng and Hochheiser, 2017, p. 230) Ethnographic research stems from social sciences and anthropology and the participatory studies used to engage with and understand unfamiliar civilizations. When the researcher themselves are participating in the study, it allows the observer to get subjective data and personal experiences and record the process and findings without disrupting the study. (Lazar, Feng and Hochheiser, 2017, p. 232) The participation in the studies is particularly important and is also what is defined of the ethnographic research methods we find in HCI today. Contrary to other research methods, this means that the interviews are often done naturally through conversations without a set plan to be able to observe the participants experience and behaviour. With autoethnography, however, the aim is to articulate the experiences in the study with insider knowledge, and to prevent stereotypes and biases as the study is done in a natural setting. The insider knowledge can be based on previous personal experience and memory. (Adams, Ellis and Jones, 2017, p. 2-4) As I act as the project manager in the study, I am not just an observer, but actively participating in the study. This allows me to see, hear, think, and feel to become part of the

field, which in my study translates to capturing small nuances and patterns of my colleagues' behaviours and comments on small or big changes done in the process.

In addition to autoethnographic research, this study will also be conducted with Action Research. According to Hayes, action research is an approach to research that provides the researcher with several guidelines to gather and interpret both qualitative and quantitative data in order to understand the change they are undertaking in the community they are researching. (Hayes, 2014, p. 49) This study will therefore be built with the autoethnographic approach as a baseline and to guide the process, and action research will be used to set structural boundaries and link the gathered research back to the project.

3.2.1 Project, roles, and software development

In autoethnographic research, the researcher enters a cultural "field" in order to observe and record the experience. (Adams, Ellis and Jones, 2017, p. 3) In this study, the field is represented in the UX process where the main goal was to create an innovative product that gives value to NRK and their users. The UX process and its different phases were planned out in advance. Though the field in the autoethnographic research is the UX process and how the team responds and acts in the process, it is the team members response to the implementation of a new framework for project management that is the focus of this study.

To prevent confusion in the team and perform the study successfully, it was necessary to give distinct roles to each group member. Different roles were also given to the group members to closely resemble a UX project and process from the industry. During the process, all team members would also be conducting their own research for their individual theses. Where the team members focus was the product, my focus was not on the finished product but rather how the team members responded to the process of developing the product and communicating with the project manager (me) and their team members. As the team consists of five students, naturally there are several different scopes, themes and research questions for the same development process and research. Approaches to minimalistic design, design sprints, user experience design and rapid prototyping are only some of the methods we used during the development process, and it may seem like there is a high chance for failure. To be able to incorporate all approaches, each team was assigned a role with their own

responsibilities to be able to meet the needs for each student. After dividing the roles, the team consist of one Project Manager, one UX designer/developer, one Lead UX designer and two UX designers with focus on user's research and user testing. When necessary, we tweaked the plan to make it easier for each team member to achieve the level of competency needed.

To meet the requirements for each team member and perform the study, we followed a predefined plan that was built upon the structural boundaries of Mingle. The design process was divided into several iterations of research, prototyping and user testing, where I as the project manager met up with the team once a week to discuss any issues at hand, and recorded their progress through digital collaborative tools. In the last stage of the process, the finished product was developed using ReactJS, an open-source tool for front-end JavaScript development.

3.2.2 Action research

As a structure for the autoethnographic research, I used the methodology Action research (AR) to test and analyse the progression and success rate of the project. The main goal of AR is to do research *with* participants instead of *for* them (Hayes, 2014, p. 49), meaning that AR is a collaborative effort. The first recorded work and definition of AR was published in "Action research and minority problems" by psychologist Kurt Lewin in 1944. He argued that "knowledge can best be constructed by real-world tests and that nothing is as practical as a good theory". (Hayes, 2014, p. 50) In HCI research, AR is a popular approach when the researcher must know both the targeted group they are researching, and the implications and effects their changes does to the target group. Contrary to other academic fields, HCI researchers often incorporate techniques such as design, development and deployment (Hayes, 2014, p. 49) to properly understand the consequences of the changes made.

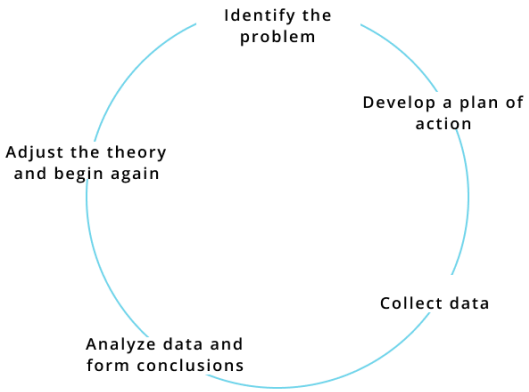

Figure 3 Action research's' spiral of steps, composed of a circle of planning, action and factfinding about the result of the action

In this study, I as the researcher am both implementing a new framework for the process and participating together with the team, thus making it a collaborative effort. AR can be modelled as "a spiral of steps, each of which is composed of a circle of planning, action, and factfinding about the result of the action." (Lewin, 1946) (Figure 1) The research conducted in this study is dependent on the collaboration between me as project manager, and the group. As the study is naturally collaborative and observational, following the principles of AR is therefore a suitable choice.

Within AR there are several different proposed definitions and practices, but this thesis will put emphasis on Scientific-Technical AR (STAR) which was proposed by James McKernan in 1991. STAR is designed to let the researcher work and collaborate with the participants based on a predefined scientific theory. (Hayes, 2014, p. 51) STAR is quite like other HCI methods, but it differentiates from other methods as it is less objective and more involved in the project. In my study, the predefined scientific theory at hand is the framework Mingle, and I will work and collaborate with my team members while utilizing Mingle. The following section will explain in detail which measures I will take to ensure a good approach to STAR.

In AR, the participant of the study also acts as the action researchers team members, and it is therefore very important to establish a good relationship with the participants (hereby referred to as team members) in the study. The focus in the preliminary phases of the study was therefore to define a vision statement and formulate a research question together with the team. Vision statements is a particular technique in AR that "provide the means by which all voices are heard and all concerns are included and often include a list of goals or a "vision" for the outcomes of the project." (Hayes, 2014, p. 55) During the initial stages of the UX process, we defined two separate vision statements prompting all team members to understand the process that would follow. The first vision statement revolved around the end goal for the product we were creating in the UX-process. "Creating an innovative application that brings value to NRK and our development process" was the vision statement we worked together to formulate. This vision statement prompts the team to collaborate to create an exciting project. As AR is a cyclic process, it is also natural that the research question will change somewhat during the study and it is important that all team members understand this while they are in the process.

The second vision statement we discussed revolved around the process itself. As all team members were aware, they themselves were part of an additional study that studied the consequences of introducing a framework where the project manager was not an active part of the UX process. This meant that the second vision statement measured the success of the process, rather than the success of the product. Though the team's main goal was to create a successful product, we all agreed that the two vision statements were dependent on another as the successful product would not be possible without a successful process. Throughout this thesis, I will focus on the second vision statement, as this is the enabler to create a successful product.

In addition to establishing a good relationship within the team, the action researcher should also seek out community partners. The community partners are members of the community who wishes to engage with the team and vice versa throughout the process, and someone who "tend to be inherently interdisciplinary in nature". (Hayes, 2014, p. 55) In AR it is encouraged to seek out these community partners early in the project to establish a relationship that can be of good use throughout the process. In our case, the community partners consisted of NRK and some participants in user studies and user testing that were consistent throughout the process. Though NRK could also be considered the customer in this project, as they "ordered" the study, the community partner is still fitting the description of NRK's role in the project. In my experience, customers often have certain expectations and heightened emotions when it comes to their perceived outcome of the process. A "regular" customer may therefore inhibit the process by introducing their own biases if they were considered a community partner. In this study, the customer did not have any expectancies or preferred outcome, as they were interested in the study itself, not necessarily to be given a finished product. This provided us to collaborate with NRK, and not view them as a stakeholder in the projects whose main interest was the finished product. The relationship between the team and NRK was therefore built on common ground, which in turn prompted us to work together towards a common goal. Though NRK was not directly involved in the process, they accommodated any need we had to meet our vision statement.

3.2.3 Action research critique

The main principle of AR is learning through action, by establishing a research question or hypothesis and inserting oneself in the field where the study is carried out. This gives the action researcher the opportunity to observe any behavioural patterns and see success or receive critique as changes happen. The Action phase was executed by applying changes to both the technological, sociological, and organizational structures and processes used in the UX process and was recorded through observation. Though AR gives a greater understanding of the setting and a potential better solution, it may not be the best method to give a clear answer as to what is the best solution. (Hayes, 2014, p. 57) In this study, the only framework implemented to fulfil the vision statement of a successful UX-process is the framework Mingle. Though AR gives room to properly test out the framework, it is difficult to answer if it is the best approach to project management in UX as there is no room for comparison in the participants behaviour and response to different frameworks.

3.2.4 Evaluation of Action research

Best practices for AR do not include a set of guidelines for evaluation as there are no clear roles as to who should record and analyse such data. What is recommended is to go through the changes with the team members and gather any constructive information one may end up with. Other information that can be written down should be divided up into small and larger reports. In this study, the evaluation and documentation were done parallel to the UX process.

Before we started the UX process, I distributed a survey to each team member. While surveys are powerful for specific needs, the evaluation will also be done through in-depth interviews at the end of the UX process as surveys cannot observe the respondents context or follow-up questions in the same way as an interview. (Müller, Sedley and Ferrall-Nunge, 2014, p. 230) Though a survey distributed to only four people cannot be considered anonymous, it gave the team members the opportunity to reflect by themselves, without having to answer in a face-to-face conversation. In addition to giving the team members time to answer about their own skills, and their expected impact on the project, the survey also gave insight into the expectations the team had for the project manager role. In retrospect, this survey could also

have been done as a semi-structured interview with each team member and this may have uncovered any biases in the survey. As the team members are also my friends, they may have answered the questions in a way they thought could help my study. I still deem it a good approach seeing as the survey was used as a tool for reflection for the team members and was not supposed to give any other answers than their perception of the UX process and project management. This data was mostly used as an indicator for what the UX designers expected of me, and how I could best meet their needs.

Throughout the process, we had weekly "stand-ups" where the team members could address their concerns about the process or the collaboration within the team or between team and project manager. In addition to this, all team members used digital collaborative tools which allowed me to observe the progress and process. The final evaluation was conducted through in-depth interviews at the end of the UX-process. Interviews are a great fit for evaluation, as one can observe the respondent's context, reaction and give follow-up questions. The main objective of the final interviews was to gather insight on the team members perception of the process, what they enjoyed and what could have been handled better.

