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Cover page

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Course name	Bachelor thesis in information systems
Course manager	Hallgeir Nilsen
Supervisor	Sofie Wass
Employer	Kristiansand Kommune (*Christen Kaaveland Egeland)*

The team members:

Al-maliki	Osamah
Le	Kenny
Maksevicius	Kevin
Neuberg	Magna Sofie
Sommer Rosenlund	Håvard

We confirm that we do not quote or otherwise use other people's work without this being stated, and that all references are stated in the bibliography.	Yes X	No
Can this report be used for teaching purposes?	Yes X	No
We confirm that everyone in the group has contributed to this report.	Yes X	No

ENHANCING INFORMATION SYSTEM FOR PRIVACY AND INFORMATION SECURITY

Bachelor thesis 2023

Group 11

Al-maliki, O. | Le, K. | Maksevicius, K. | Neuberg, M.S. | Sommer Rosenlund, H.

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1. Introduction

This report highlights the collaboration between our bachelor team and **Kristiansand Municipality** (KM), providing a solution which would improve efficiency for employees when working with information security and privacy. There are approximately 400 employees who work at city hall in Kristiansand. These employees work in various fields, which differ greatly in tasks. However, these employees share information security and privacy as common ground and are the team's target group.
The employees of Kristiansand are required to know how to regulate laws and processes surrounding information security and privacy, but do not receive training in this area. Many of the employees therefore lack essential knowledge and are reliant on information provided in their Intranet to handle projects which require. The Municipality has an external system in place where employees have access to information encompassing this subject. The system is called "Kvalitetssystemet," through the report the team has chosen to translate it to the **Quality System** for better flow and reading purposes. For more details about the Quality System, see chapter 1.2 for System definition.

The project was given by the leader of the **digitalization department** of KM. The team's main supervisor and contact in the Municipality is an employee from the **interaction and innovation department**. The scope of the project was to make a prototype where the team improved and made suggestions for the **Process Guide to ensure privacy and information security**, in projects or other activities in the municipality. Which is located in the Quality System. This guide that the team will evaluate and improve, will be referred to as the Process Guide. The goal is to make the system more user-friendly and effective and to make the information more comprehensible for employees.
The team wanted to make a prototype displaying the suggested improvements to the system. By this the team wanted to take the various contents and highlight them in a more understandable way in **SharePoint**.

"Organizations use Microsoft SharePoint to create websites. You can use it as a secure place to store, organize, share, and access information from any device" (Microsoft, 2023).
The team arranged a workshop with the Quality System responsible and chief information security officer (CISO) of KM. For workshop definition se chapter 4.7 Workshop. Through this workshop the team was given new information on how they should pursue the project. All documents and work processes had to be in the Quality System. The team then decided on making the prototype in SharePoint and rather explain the various processes, but link to the different documents in the Quality System. This workshop has been written about in more detail in chapter 5.1 Data Collection.
These were one of the activities that changed the scope of the project and is documented with the others in the timeline below (**Figure 1**).