3.2.5 Ethical considerations

Choosing to do action research as the primary method for this study also poses some ethical questions since it involves both myself and the members on my team. The participants in the study are also part of the team and while they are participating in creating an innovative product for NRK, they are also conducting their own research to be used in their personal studies. This means that both a poor or good execution of the action research, or a failed or successful attempt at implementing the new framework for project management in UX may gravely affect my peers. The team is depending on the project giving them a valuable outcome, either in the form of lessons learned in user testing, or the success of the actual product itself. According to Baxter and Courage, all participants in the study has the right to know all aspects of the study, that could be the duration, purpose, procedure, and any risks that may follow. (2015, p. 97) To ensure that the participants are aware of the scope of the study, they should all sign a consent form that provides the necessary information. By signing the form, the participants are agreeing to all terms and conditions and their rights are protected. The participants must also be informed that they should feel free to withdraw at

any given time, particularly if the participants have misconceptions about the study. (Baxter and Courage, 2015, p. 99) However, in this project, withdrawing from the study is complicated as the study revolves around the project itself, which the team members had to finish to complete their own studies and theses. As the process, project and roles were decided and discussed as a group, all team members were aware of any consequences that could occur. Withdrawing from this study would therefore be difficult, but the team members were encouraged to communicate any issues they had with the project manager role. To ensure that the participants knew the scope and reasoning behind the choices made for the project management framework, I held a meeting at the beginning of the development phase where traditional project management was explained and compared to the new framework. It is inevitable that introducing a new framework for project management may lead to some problems along the way. However, this project may have a higher probability of failure as I am lacking some competency in my area of research. To be able to conduct the study ethically, I am required to reach out to professional project managers to ensure that the study is both viable and safe for the participants. The participants should also be informed of these boundaries of my knowledge and skills. (Baxter and Courage, 2015, p. 102)

In the project, I was participating both as an observer, as the manager of those observed, but also as a team member and a friend. This can give room for conflicting roles and may be hard for the team to relate to. This is one of the main reasons why we delegated different roles and tasks from early in the project. We also talked about the expectancies the team had for the role as the project manager, and how the role was to be carried out. As all team members had the expectancy that the project manager should “take the lead” and have the last word, we did not stumble upon this problem. However, one of the team members commented on this after the process had finished. She said that she had a very positive view on how the process and role as project manager was carried out, but she would have thought otherwise if we as a team did not set expectations for the project management role. In short, without a clear role definition, the team would most probably view me as nagging, tiresome and “bossy”.

It is also important to emphasize the possibility that the team members participation and response to the process is biased. As I have attended university with my team members for 2-5 years, I recognize them as my friends and as do they. This means that there is a potential for the team members to give me the answers I want to get a successful result. One can never be

one hundred percent certain that this is not the case but seeing as I am utilizing autoethnographic research and have been able to observe the process along with my peers, it was easy to pick up on any differences in the final interview and what I had observed in the process.

4.0 Background for Developing the Framework

The following chapter presents the empirical data I have collected which formed the background for developing the framework Mingle. The data was collected through a survey and research interviews with UX professionals and project managers. These methods were used to map designers and project managers perceptions of the UX process, project management, and how one can improve collaboration and interaction between the two fields. The methods were also used to discuss which principles from the UX process and agile development that can provide efficacy, and how the participants perceived the visibility of the role in the team.

The studies were pivotal to confirm or deny my own biases when developing the framework and were used to lay the foundation for the framework that enables me to answer my research questions. This chapter will highlight the most important findings from the survey and interviews, which together with existing research, was utilized to build the prototype of the framework Mingle.

4.1 Results of distributed survey to UX designers

The aim of the survey was to gather insight from UX designers on their relationship with project management. The survey was posted in a closed network for Norwegian UX-designers and gathered 46 responses with a diverse representation of gender, age, and years of experience. (Appendix A) As the survey sample size was small, each response was looked at in its entirety. The survey results and analysis should therefore not be seen as a representation for all UX-professionals. The survey asked questions about the participants

general perception of their own tasks, as well as the project managers tasks and the cooperation and collaboration between UX and PM.

Trust is the most important factor to successfully complete a project as a team

When participants were asked which factors were the most important to contribute to a project's success, 82% of participants answered that trust was very important or important. This contributes to Lund's (2011, p. 128) claim that defining a team identity is essential for a successful outcome. It is not only within the team that a bond of trust must be forged, but also between the team and the UX designers. One respondent highlighted this issue when they elaborated on why they were unhappy with one of their PM's, saying that there was "Too much hesitation on creative directions", insinuating a low level of trust between the team and PM. In a team setting, trust can be considered as the foundation that enables people to work together, and can be seen as the common ground that promotes communication, commitment and loyalty within the team. (Hakanen & Soudunsaari, 2012) Building can take a long time and is dependent upon several factors such as a common goal, respect for team members expertise and a social connection within the team. Without trust, voicing opinions and giving either critical or positive feedback may prove difficult, as the recipient of the feedback might not understand the intentions behind the feedback. (Hakanen & Soudunsaari, 2012) The same goes for questions and offers to help in a team without trust; it might be perceived as deceptive.

The respondents also replied that diversity in knowledge and skills, clear and concise communication with stakeholders and access to digital tools is important to achieve success. A team that has a diverse background within different fields and skills may work well together by sharing information and helping each other, but the project manager should help disburse these skills. The PMBOK (2017, p. 100) suggests a set of tools and techniques to manage knowledge that "uses existing knowledge and creating new knowledge to achieve the project's objectives and contribute to organizational learning". This includes tools such as the Resource breakdown structure, that should highlight the composition of the team and help the team and stakeholders understand which knowledge available, and which knowledge is missing. (*PMBOK,* 2017, p. 102)

Lastly creative freedom was a factor many believed was important to achieve success. This is however something many of the respondents feel like they are currently lacking, as I will explain further in the next paragraph.

The UX process is a creative process

One of the preconceived notions I had about the UX-process and why project management is not catered well to the process, is because I thought the UX process was highly creative whereas project management leaves less room for creativity. 83% of the respondents agreed that the UX process is creative or highly creative, and most participants perceived themselves as creative. Only two participants responded that they did not think the process was that creative. There are several ways in which one can define creativity, but one can narrow the definition down to "the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others". (Franken, 1994, p. 396) Creativity is dependent upon the creator's possibility for exploration. In a UX design process, the designers are both exploring the problem area and are adapting common design principles, such as visibility and feedback in their approach to meet the needs of the targeted group. This exploratory process may sometimes uncover new problem areas and may cause the process to change. In some situations, this may mean that the entire pre-planned process may be disregarded. From a project management perspective, these pivots may sometimes seem unnecessary as the pre-defined scope or plan does not leave room for change or exploration outside the problem area. Though the project manager should aim for leaving room for creative exploration of the problem area, it is understandable that the project manager also must keep time and cost management in mind when planning the process, hence why UX designers might perceive the project managers plan as less inclined to change.

Working in iterations with possibilities for change is essential

When participants were asked whether they preferred to work in UX processes that utilized either agile or waterfall methodologies, ever participant answered that they preferred agile. Agile methodologies such as Scrum have been favoured in the IT industry since the agile manifesto was written in 2001, and though it is used meticulously, UX has sometimes struggled to gain foothold within the agile methodologies that are used in software development. As Scrum and other agile methodologies are specifically aimed at software

development, the software development teams expect a set of requirements and a "finished" design before they can start their own iterative and agile development process. Gothelf & Seiden drew an example from the "manufacturing process where our work had to be duplicated onto floppy disks and CDs, which were then distributed to market." (2016, p. 3) Frameworks such as Lean UX aims at introducing agile in-to the UX process to give room for iteration and exploration of the projects scope and problem area by "responding to change rather than following a plan". (Gothelf and Seiden, 2016, p. 20) Within software, agile is focused on interaction over processes, software over documentation and responding to change over following a plan. Arguably, UX is the embodiment of agile as interactions and responding to change through user studies, and quick results through low- and high fidelity prototyping is essential in order to provide an successful UX process. The principle of the importance of agility in the UX process is also visible in the answers given when the participants were asked why they had previously seen their project manager as a hindrance or distraction. 53% answered that their project manager had been too strict about following a predefined plan, had pushed too hard on the deadline and been very strict on the requirements. When asked to elaborate, some participants expressed that the project manager was "More focused on planned outcome than potential value" and "lacked the understanding for design methodology and incremental deliverables". It is therefore highly important to develop a framework that can account for the principles of agile.

The project manager must understand the UX field

My hypothesis was that a project manager without knowledge of the field they will lead, will most probably do a poor job solely because their management is based off rules and predefined plans, and will not be adapted to the team members needs or changes in the process. This was confirmed through the survey. One of the most prominent reasons why the respondents were left with a feeling that the project manager had made the collaboration more difficult was because they lacked a general understanding of the UX process. Many of the in-depth answers were related to the project manager's level of knowledge about UX. Some gave answers like that the project manager was "Not competent enough", "Tried to be the designer", "Missing knowledge on UX" and "Pushing the solution before the problem is understood." As proposed by Lund (2011), the project manager must have the mind- and skillset of a UX designer in order to do be a good leader. A knowledgeable project manager may also contribute to trust in the team by providing the team with a reason, in this case

knowledge, for their feedback and management style to be trusted. (Hakanen & Soudunsaari, 2012)

Constructive feedback should be given at the right time

Most respondents look at constructive feedback from their project manager as a helpful tool to keep them on track with their project. However, many of the respondents also expressed that this feedback was distracting if they were in the middle of a creative process. Finding a time and place where this exchange of feedback is given should therefore be an important aspect when developing the framework.

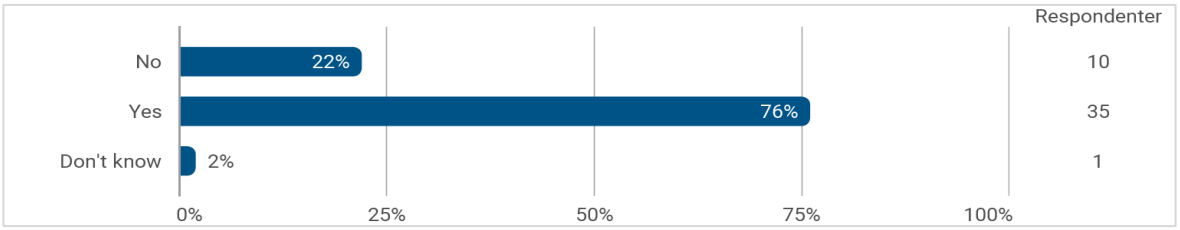

Figure 4: Respondents answers when asked if they had ever experienced their Project Manager as an hinderance in the process

The project managers job should be to "do the boring stuff and shield the team"

As over 75% of the respondents said that they had previously experienced their project manager being of hindrance or a distraction to the process (Figure 4), I was intrigued as to what the respondents expected their PM's tasks to be. According to the Project Management Institute, the project managers tasks should be to apply knowledge, skills, tools, and techniques to enable the team to meet the project requirements. (*PMBOK Guide*, 2017, p. 36) In order to meet the requirements, the most common tasks include management of decided external factors such as scope, risk, cost, and time management, but also internal factors that are specific to the team such as communication with stakeholders and the team. (*PMBOK Guide*, 2017, p. 47) In the survey, most respondents agreed that the project manager should do all administrative work and be a leader for the team. One person argued that the designer should be a part of some of the logistics and administrative work, such as meetings, reports, and planning. Facilitating for a good work environment was a factor that several respondents commented on.

4.2 Results from interviews with project managers

The interviews were conducted with three project managers who have several years of experience in the field of project management. The aim of the interviews was to get a general understanding of a regular day as a PM, what tasks are done and how the participants work with or for a team. (Appendix B) Before the interviews, I also wrote down the first draft of Mingle based on the survey and existing literature to ask questions around the framework before testing it with my team. I wanted some clarity as to how the project managers worked in a UX process as opposed to a project that did not require space for exploration and already has a pre-defined and decided result. In previous projects I have worked on as a UX designer, I often feel like the project manager does not have a clear understanding of the current process we are in, unless we spend hours in meetings filling in the project manager on all tiny or big challenges we have been facing along the way. Getting feedback on how these project managers perceive the UX process and their role in the process is therefore a valuable addition to the study. The names used in this thesis are pseudonyms to keep anonymity.