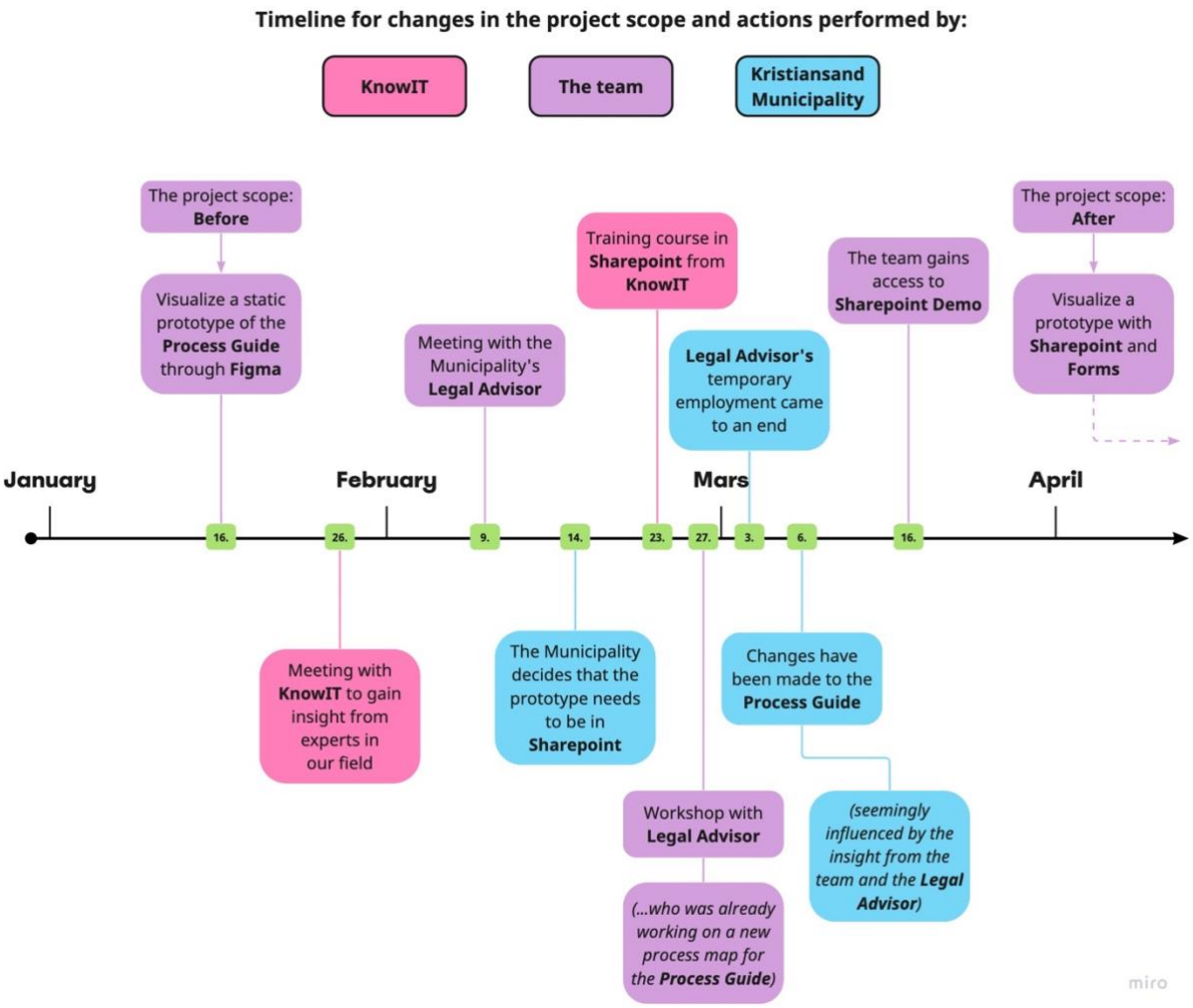


Figure 1 - Timeline for project scope changes

Statement from the employer about the project scope can be found in Appendix 1 - Statement from employer (Christen Kaaveland Egeland).

1.1 Kristiansand Municipality

In 2020 old Kristiansand, Sogndalen and Søgne merged into KM (Kristiansand Kommune, 2019, p. 3). KM is currently the sixth largest municipality in Norway and has 115 569 citizens (Statistics Norway, 2021).

KM offers a variety of services to its citizens. The services range from health, education, and innovation. KM gets most of their income from taxpayer money. They have approximately 9000 employees (Kristiansand Kommune, 2022). Some of Its divisions include city development, interaction and innovation and economic planning, see figure 2 below for more.

Figure 2 - Hierarchy of the divisions of the municipality (https://www.kristiansand.kommune.no/contentassets/27679595dd864148b5e55ac09feb8e1f/10352-kristiansand-kommune---organisasjonskart-0121.pdf)

Here are the different divisions listed in an organizational chart. The Municipality has a director who is on top of the chart and under are the different divisions.

As there are many divisions in the Municipality, there are also different goals. Many goals are common for the divisions such as inclusiveness to its citizens, innovation, digitalization and if possible, profit realization. As there are many employees working on different projects it is also important that laws and procedures are followed and understood, especially considering how much data the Municipality upholds. This is accordance to for example the Law on the processing of personal data (Lovdata, 2022). This is why information security and privacy regulations are a priority for KM and they want to make it easier for the employees to understand and follow processes. [1]

1.2 System Definition

This section describes the project's system definition. The system definition expresses important properties for system development and describes the system in context. What information should it contain, which functions it should provide, where it is to be used and which development conditions apply.
In the book "Object Oriented Analysis & Design" a system definition is stated as: "*...a description of a computerized system expressed in a natural language*". (Mathissen, Munk-Madsen, Nielsen, & Stage, 2018, p. 24).
Working with a project offers many challenges. Working as a team, our goal is to design solutions that can be implemented both technically and socially.

"*To do this, we must understand the structures, relations, and details of the user organization and evaluate and manage relevant technologies in a professional manner.*" (Mathissen, Munk-Madsen, Nielsen, & Stage, 2018, p. 24).

[1] Chapter 1.1. Kristiansand Municipality was pasted from a previous assignment, written by the same team, but cannot be sited as it is a deliverable that is not public.

KM has their own intranet called «Innafor», this a system made with SharePoint. From «Innafor», the employees have access to a separate system called the Quality System. The Quality System is a manual for different procedures for the employees of the Municipality. The Quality System gives the employees access to a Process Guide for ensuring privacy and information security in the Municipality. This section presents a Process Guide, providing employees with guidelines on the proper use and protection of personal data in the Municipality's various projects and activities. As the Municipality strives to create solutions that deliver quality and value to its citizens, it is imperative that personal data be handled with the utmost care and caution.
As the Quality System is provided by an external provider, called Extend AS, the navigation to find this Process Guide is not as familiar to the employees as their main platform, SharePoint.

The focus of the team bachelor's project is to enhance the Process Guide, making it more user-friendly and accessible for employees. By doing so, the team aim to increase the utilization of the process of ensuring privacy and information security in the Municipality. The prototype is made in SharePoint, which is the main platform for the employees. This could result in a more active use of the system and decrease the need for support from colleagues. Additionally, this could have an impact of a higher success rate of projects and activities, where privacy protection may have been an obstacle.

1.3 FACTOR Analysis

To define the system the team chose to make use of FACTOR elements. The reasoning for this is because the FACTOR elements act as criteria which shape a satisfactory system definition. The team started to describe the system and then used the criteria to see how the system definition satisfies each of the six factors (Mathissen, Munk-Madsen, Nielsen, & Stage, 2018, p. 24). FACTOR is made up of six elements and consists of these elements: Functionality, Application domain, Context, Objects and Responsibility. These elements supported the team when constructing a system definition. The factor criterion is described as:

Function: The system functions that support the application-domain tasks.
Application domain: Those parts of an organization that administrate, monitor, or control a problem domain.
Context: The conditions under which the system will be developed and used.
Technology: Both the technology used to develop the system and the technology on which the system will run.
Objects: The main objects in the problem domain.
Responsibility: The system's overall responsibility in relation to its context

FACTOR Analysis:

Functionality	Support employees of KM to find relevant information about how to ensure privacy and information security in the Municipality. Relieve the need for assistance with privacy concerns for employees in new and ongoing projects.
Application domain	System owners are responsible for Information and Communication Technology (ICT) systems safeguarding privacy through information security and internal control. Project managers and subject system managers are often delegated authority from the system owner to carry out the activities.
Context	In close collaboration with system owners, employees, and other experts' sources.
Technology	Work computer, tablet, phone, SharePoint, and the Quality System.
Objects	Employees, Directors, information (laws and regulations) and templates.
Responsibility	Provide information that helps improve privacy concerns regarding projects and activities.