Nina is 37 years old and started her career in business and administration within the construction industry. She now currently manages home building and renovation construction projects and processes. Nina has worked with UX designers one time. They were hired to bring attention to the user's perception of the establishment they worked on, and how the construction plan could be improved to meet user needs.

Anders is 42 years old and started his career as a visual designer with an emphasis on the UX experience. He then moved on to work solely with UX design. Five years ago, he changed his career path and started managing the projects at his firm. His teams consist of both UX designers and developers.

Catherine is 29 years old, and started her career working with administration in a software development company. A few years ago, she entered the field of project management where she now currently manages two projects with teams consisting of UX designers, graphic designers, and developers.

Both Catherine and Nina commented that they did not know much about UX when they first entered the role as PM. Though UX is not an important area of knowledge in Nina's industry, Catherine quickly learned that she should gain a general understanding of the design process and tasks when she was first hired. "I struggled to accommodate my team with the necessary resources, when I did not know why they would need said resource" Catherine commented when we talked about designers needs for digital subscription-based tools. Though both expressed that they understood the process quite quickly, Nina emphasized the difference between her way of working and the UX process by stating "it seems to me that the UX designers work more freely and are more accustomed to changing the outcome if they discover any new insight that enables them to do so, whereas I work in a more streamlined process where we almost always follow the plan we set before the project started." Though both understand the UX process, they sometimes struggle to grasp the importance of small pivots and nuances the UX designers must do to complete their work.

Common for all participants were their daily tasks. These included communication with the business, managing tasks such as the teams schedule and work process, following up on the team's progress and communicating with the stakeholders on the projects progress. While facilitation and providing a good environment for the team is a big part of the job for all participants, Anders had taken it upon himself to facilitate everything for the team. His philosophy was to remove any factors that could be of a distraction to their process. "It is important that I am sure the team is not distracted from their process, which can be considered tedious work, like gathering users for user testing and research interviews". While Anders is happy with this work process, he did have some comments regarding communication as it felt a bit cumbersome to always have to be the messenger between the team and stakeholders.

The end of the interview primarily focused on the framework *Mingle*. I presented the framework for the project managers and explained the philosophy and principles I was currently working with. The project managers were then asked to give their initial thoughts and any concerns they had about the framework. As this framework could negatively affect the efficacy and success of our UX process, it was vital to get feedback on Mingle. The project managers generally saw it as a good approach to how one can salvage the gap between the UX-designers and PM. Nina, who has little knowledge about the field of UX

said “I believe a framework that is targeted towards both project management and UX in unison might help me get an even better understanding of the UX-process.” Another factor all participants commented on was communication and the creative freedom the framework provides for the UX-designers. Anders was hesitant on whether there was enough communication between the designers and PM. “I don’t think I would have a good understanding of the process if I wasn’t in touch with the team on a daily basis.” In his daily line of work, Anders usually checks in with the team regularly throughout the day to observe their process and help if needed. He also raised the question on if allowing the UX-team more freedom would do more harm than good, as it would be more difficult from an administrative standpoint to be able to control the process. The other project managers did however not see either communication or creative freedom as an issue. Catherine stated that “An important attribute for a project manager is to trust their team, I believe my team does what is right to obtain the value we are aiming for.”

5.0 The Project Management Framework Mingle

The interviews, surveys and literature laid the foundation for the framework Mingle (Figure 5). The framework's name means "to become mixed, blended or united", much like the approach the framework itself is taking. Mingle provides an arena that allows better transparency and communication between UX and PM, while devoting focus to both the UX process and project management. This chapter introduces the framework, its principles, philosophy, and life cycle.

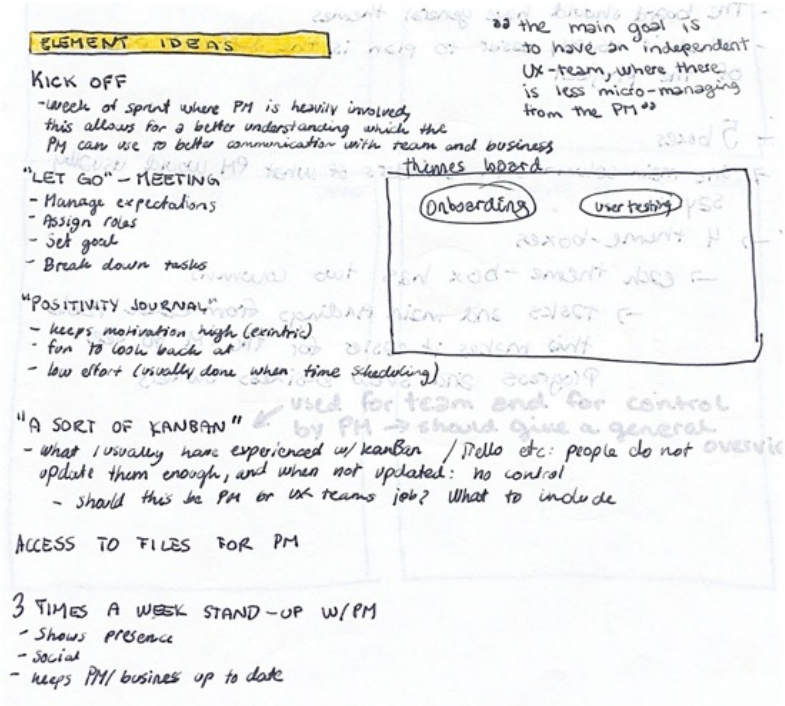

Figure 5: An early draft of Mingle

5.1 Philosophy and principles

Mingle's main philosophy originates from the agile manifesto, and UX processes. In particular the methodology Lean UX that consists of a combination of agile principles and design thinking. (Gothelf and Seiden, 2016, p. 5) The agile manifesto states that instead of focusing on plans, processes, tools and documentation, teams should shift their focus to collaboration, interaction, and continuous deliveries of products in small iterative increments. (Beck et al., 2001) When Mingle is used as the methodology in a team, the project manager

should aim for the fundamental rules of agile by providing transparency in the team through communication, giving feedback and providing grounds for communication while observing the process from a far. Providing an environment where communication is fundamental while still providing room for exploration within the team aligns with Katz' theory on the human skills necessary to be a good leader. He explained that "By accepting the existence of viewpoints, perceptions, and beliefs which are different from his own, he is skilled in understanding what others really mean by their words and behaviour." (Katz, 1974, p. 5) Mingle's philosophy is particularly important in the execution phase of the process, as this is where we usually see a discrepancy between the project manager and the UX team they are leading. This means that the planning phase could happen sequentially and without much thought of the principles of agile. However, when executing the UX process, the project manager must provide flexibility, transparency and focus on their team members and allow them to explore the problem area rather than focus on their desired process, tools, and outcome produced.

The UX process is inherently goal oriented as designers work together to fulfil user needs. Though goals are important, Jeff Gothelf, originator of the Lean UX methodology, argues that in a UX process, designs and features are emphasized too much, making the team lose sight of their goals. (Gothelf and Seiden, 2016, p. 36) Designers work together towards a set outcome, but the route to this goal may be unpredictable. Therefore, Mingle should be able to provide an environment where changes to the plan or goals can happen at any given time. This could occur if for example an interview subject does not show up, or they get answers from research studies or user testing that does not align with previous information, hypothesises or goals.

In Mingle, the project manager is an integral, yet invisible, part of the UX team. The project manager is included in creative decisions and the framework allows the project manager to gain a better understanding of the UX-process. This will in turn relieve some of the frustration UX designers have of their managers lack understanding for their profession. The framework should therefore work as a tool for project managers in unison with the UX-team. The framework is a collaborative effort, both in tools used, but also in communication as the roles are intertwined in certain steps of the process. The framework should not distance the

project manager from the team, but rather make them an integral part of the team in certain stages. The framework's primary goal is to provide transparency.
In short, the framework should:

1. Make room for creativity and exploration for the UX-designers
2. Provide transparency between project manager and UX-team to prevent confusion
3. Set structural requirements for planning that can accommodate change

5.2 Roles and responsibilities - UX+PM=Team

Traditional and standardized project management, such as the rules and principles proposed by the Project Management Institute focus on the project management role as a somewhat separate entity of the team. The PMBOK emphasizes the importance of communication with the team to "communicate the vision and inspire the project team to achieve high performance". (*PMBOK Guide*, 2017, p. 285) and highlights that the project manager should have the interpersonal skills to be a good leader. Though communication is important in standardized project management, the project management role is inherently performance-based, meaning that the main activities the project manager should concern is tracking the teams progress and collecting and analysing performance data. (*PMBOK Guide*, 2017, p. 448) This can become a problem in the typical UX project that should be susceptible to change. Lund (2011, p. 121) argues that in a UX project, it is particularly important that the team defines their goals and plans the process in collaboration with the project manager. By working together with the team, a level of trust will naturally occur between the UX team and their project manager, as they have scoped out the mission in unison where all voices should be heard. Lund does also emphasize the importance of knowledge within the field as "UX professionals do best when they feel their manager understands what they do, and can evaluate their work fairly… In general they want to want to work for a manager who understands their job and advocates for it effectively and passionately." (Lund, 2011, p. 11) As seen from the survey I did with the UX designers and the 2017 survey by the Nielsen Norman Group (Pernice, 2017), many of the respondents struggle with the relationship with their project manager as they lack knowledge in the field of UX. Mingle is aiming to shift this issue by making the project manager as part of the UX team at the beginning of the process. By integrating the project manager into the design process from the outset and throughout, the project manager will have a better understanding of the process and will gain a better

understanding of which hurdles the team may meet, or why they choose a certain exploratory path. This involvement does also provide a better foundation for the project manager to communicate struggles, findings, and steps of the process with the business owner and the team. The project manager should not have to make assumptions on the goals and visions for the project when they are planning out the process but should rather work with the team to get a clear understanding on how requirements from the product owner can or cannot be met. Mingle is built up of clear role divisions and some specific artifacts and activities that should inhibit this from happening.

In a traditional agile project management setting, the project manager is monetizing the process and making changes to plans along the way, but in Mingle there are slight differences. The role division in Mingle focuses on the UX-designers creative workflow, which we know can be easily disrupted by changes in a plan, as creativity and its outcome is hard to predict. This means that the project manager's role must be unobtrusive. This is done by making a slight shift to the feedback loop. In Mingle, the project manager is only visibly present in the process during stand-ups. This means that the UX designers should ask their project manager for feedback or help if needed. The project manager's task is simply to monetize the process by looking at the backlog and using collaborative tools, which are concepts that will be described later in the chapter. Further, the project manager should have clear communication with the business, which can be communicated back to the UX team if necessary. As the project manager is not visibly present within the team as they are executing the process, it is important to distribute roles within the team to avoid conflict. Where the project manager should be the leader and manager of the project and the team members by closely monitoring the process, keeping in touch with stakeholders, facilitate any needs and give feedback, the team members have their own role responsibilities that should be discussed at the beginning of the project. In Mingle, it is advised that the team has a "Lead UX designer" that has the last word in any decisions being made if there are any conflicts regarding the choices made in the process. However, if the conflict is not easily resolved, the team is asked to get guidance from their project manager.