Table 1 - FACTOR analysis

2. Product

This chapter presents the product's composition and underlying principles. The prototype consists of three webpages: the main page, overview of all forms and the information guide. The team chose to only present the key elements of the prototype. However, a more detailed demonstration of the product will also be included as video demonstrations in and in Appendix 23.

2.1 Main Page

The main page contains a title that should be self-explanatory, and information on what privacy and information security is and how this prototype is meant to assist in ensuring it. The main page also provides two buttons, which let the users navigate to the other two pages: **overview of all forms** and **the information guide**.

Further down the page, the users will be met with contact information for the **"Information Security Committee"** and for the **"ICT security group"**. These two groups will be available for assistance during cases and projects within privacy. This is illustrated in Appendix 3.
Figure 3 below is what the users first see when entering the home page.

Figure 3 - Main Page 1 - Title and info

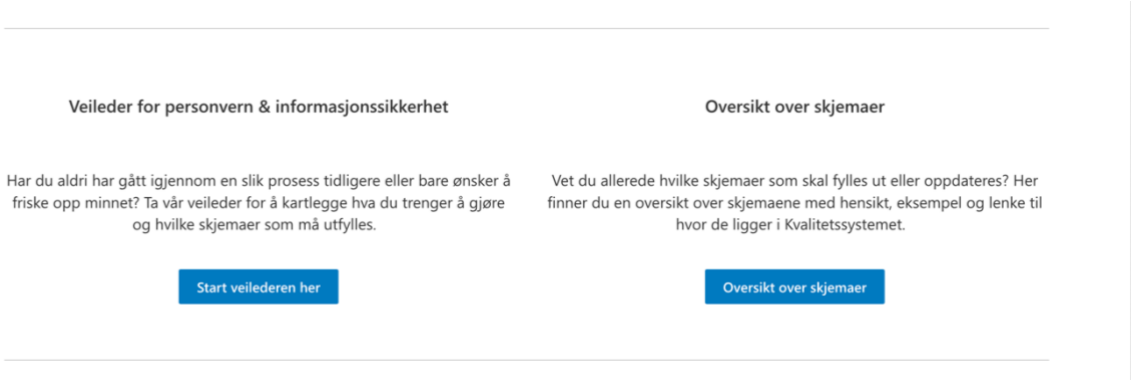


Figure 4 - Main Page 2 - Button

2.2 Information Guide

The purpose of the information guide is to assist users in identifying the required forms for their specific needs, by answering a set of questions related to the subject. Additionally, the guide is designed to provide clear and concise guidance to ensure that the users are aware of how to complete it accurately. The complete guide can be seen in Appendix 4.

Figure 5 - Information Guide 1 - Introduction

In Figure 5, above, the start side for the guide is displayed. A short description of the guide´s functionality and purpose are provided. This information gives the user an overview of what to do in different situations. For example, what the user needs to do to download a form.