5.3 Tools

5.3.1 The Mingling-board

Most agile development frameworks, like Scrum and KanBan, are centred around a board where finished, current, and future tasks are kept. These boards are commonly referred to as the *Backlog* and is a "prioritised list of desired product functionality. It provides a centralised and shared understanding of what to build and the order in which to build it." (Rubin, 2013, p. 99) In a software development process, the backlog does therefore work as an essential tool that helps teams get a better understanding of where they are in the process, what is being done, and how, when, and why they should do certain tasks to reach a certain goal. The Scrum-board should "describe, through a set of detailed tasks, how the team plans to design, build, integrate and test the selected subset of features from the product backlog." (Rubin, 2013, p. 18) This board is also commonly used as a point of reference for the project manager to be able to see the progress in the process. In a software development process, having such a detailed plan is important to test each task properly before it is deployed. In the UX process however, it can be difficult to predict what specific tasks are at hand just by looking at the scope and requirements. This once happened to me as I was part of a UX project for a big Oil-Company; my team and I sat down to plan out the specific tasks we had in front of us based on the requirements at hand, but in our first phase of the process, one interview shifted the scope of the entire project. Several days' worth of work was lost in a heartbeat, and we were left where we started. This left me thinking; are predefined tasks necessary? Do we even have enough knowledge at the beginning of the project to set up a backlog? When one is following a backlog, which is in its essence a checklist, there is also the added risk of ending up in a situation where crossing things off a list becomes the main activity, as the backlog does not provide flexibility. In UX, this can be detrimental to the quality of the result, as the exploratory and creative process does not thrive in a setting where checklists are the primary source of validation. Still, without a firm basis, it is easy to lose oneself in the process and not stay within the frames of the current steps of the process.

Mingle tries to solve these issues by using the Mingling board which is a backlog that focuses on themes rather than tasks. "Mingling" means to "join together", which is the exact purpose of the board. The Mingling board contains designated boxes for each stage in the process

(Figure 6), where each box describes the title of the stage, a deadline for when the process should be finished, and a general theme and scope for the stage. On the board, the team members and project manager can work together to write specific requirements and join them together with their designated theme as the team is in that specific stage. The team members are encouraged to write down specific tasks as they move forward in the process, but unlike backlogs in Scrum and KanBan the tasks should not be refined and planned prior to the process. This allows the team to have better flexibility in the UX process, while still having an overview of where they are in the process, what they have done and how they can move forward to complete the stage within the deadline. This board does also allow for better transparency between the PM, team, and stakeholders, and works as a medium to join all roles together in the UX-process.

Figure 6: The Mingling-board. The board is split up in different phases, where each phase is described by a title, deadline and goal. Each phase has the ability of adding sub-tasks if necessary

5.3.2 Digital collaborative tools

In the present day and age, we are fortunate to have thousands of tools to guide and help streamline work processes and teamwork. Mingle is built upon the belief that in a digital world, there is no reason why not to use the digital tools at hand. This thought was only enhanced when Covid-19 struck in early March 2020. All non-essential work was moved online, and from my own experience, using online digital tools have proven to give a more fluent and efficient work environment. There is no reason why the backlog should be written on a whiteboard, and there is no reason why the project manager should request screenshots of current designs, when it can easily be obtained through digital collaborative tools. Using

these tools allows for better transparency between the project manager and team and makes it easier for the project manager to monetize the process without disrupting it.

5.4 Mingle's Life Cycle

Mingle's focus is helping the team deliver value in a setting where there are many unknown factors. Feedback from users or insight from research studies may be causes for a project to either fall through or change direction. Therefore, the direction and small tasks in a UX process can be difficult to plan out in advance. This eliminates some of the work the project manager normally must do. However, performing risk assessment and planning out for time and cost schedules should all be activities the project manager should do prior to the UX process to eliminate any obvious challenges. Mingle provides a three-stage process (Figure 7) that enables the project manager and UX team to work together efficiently. The three stages are all supported by tools that provides transparency between team members and the project manager.

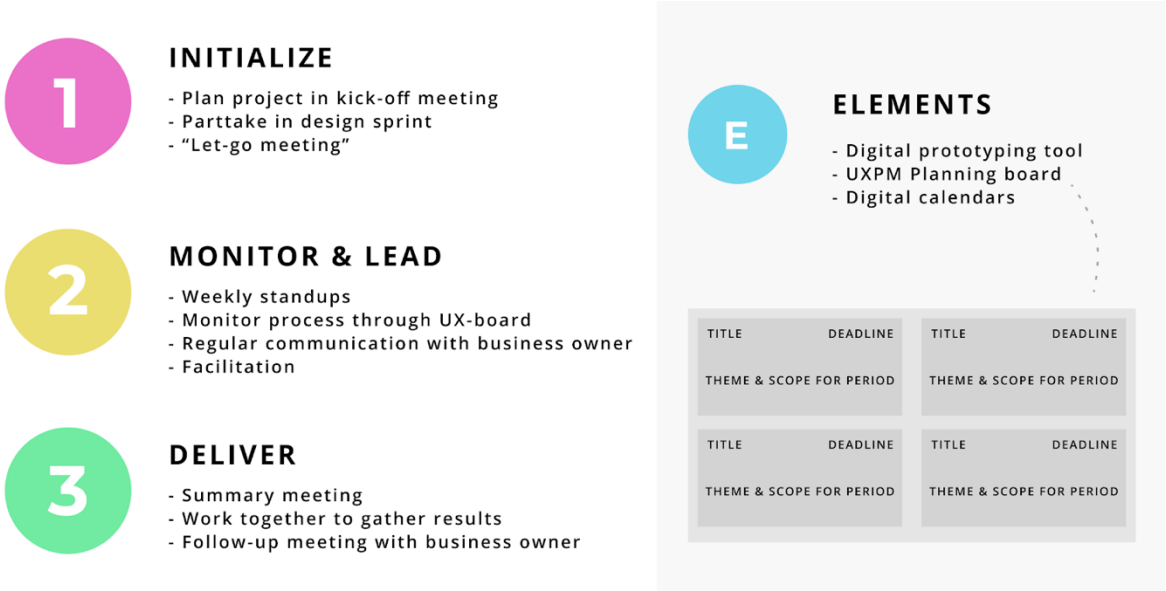

Figure 7: Infographic of Mingle

5.4.1 Phase one - Initialization

Mingle builds on principles from both agile and traditional project management. In every process, there needs to be an initialization phase, where goals and visions are set, plans such as time and cost management are planned, and requirements and scope for the project is decided on. In traditional project management, these tasks are often left to the project manager. The project manager spends a lot of time completing said tasks, present them to the team, and often go back and make necessary changes after feedback from the team. In agile, the planning and initialization stage is handled differently and more effectively. As we can see from frameworks such as Scrum (Rubin, 2013), the project manager and team work together when initializing the project, in turn making the process quicker and more comprehensible for all parties involved. Mingle's approach is to provide transparency within the team. To provide this, the project manager and UX designers should set the requirements and goals for the process in a kick-off meeting. In this meeting, general themes rather than specific requirements should be planned for the duration of the process, and the team should set goals for the process.

Including the project manager in the design process

Many UX processes also face the challenge of the unknown. What will the result look like, how much time will it take to get there, and how will we get there? In most cases, this will be impossible to answer. However, there are tools and frameworks that takes the unknown and turns it into a solution and a plan. One of which is the Design Sprint. The Design sprint is specifically tailored to define a projects scope, goals and requirements for a product or process. (Knapp, 2016) Using the design sprint in the initialization and planning process can also be used to the team's advantage. As seen from the survey, many UX professionals express that they struggle with the relationship to their project manager as they don't quite comprehend the UX process and the troubles the team may meet. In the first phase of Mingle, the project manager is therefore included as an essential part, and designer, in the UX team during a design sprint. By including the project manager in the first process where brainstorming, problem solving and quick solution sketching is at the forefront, the project manager will be more equipped to understand any problems the team might have later in the process. When the project manager has a better understanding of the project and how it might be solved, it will also be easier to communicate both with the business and the team. Making

sure that the UX team does not go way out of scope is also important in the first stage and establishing a clear way forward will be easier to do for the project manager once in the process.

Let-Go-Meeting

The second stage of the initialization phase in Mingle is the Let-go-meeting (LGM). This meeting should take part after the design sprint and should primarily focus on the findings from the sprint, time management and division of roles in the upcoming period. This meeting allows the team and project manager to sit down and review findings from the sprint, set clear requirements for the process ahead and make necessary changes to the scope. The LGM should also make time for filling out the Mingling-board with any clear themes or tasks. Planning the reminding process together will lead to great transparency between the team and the project manager. Having a good understanding of the process between team members and the project manager after the LGM will be detrimental to the process, as this will be the last stage where the project manager has a visible role in the team, besides from the weekly stand-ups. After this, the UX team will have more artistic freedom and less management from the project manager.

5.4.2 Phase two - Monitor and lead

Even though the LGM was the last stage where the project manager was a visible part of the team, this does not mean that the project manager is no longer involved in the process. The main philosophy behind Mingle is that less micromanaging and disturbance from the project manager will lead to a better result and a more fluent process. Still, the project manager will be highly involved in the process through monitoring the process by working with the collaborative tools at hand. One of which is the Mingling board, that should give the project manager a quick glance at how the process is moving along. The actions in the Mingling board should give the project manager an indication on if they should interfere in the process to be able to help it proceed forward. Looking at the design tool can also be a good indication on where the team are in the process. The design tool gives a clear conceptual understanding of where the team are in the process, and how they are responding to the requirements and scope. If their response is far out from what the business owner is requesting, the project manager should act

Communication

During the second stage of Mingle, one of the main responsibilities for the project manager will be communication with the business owner and stakeholders. Previous work experience as a UX designer have given me both positive and negative experiences when communicating with a business, particularly if the project manager attends some, but not all meetings. If the team and project manager get contradicting messages about the work at hand from the business owner, they may never grasp the concept of what the stakeholders want. It is therefore important that the business owner has one main contact person to discuss the project and its scope. In Mingle, this person is the project manager, who not only has a comprehensive overview of the current UX-process and proceedings but is also the manager of the UX team.

Stand-ups

Although Mingle is a collaborative effort between the team and PM, the PMs role in mingle happens "behind the scenes". To be able to join forces, and to discuss progress and hurdles, the team will have a weekly standup at the beginning or end of each week. Standups are quite common in several agile frameworks, such as Scrum, Lean UX and KanBan. (Rubin, 2013) Weekly standups gives the team, the project manager and in some cases stakeholders, a way to express their current standing in the process. Having a weekly standup will also be detrimental to the project manager's role, as this is an opportunity for them to show presence and interest in the project. Even though the project manager is highly involved in the process, it may not seem like that to some of the team members. During the weekly standup, the team should discuss their stance in the project, the scope should be reminded, and the Mingling board should be updated with any new information. The weekly standup will also give the team members a possibility of giving feedback to the project manager

5.4.3 Phase three - Deliver

Mingles last stage emphasizes the importance of process-review. Once the UX-team has finished up the last phase of the Mingling board, the team and project manager will meet in a summary meeting. The focus of this meeting is to discuss to process and product. When discussing the process, the team and project manager should address all issues the team had in the process and discuss how these were solved. This is not only a good way to reflect on

the work that has been put down, but also creates an environment that encourages learning from ones one mistakes. When discussing the product, the team is encouraged to explain how the product came about, what the different choices is based on, and the intended use of the product. The results in the summary meeting should be written down in a report or slide-deck, that the product manager either can use as ground for discussion, or as a hand-over to the client.

6.0 Analysis

To answer the research questions, Mingle was used as the project management framework for a UX process where the end goal was to produce a second screen application for NRK. The benefits of using Mingle should be to leave room for creativity and exploration for the UX designers, it should provide transparency between the project manager and UX team and provide a project plan that can be easily changed if necessary. This chapter presents the main findings from the process, and analyses if the implementation of Mingle provided these benefits. The study and analysis aim to answer if the proposed principles from agile methods and UX processes will work in a framework for project management in UX, and if these principles can create a workflow for the UX designers that does not inhibit or disturb their creative flow. In addition, the study and analysis look at the positive and negative aspects of the project manager not having a visible role in the process. As this is an autoethnographic study, the analysis is based on own experiences and interviews done with the team members. (Appendix C) The primary focus of the interviews was to gather the designer's impression of the framework, as well as their perception of the UX-process and any factors that could have been executed differently.