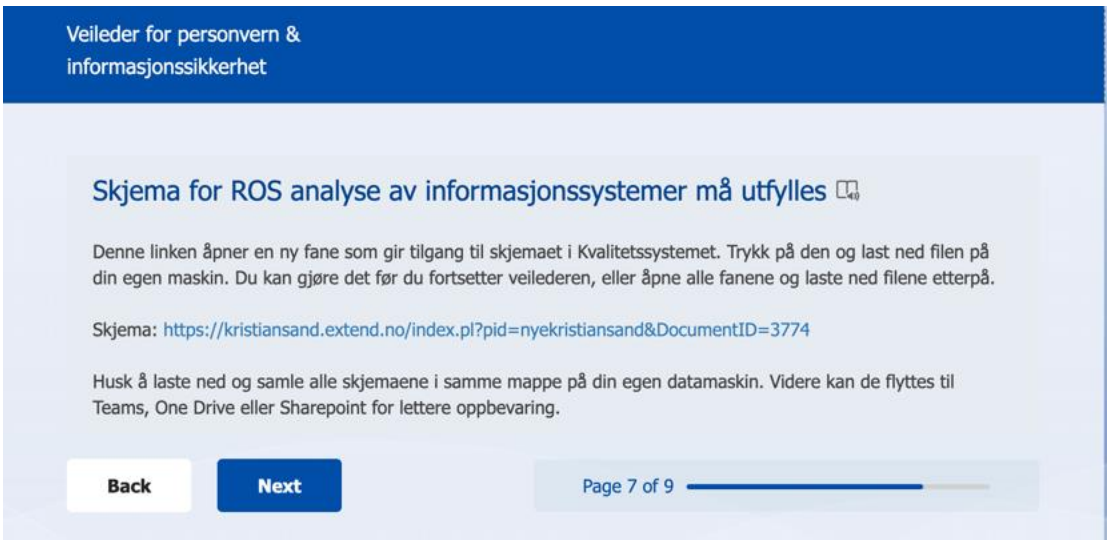


Figure 6 - Information Guide 3 - Form for Risk and Vulnerability (ROS)

Figure 6 offers the guidance on how to download the form again, and what to do after completion of the Risk and vulnerability assessment form (ROS).

2.3 Overview

This page contains an overview of all forms in relation to privacy and information security. As well as two buttons directing the users to the information guide or back to the home page. Further down the page, different forms in a drop-down menu are provided. Illustrations will be presented below.

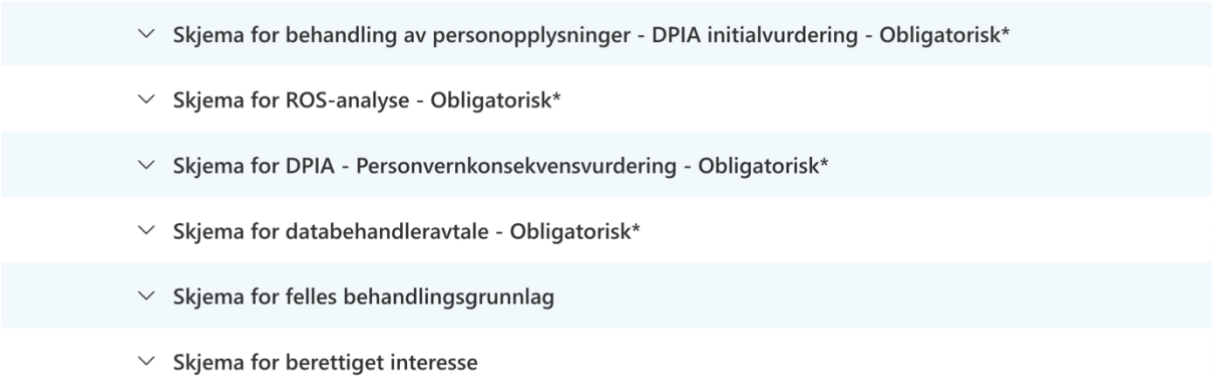


Figure 7 – Overview 3 - Drop Down Menu

Figure 7 – Overview – Drop Down Menu presents an overview of all the requisite forms, denoted by their respective names, and designated with the label "Obligatorisk*" if their completion is mandatory.

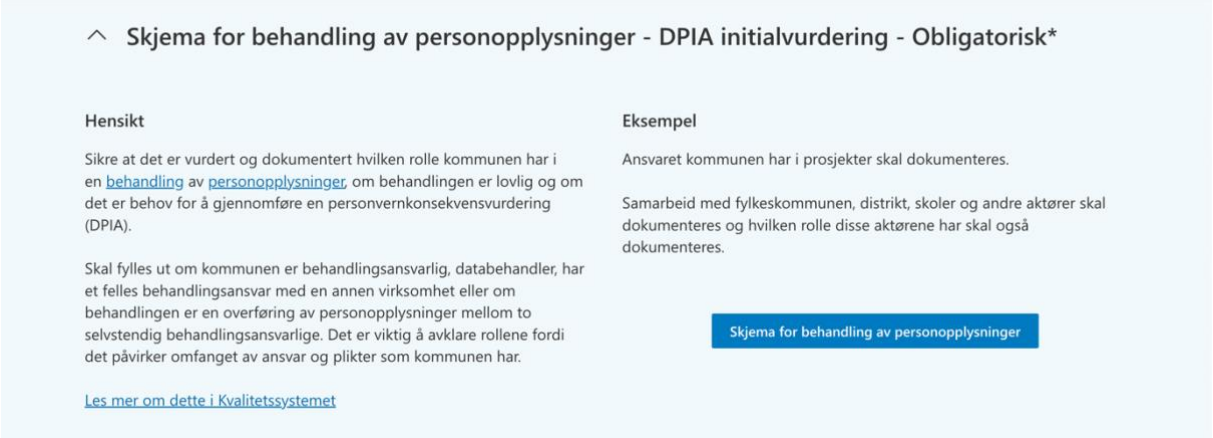


Figure 8 – Overview 4 - Drop Down 1

Upon selecting a form from the drop-down menu (Figure 8), further details pertaining to that specific form will be presented. This information includes a descriptive text outlining the form's purpose, along with an example of a scenario where the form is deemed necessary.

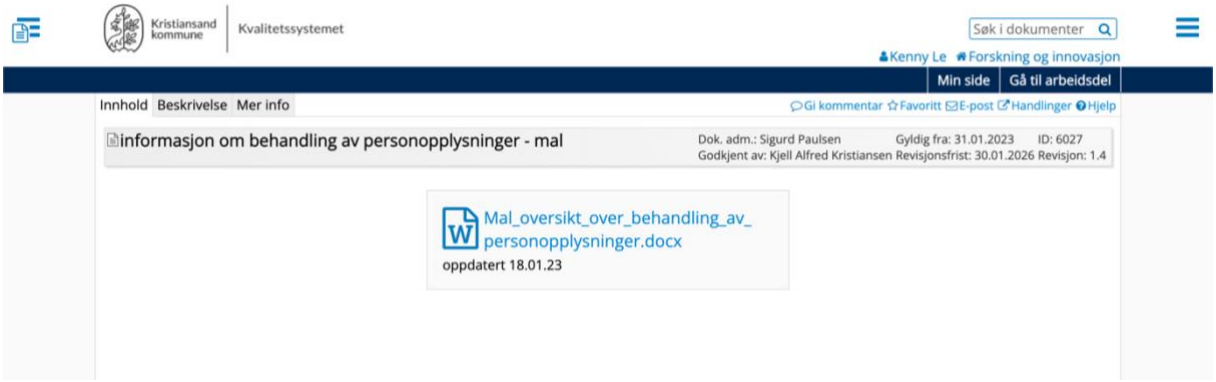


Figure 9 - The Quality System - Form

Figure 9 is how form files are presented within the Quality System. Clicking on the form located in the center initiates the download of the desired form file.

In the next chapter the team will discuss key aspects of project management which allowed for the creation of this product.

3. Project Management

This chapter describes and reflects on how open communication was ensured within the team and with other cooperators, and which tools were used to apply structure to the project. Tools refers to both social techniques, technologies and academical methods. This includes the platforms used for digital communication and file sharing, routines for filling out different checklist tables, role distribution and how the agile work method Scrum have been used.

3.1 Communication and effort

Working in a team means cooperating with other people to reach a common goal. For this project, the main team consists of the five students writing this bachelor thesis, and other actors that provide value to the project. This includes the project owner, which is KM with its employees, academic advisors, and other experts in the field that the team has deemed knowledgeable for the project. Open communication is essential to increase efficiency and minimize confusion between both the team members and the other cooperators.

The team used e-mail to arrange meetings with relevant cooperators, as these arrangements are documented in writing and can easily be pulled up to double-check the time and place for both parties. The team spent time preparing for each meeting so that every member projected a sense of control and confidence to the other meeting participants.
If other questions, comments, and decisions needed to be addressed outside agreed upon work hours, a group chat was used via Messenger, which is a platform provided by Meta. This group chat only includes the five team members and comes with fewer professional expectations for communication. If joint work is done digitally, the team meets in an established Discord server voice channel. Here all members can participate verbally and even live stream their screen to get input from the others.