6.1 Execution of the UX process when using Mingle

6.1.1 Planning

The first step in the UX process was gathering as a team to plan and set goals for the process. It was decided that our overarching goal for the process was to "create something that would provide value for NRK". The planning revolved around which design methods we wanted to use, and at which time. (Figure 8) To provide flexibility like Mingle suggests, we intentionally gave each stage of the UX process a bit more time than needed. The team members all agreed that this plan worked well for their process, as they liked that the plan could leave room for error. During the design process we had to change the plan after the design sprint, and when the Corona-restrictions were tightened we could not go through with the co-design phase. As we planned for these possible changes in the beginning of the process, it was of no hinderance to the process. One of the designers also mentioned that the planned increments and methods in the process helped him, as he perceived the increments as deadlines. The first iteration of the design process was planned to happen from August until mid-October 2020. After the first iteration, one of the designers and I developed the first prototype using React JS. The reminding designers iterated on the first prototype, this time without a project manager.

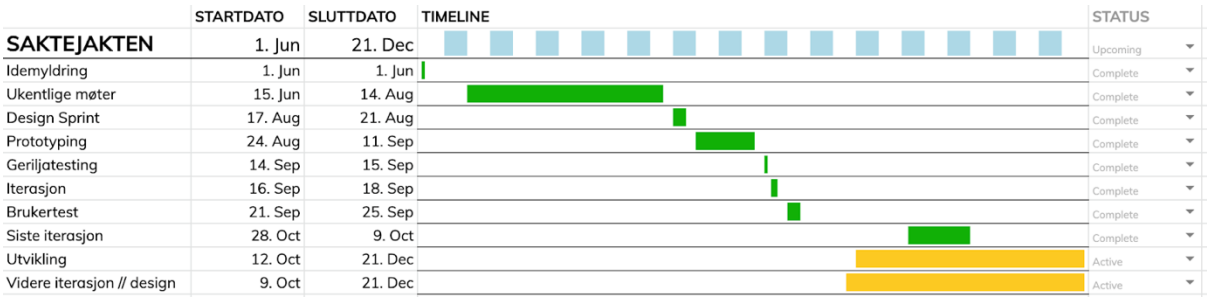

Figure 8: Initial project plan

6.1.2 Early participation

One of the factors I was most interested in observing was how the team would be impacted by participation from the project manager in the design sprint. I was also curious to see if this would make my job easier throughout the process. The design sprint was conducted over 5 days as suggested by Knapp (2016), and left us with a ton of ideas as to how we could deliver

value to NRK. Without participating in the design sprint, I do not think I would have understood the struggles the team had later in the process. The design sprint was successful in its own way, but we had to adapt the plan as there were too many ideas, and too little time to work out the proper concept after the plan. If I was not involved in the process, this issue may not have seen less important than it was. One designer commented that "The PMs presence at the design sprint made sure that everyone was at wavelength and spoke the same language". In a situation where a company is constantly wanting updates, I believe that the proper insight the project manager gets from the participation at the beginning of the process sets them up for better communication with the business. One of the designers also commented that even if the project manager had previous experience with UX or not, "having them be part of the design sprint is good as they get insight to thoughts and ideas and a better understanding of the project." The other designers agreed that including the project manager in the first stage of the design process was valuable as they did not have to spend time updating the project manager after the phase and it provided structure for the team.

6.1.3 Let-go-meeting

The LGM-meeting took place over 4 hours, where all team members and the I as the project manager discussed findings from the design sprint and looked at the process ahead. Based on the discoveries from the sprint, it became clear that we had to make changes to the original plan, as there were some outstanding issues from the design sprint. One of the designers said the process became very transparent because of the LGM meeting, which was great for further communication within the team and between project manager and team. Another factor that contributed to this transparency was the creation of different goals in the process. We went through each of the phases that the team should work through and put down goals and sub-tasks for the team members on the mingling-board. (Figure 9) As the LGM was the last meeting the project manager participated in as part of the UX team, we also addressed concerns and expectations the UX designers had for the me as the project manager. The expectations generally revolved around the project manager being a leader that had an understanding and overview of the designers' current tasks and tasks ahead, as well as taking responsibility for all administrative tasks and communicating with NRK. In the final interviews, the designers agreed that the LGM meeting was very important to the success of the process, as it set clear expectations for both the UX designers and project managers work.

The designers also commented that it was valuable to have such a meeting because it gave a "clear distinction when the project manager withdrew from the creative process."

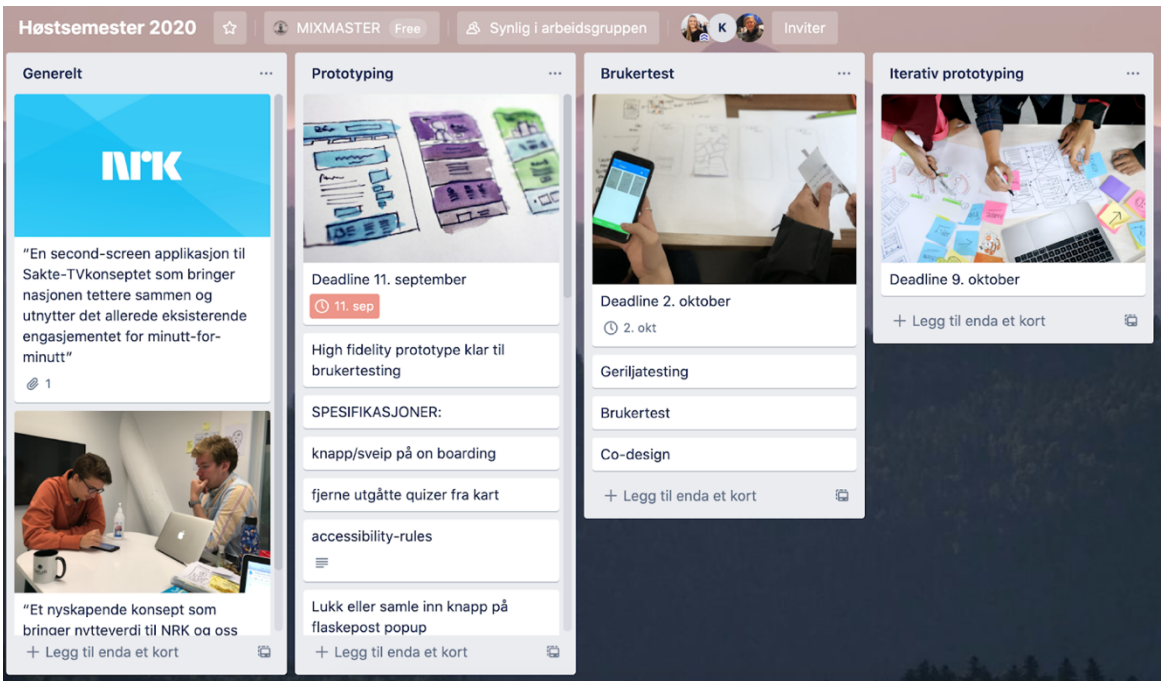

Figure 9: A screenshot of the Mingling board during the process. Our board was set up using the online tool Trello.

6.1.4 Monitoring

Throughout the UX process, I used collaborative tools to monitor the process and "check in" on the UX team. This gave me the possibility to see if the process was moving along, or if I might have had to interrupt the team's workflow in order to solve any issues they might have that could hinder the process. The designers expressed that they were happy with this as they felt like it left them with a lot of freedom. One designer commented that it was not important to them that the project manager should know absolutely everything "because it can seem very distracting and monitoring". However, if the team felt like they needed some extra guidance, or a fresh pair of eyes, they called me in. This happened several times throughout the process when the designers could not seem to agree on design choices concerning colour or placement of elements.

I also had an overview of the process when using the Mingling-board. The UX designers were happy with the layout as it did not put strict boundaries on the outstanding tasks. "I like that there was only one column per phase, as I often feel like these types of organizational

boards can become cluttered. If they are, I become overwhelmed, and it is difficult to see all tasks at hand.” Another designer commented that "It is very nice to have small tasks because it seems more affordable and can be divided up a bit." However, a little while into the process, the team stopped using the Mingling-board. They primarily stopped because they forgot about the tool. In retrospect, this is the fault of the project manager, as my role was managing the administrative tasks. During the standups, I as the project manager should have brought up the Mingling board to discuss the next phases of the process. The designers also expressed that they regret not utilizing the Mingling board fully as there were some confusions as to what the outstanding tasks were. They believe the Mingling board could have been a solution to prevent confusion. It is therefore important that the project manager should encourage and remind the team to use the available tools at hand.

6.1.5 Standups

Throughout the process, I had very little direct communication with the UX team other than the weekly standups. The standups were an arena where the UX designers could openly discuss concerns and present what they had done the previous week. What surprised me, is that the weekly standups were a huge motivation to all participants as they viewed the standup as a deadline. One participant said that these standups gave them a feeling of responsibility and accountability. Another commented that the overarching goal of creating value was not that important but meeting the “deadline” and showing off their work was a big motivating factor. The importance of weekly standups and accountability is also visible if we compare the UX process where the designers had a project manager, and the iteration process where the designers did not have a project manager. All UX designers that participated in the second iteration process commented on their lack of motivation and that they felt like they lost focus on the tasks at hand. “When we worked “without” a project manager, I noticed that it was very valuable to have a project manager, because when I worked alone with the team, it was I who had to take responsibility.” If the UX-designers still had weekly standups and were held accountable for their work, it is likely that the motivation would be higher.

6.2 Did Mingle provide an environment for creative exploration?

When interviewing the UX designers after we had finished the prototype, one of the key words that was mentioned was freedom. “I can imagine Mingle in a work-case scenario. It would have been tiring if project manager had to get in the way all the time. Think the freedom we have had now was very good, it was a good framework.” As I did not interrupt the designers with mentions of the scope, push them to finish on time or question their actions, the designers were left feeling like they could explore the problem area freely without following a strict schedule. One of the designers commented that this gave the designers a feeling of ownership and responsibility of the process and product, and that instead of constantly having to update their project manager and tweak the process to fit a plan or scope, they had freedom and could rather give a comprehensive update when something was ready. It was however important for the designers to know that they did have a project manager that had an overview of the process, and who could help them if they were every left in a situation where they felt insecure on what to do next. “I think it is important that the project manager does not become like a pre-school teacher. The project manager should have an overview of what things are going on, but not in the smallest detail. That the team has the opportunity to work independently but have a project manager to get started and stay within limits and plan is great.” For me as the project manager, trust was a big factor that allowed me to let the team work independently. As I have known the team members for several years, I trusted the team members on a social level. However, as I had not worked with all team members previously, there were some issues that needed to be resolved before I could trust the team fully. As proposed by both Hakanen and Soundunsaari (2012) and Lund (2011), trust can be achievable by setting common goals and discovering team members expertise. By framing the process around a vision and goal, I was able to trust that the team members would work towards that goal. Another huge contribution for trusting the team members was the participation in the design sprint. In addition to the design sprint giving me an overview of which hurdles the team may meet, and what the problem space was aside from the pre-defined scope, I was able to observe the team members level of interest in the project, and which qualities and knowledge each designer could contribute with. The team members did also need to trust me and my abilities as a manager and leader for them to fully submerge themselves in the process and explore the problem area. One way in which this was achieved was both when participating in the design sprint, but also when performing the job

as the team expected me to do. When talking to the team members before the UX process, they expressed that they expected me to do all tasks that did not directly concern the UX process. To do so, I made sure that several different outcomes for the process was planned and prepared, so that the UX designers did not have to feel any extra pressure when in the creative process. The feedback from the designers after the UX process was generally positive about how I had handled the role as project manager. “I feel like the project manager always knew what was happening, even long before the UX team did. It was very nice to not have to think about the administrative side of the project.”

6.3 What impact did an *invisible* project manager have on the team?

When we talked more generally about the project managers role, and how they perceived Mingle, the team was happy with the way it has been executed. All designers could see themselves working with Mingle in the future, as “It would have been tiring if the project manager had to be there all the time” and that they enjoyed the freedom the framework provided. As freedom is a contributing factor to the project’s success, one may believe that the project could work well without a project manager, but the response from the designers proves otherwise. “The team should have the opportunity to work independently but have a project manager to get started and stay within limits and plan.”. The UX designers that went on to the second iteration without a project manager also commented that they would have liked to have more structure and feedback. However, one designer said that did not deem it necessary that the project manager knows absolutely everything about the ways of working in the process, as some of the work they do may not be relevant for future purposes. He also commented that a project manager role with constant monitoring would seem quite distractive. When I entered the “invisible project manager”-role, I had several concerns on how to complete the process. As this was a study on the framework Mingle, that is quite strict when it comes to interference in the UX process, I had to stay away from the UX designers. The concerns revolved around whether I would be able to be a good leader for the team as I was not present at a daily basis. This concern was erased as soon as the project started. Because I had participated in the design sprint, I quickly understood what tasks the UX designers were struggling with when we talked together, and as the team and I had spent a long-time setting goals and planning the process, a high level of trust was formed within the team. Though we were able to achieve this, I would suggest that Mingle must provide an

arena between project manager and team members where they should meet and talk. As the framework is set up to only have one point of interaction throughout the week, it may be difficult to keep the level of trust between the team and project manager if they do not have the solid foundation that me and my team had.

6.4 Mingle in Retrospect

Our UX process with Mingle as the project management framework turned out to be a success. We delivered on our goal to produce something with value to NRK and finished in planned time. The prototype the UX team designed was presented to the business owner, and the design and development team at NRK who are situated in Oslo. The response for the project was positive, and we were happy with the outcome of the project. The next time I am leading a UX project as the project manager, I will most likely use Mingle. There are however some changes I would make that became apparent throughout the process and in the analysis. Firstly, I would enforce the use of the Mingling board more frequently by having the team members present their current status through the Mingling board on the team stand-ups. It would be interesting to see if this, in addition to using the Mingling board to its intended use, would make the team feel ownership towards the framework. In retrospect, having more than one standup during the week could also be beneficial. Though I as the project manager had full control of the progress and process, I think the team members themselves did not notice the presence of the project manager, other than the one meeting a week. Though one of the aims of using Mingle is to provide artistic freedom by limiting contact with the project managers, it would be interesting to see if the team members may be able to reflect more on their current position in the process if the project manager presented them with their observations more frequently.

7. Conclusion

This study has looked on which principles from agile methodologies and UX processes can be utilized to build a framework for project management that is tailored to User Experience design. The framework was built on existing research within project management, leadership and UX processes and principles, as well as interviews with experienced project managers and a survey with professional UX designers. Though there are some existing frameworks for project management in UX, many designers express dissatisfaction towards their project manager as they feel like existing frameworks inhibit their process as they are quite strict. The study has also focused on how visible a project management role should be in a UX process, as a project manager that monitors the process to closely often can be perceived to be intrusive.
Measuring the success of using Mingle as the project management framework in a UX process is difficult, seeing as the framework was not compared to any existing frameworks during the UX process. However, by utilizing Mingle we were able to complete the project on schedule with good results, and all designers were happy with the freedom the framework allowed them.

7.1 Future work

As Mingle has not yet been compared with existing frameworks in a similar UX process, future work on the framework should focus on the positive and negative aspects of using Mingle as opposed to existing frameworks. Future work on Mingle should also explore the proposed changes in Chapter 6.4. As the study was also conducted on a group of students with no prior experience of commercial UX projects, it would be interesting to see if there are any differences if Mingle was implemented in a team of experienced UX designers and project manager.

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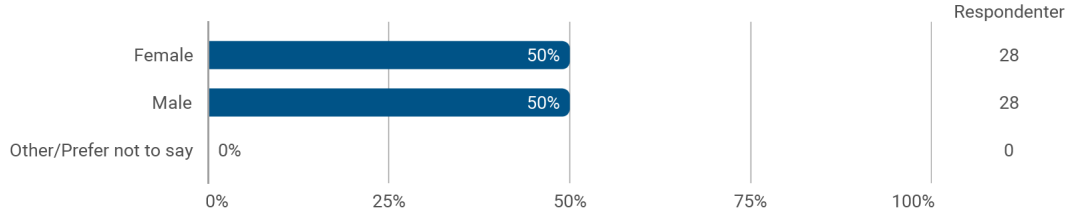
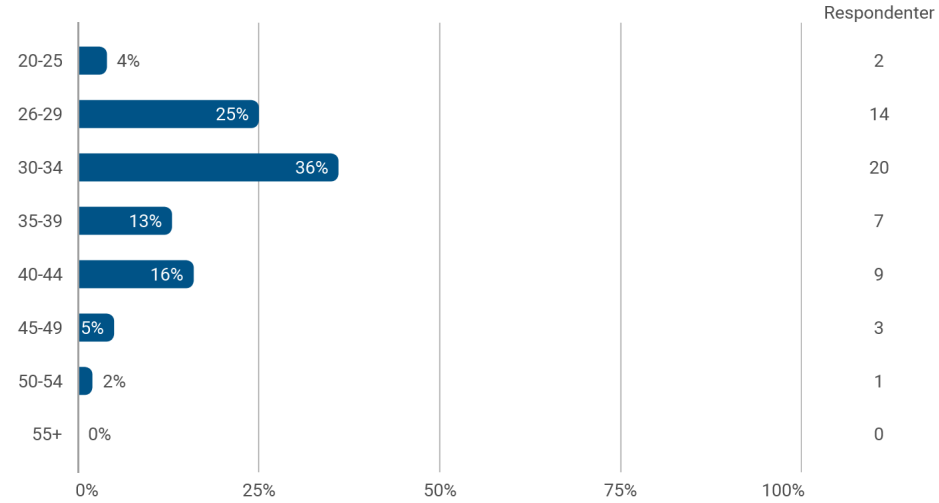
Appendix A – Survey analysis

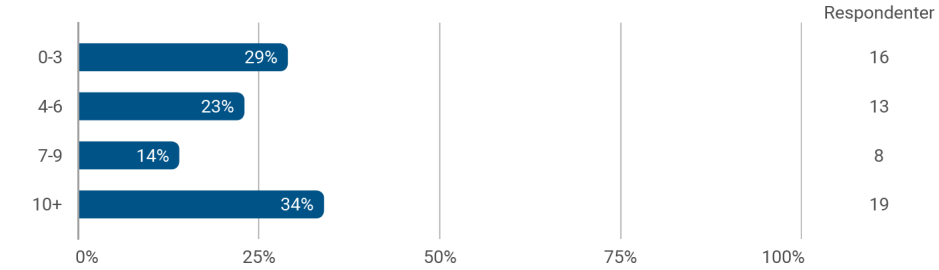
Gender



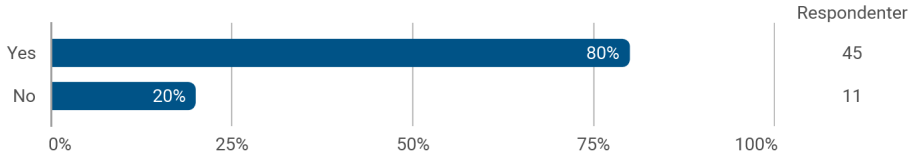
Age



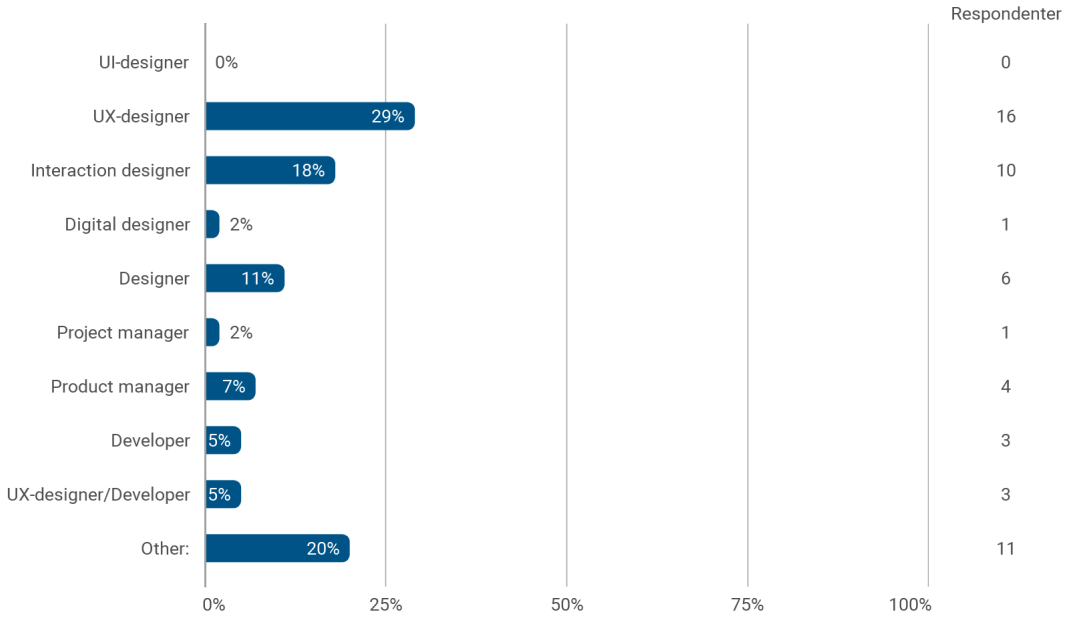
How many years of experience do you have within the field of UX?



Do you currently work as a UX-designer?



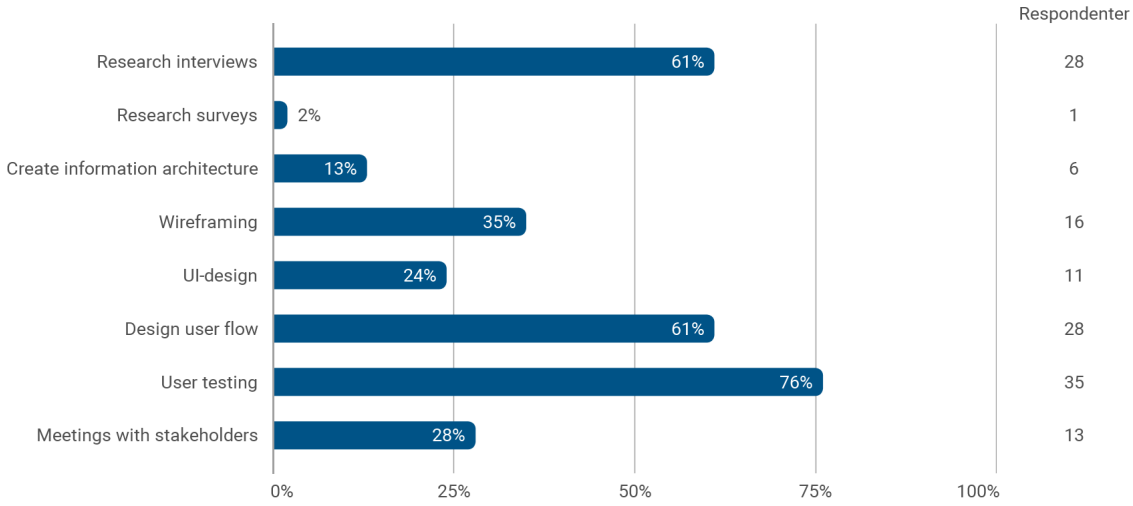
What job title describes you the best?



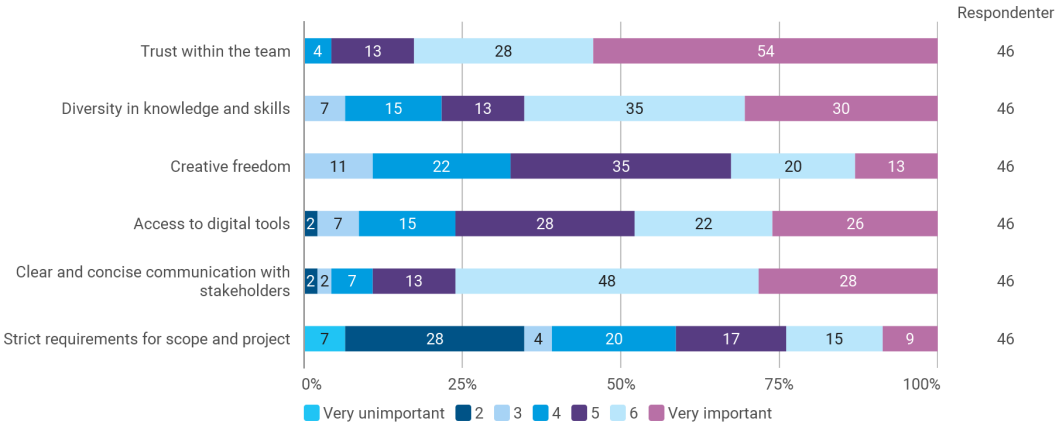
What job title describes you the best? - Other:

- Test manager
- UX Lead / produkteier
- UI, UX, Project manager, Interaction designer kombinert
- UX researcher
- UX/UI-designer
- Leder
- head of UX
- Editor
- Product Designer
- Product Designer
- Design leder
- CEO (but am currently 50% as UX-designer now too)

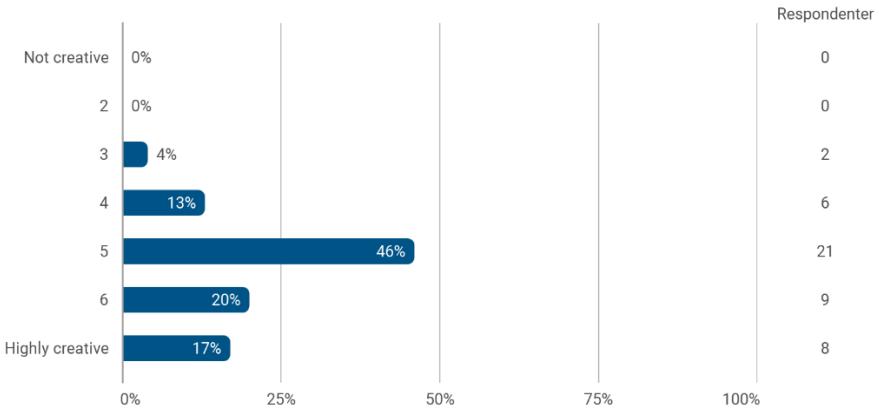
Which of these eight options do you find most important in the UX-design process? Choose three options.



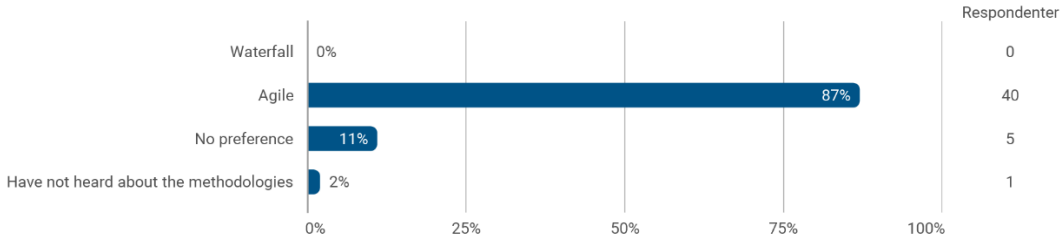
How Important do you think the following factors are to successfully complete a project together with a UX-team?



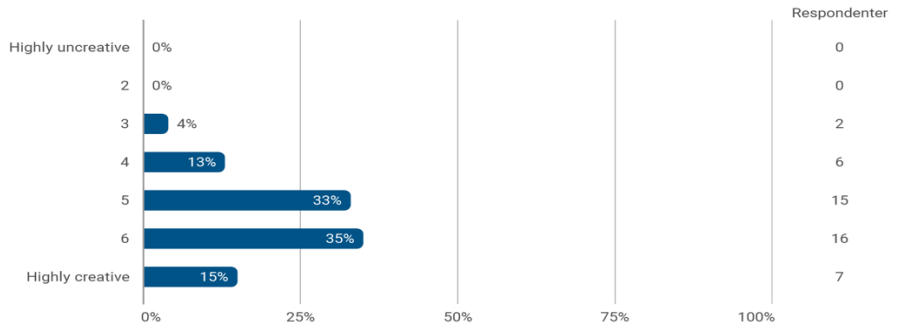
How creative du you consider a UX-process to be?



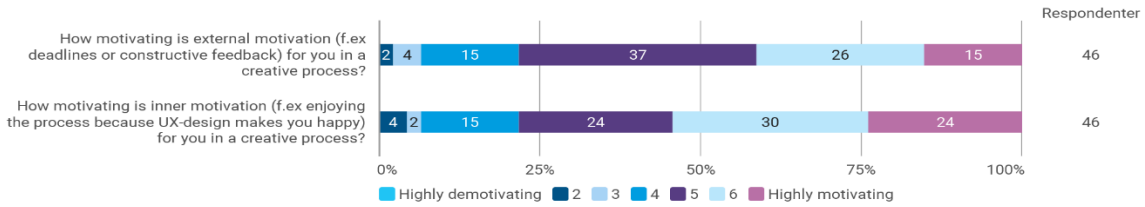
Do you prefer agile (continuous iteration) or waterfall (linear life cycle) methodologies when working with a UX-project?



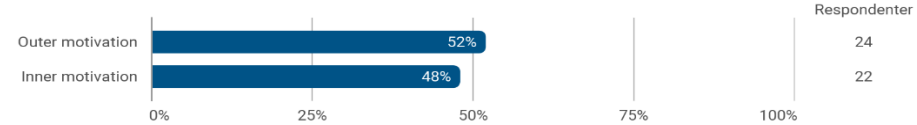
How creative do you consider yourself to be?



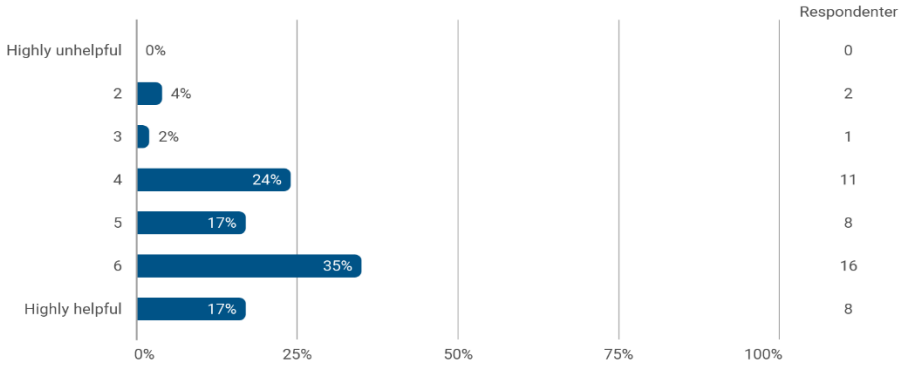
How motivating is external motivation and inner motivation for you?



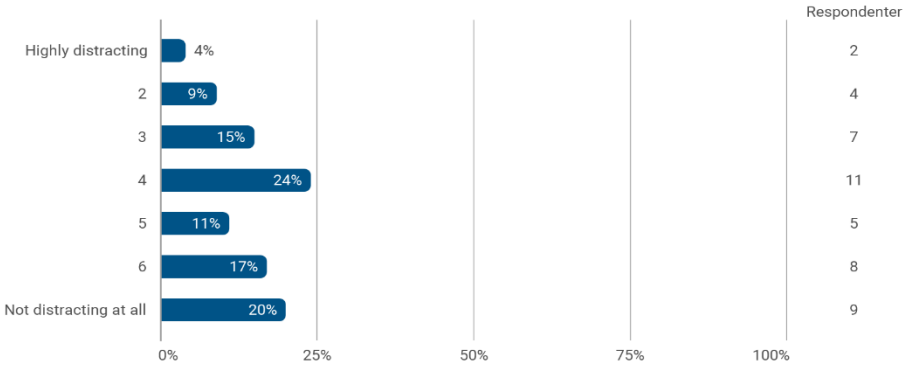
What do you consider to be the most motivating?



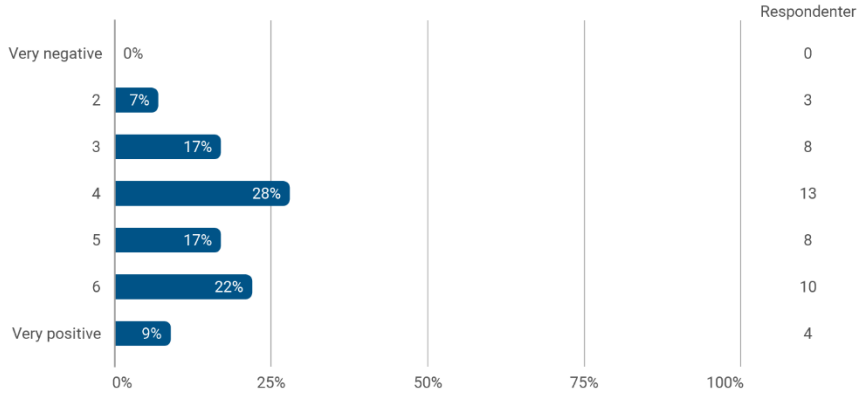
How helpful do you find it to get constructive feedback and guidelines while you are in the middle of a creative process?



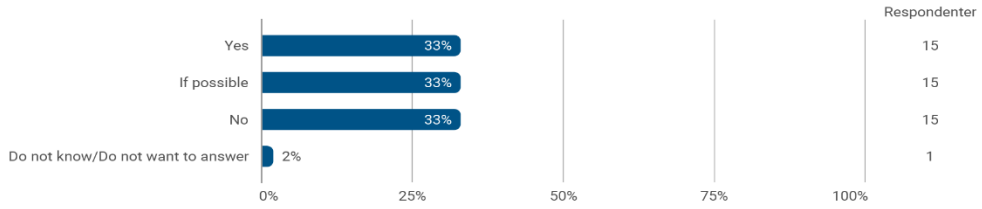
How distracting do you find it to get constructive feedback and guidelines while you are in the middle of a creative process?



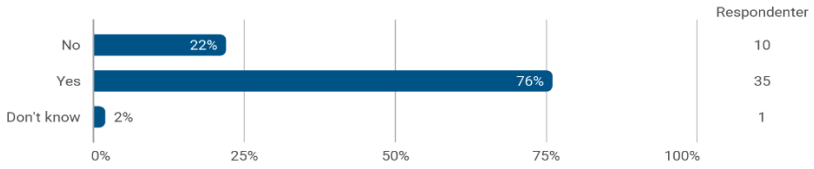
How positive or negative are your associations to the word "project management" within the field of UX?



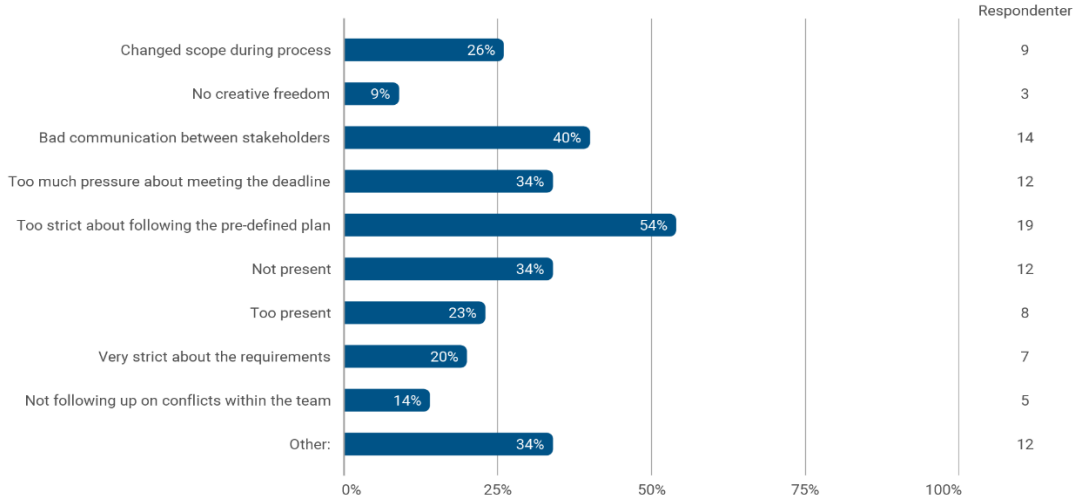
Do you find it neccessary to have a project manager in a UX-process?



Have you ever experienced that a project manager have been a distraction or hinderance in a UX-design process?



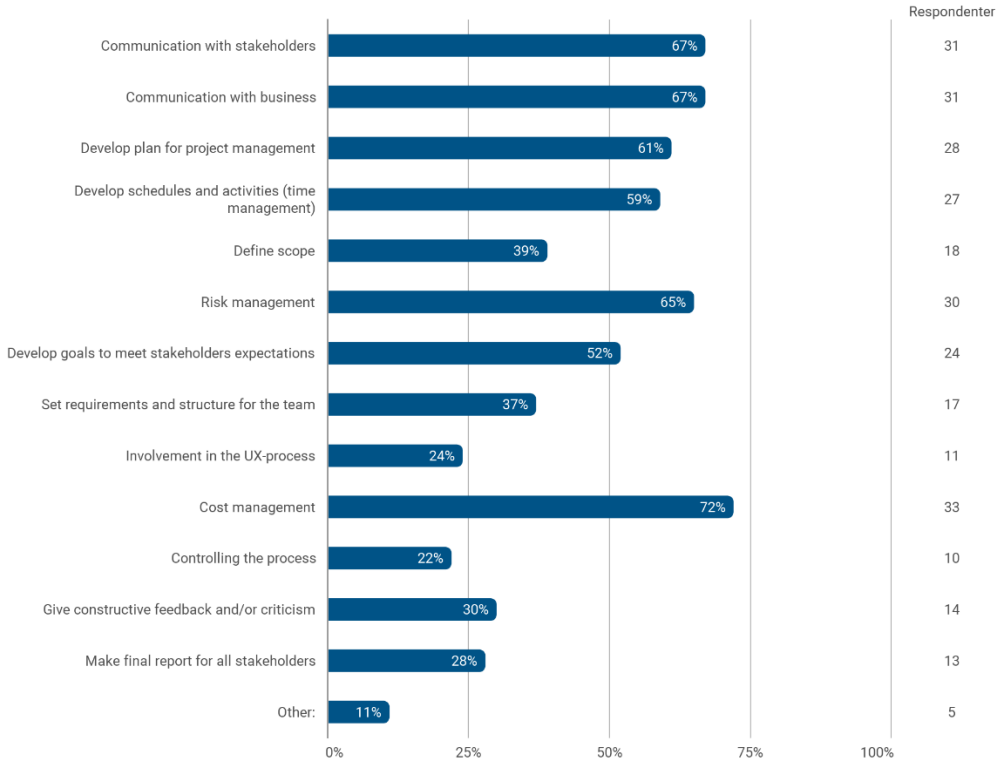
If you answered "Yes", why do you think the project manager was a hinderance or distraction?



If you answered "Yes", why do you think the project manager was a hinderance or distraction? - Other:

- Lack of uderstading for design methodology and incremental deliverables.
- Pushing solution before the problem is properly understood.
- Not competent enough
- Poor understanding of the UX field
- Did not succeed in setting goals and making sure the team share the same goals
- More focused on planned outcome than potential value
- Unqualified
- Too much hesitation on creative directions
- They tried to be the designer
- Missing knowledge of UX
- Lack of understanding of the field
- Lack of knowledge of design and product development - wrong focus

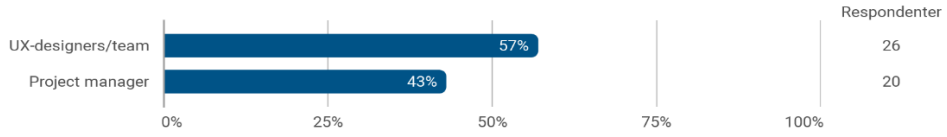
What do you consider to be tasks the project manager should do in a UX-design process?



What do you consider to be tasks the project manager should do in a UX-design process? - Other:

- The designers should also contribute in meetings, reports and planning
- Facilitate for clarity and team knowledge of expectations, roles and ownership.
- general expectation management, own the business value generated through the UX process, engage in the problem and solution
- Basically do the boring stuff and shield the team.
- Develop goals for the team, make the team stronger together, facilitating a feedback culture, make sure the team delivers on set expectations and that the team are aware of expectations.

A business has hired you and three colleagues to make an application for food recipies. Do you think it is the UX-team or project managers job to make sure that the project stays within scope?



Appendix B – Interview Guide Project Managers

(Translated from Norwegian)

Interview guide - Project managers

Objective: Get an insight into what a normal project management process is like. Do they make any changes in their process when leading a UX project? Have they noticed anything different in the UX process from a development process for example?

Part one - general project management

Thanks and small talk.

I am now writing a master's on project management, and since I know you have experience from the field, it is incredibly nice that you will help me with some questions!

I will tell more about my project afterwards, but we can talk a little in general about it first.

- Can you estimate approximately how many different projects you have led throughout your career?
    - Have these been in different companies?
- Is there a specific project that stands out positively from the others?
    - What stood out? Was it the people, the project itself, the success of the finished project, the process, the company or the product?
- Is there a specific project that stands out negatively from the others?
    - What stood out? Was it the people, the project itself, the success of the finished project, the process, the company or the product?
    - What is the most important lesson you have learned from this project?
- Can you tell us a little about how a normal project process goes for you? (Preferably a new project from start to finish)

- What does a typical day as a project manager look like for you?
- What do you consider to be the most important qualities of a project manager?

Part 2 – project management in UX

- Have you worked on any projects that have had UX designers on the team?
- Do you treat UX designers differently, or do you treat them the same as the rest of the team?
- Do you have any thoughts on a standard UX process (insight, prototyping, user testing - iteration) from a project management perspective?
    - Does the process stand out in any way?
    - Are there any special considerations one must take?
    - Do they need more or less "guidance" and guidance?
- Do you consider it demanding to lead a UX process?
    - Why?

Part 3 - Mingle

In my master's project, I have worked as a project manager for a team of four UX designers. We have a UX lead, and three regular designers where one has the main responsibility for user testing. The main goal of the UX process has been to create a second-screen application for NRK. A second-screen application should link the user closer to the TV program, and can either function as a supplement to what they see on the screen, or as a stand-alone application when they are not near a screen. Through the UX process, the team has uncovered user patterns, created a prototype and user-tested several versions of the prototype. My research aims to create a new framework for project management specifically related to the UX field. I have called the framework "Mingle" which means to mix together. My philosophy is that UXers feel frustrated about misunderstandings and limitations in the process due to a) too little or b) too much interference from the project manager.

I would like to go through the main points or philosophy behind the three different phases of Mingle with you and see if you have any comments on the different phases.

The initialization phase

In the first phase, the project manager is part of the team and works with the team to find different solutions through a design sprint. This means that the project manager from the start has a good overview of the UX process through hands on experience, not what they have been told by teams.

The monetization phase

In the monetization phase, the project manager withdraws completely and allows the team to work on their own. The team itself contacts the project manager if they have any questions, but the project manager still follows the process closely through digital collaborative tools.

Weekly standups will be an important part of the process of meeting the team and project manager.

The closing phase

The project has now been completed, and the team and project manager will work together to create a report of the work that has been done.

- Through the development process, I have tried out Mingle with the team, and this has worked very well. We have arrived at a result that both NRK and we are very pleased with. Do you think Mingle is something that could work for you and your team?

End

Thank you so much for joining!

Appendix C – Interview Guide with Team Members

(Translated from Norwegian)

Interview Guide - Team

Objective: Summarizing conversation about the group members' perception of the design process. The interview will be divided into two parts where they first talk about their own individual role and development of the design, before we move on to talk about the process and how their perception of project management has played into this.

Get an insight into UX designers' perception of project management. Do they have positive or negative associations to project management? Why do they have this perception? What do they think are important factors for project management to be as successful as possible in a UX process?

Part 1: Individual work

What was the most rewarding or interesting thing you did in the process?

What was the most negative thing that happened in the process?

Are you satisfied with your own efforts at work?

Are you satisfied with the outcome of the collaboration with the group?

Looking back on the process now - is there anything you would like to change?

Part 2: Project management

When it comes to project management - do you think of this as something positive or negative?

Is the project manager role something you consider necessary - or do you think the project could have been carried out in the same way without a project manager?

Part 3: Specifically about Mingle

Mingle consists of a few different components and elements and is built around a philosophy of closer connection between UX and PM without this affecting the creative work and process of the team. I will now ask some questions about the elements and techniques I have used.

Were there enough stand-ups between PM and UX team? Or did you miss more presence from the project manager?

Was it necessary for the project manager to take part in the Design sprint, or do you think that the project manager's time could have been used more efficiently?

Did you feel that the project manager had a good enough overview of what happened during the process?

Do you think the project manager followed what you did?

Were good enough goals set during the process and were these thought of along the way?

Let-go-meeting: Was it useful to have a meeting to kick-start the process when UX and PM separated teams as a united team?

Mingle board - how did this work? Should it have been done differently?

Would you like the UX team to have more direct contact with the company?

In the next UX project you are working on where you have a project manager, would you imagine that the project manager used Mingle or are there things you would do differently?

Other general comments?