The team then must have a structure in place to make sure that everyone contributes the same amount of effort. This means agreeing on established routines for the different activities the team would perform during each sprint. To minimize time wasted on superficial discussions, the team would vote between two options, but only when everybody understands both options. This was ensured by creating a conflict resolution form early on

with different questions and rules to make sure everybody is heard when decisions about the project need to be made together.

Equal effort includes all resources the team members have, for example time and energy. One way to make sure everyone contributes the same amount of work hours, each task is estimated and used to cover individual work outside the usual work hours. This is where flextime comes in. If a member for some reason could not be present during an entire workday, the hours of work they miss must be made up for in their own time. If one chooses to work extra hours, these can be taken out of future work hours. Meaning the members could save up free hours for the days they need to or are not able to work.

Each workday starts and ends with a joint review of the day. In the start of the day the team has a daily stand up so everyone is up to date on the backlog, joint information, and is clear on the agenda of the day. At the end of the day the team makes sure all work, all changes, decisions, and progress are documented, and a meeting summary is written. In this document, a checklist is included to make sure every daily task is planned and performed. This checklist includes menial tasks such as checking mail, updating backlog, planning the day, booking workspace for other days, distributing work and so on. This practice was created after the team agreed that they missed a more specific way to ensure progress and control. See Appendix 22.

Since the team is formally new in combination, some trial and error were needed to perfect the dynamic between the members. It did not take long for the team to uncover and utilize each member's strengths and weaknesses. This provided the team with a good basis when it came to role distribution for different situations. This way each of the members could play to their strengths and by that streamline the workload. For example, those who preferred and were skilled in conversation, were usually handed the leading role during meetings. Those who preferred not to take up a lot of space and had decent experience with writing would usually get the role of secretary or observer. Even though these roles usually were distributed quite naturally, everybody got to try out different roles to find out what they themselves were more comfortable with and where they felt they excelled or could be best utilized.

3.2 Technologies

Most of the technologies used for this project are platforms that allow the team to see and work on the same task at the same time. The most significant tool used by the team would have to be Microsoft Teams. This is where all the documentation and tasks are organized. All written documentation is done in Microsoft Word or Excel, which means all members can open the same document on their own device and edit it together, in real time. That way, all members have access to the same information and therefore can maintain control over the overall progress, their own and each other's tasks.

This is also the platform where the backlog is organized, with the built-in **Tasks by Planner and To Do** application. Here the tasks assigned to each sprint, where they are in the process (Suggested, Under work, For Review or Completed), which member(s) are supposed to complete it and what kind of task it is (Label- Documentation, Joint Work, Individual Work, Meeting, etc.). As shown in chapter 3.6 Scrum Backlog.

Other applications used in Teams was **Microsoft Forms**, to count anonymous votes on different decisions the team disagreed on. This seemed redundant after the first weeks when the voting naturally evolved to a physical show of hands, as this saved time. Later in the project Microsoft Forms was used as part of the prototype. Forms was used to create questions where the user answered and were guided to specific answers. This was a useful tool that helped form the prototype.

Visualizations are produced with other similar programs that offer this opportunity for instant cooperation. For example, Figma and Miro, which are both collaboration tool platforms. *"Online collaboration tools are apps, software programs, or platforms that help businesses and their people streamline the creative process, and work together more effectively, and efficiently"* (Bynder, 2023). These tools helped the team work simultaneously on a design, and multiple designs could be created on the same board. This is where the team created personas and scenarios, sorted the results from our expert evaluation into a **Mad, Glad, Sad** (see 5.6 Expert Evaluation- Findings) table, and then the results from our user tests into a **MoSCoW** table (see 5.8 MoSCoW). All of these can be found in Appendix 8-9 and Appendix 11.

The scope of the project changed a few times during the beginning months, as illustrated in **figure 1**, but the initial plan of creating the team's proposed prototype in SharePoint was established early on. With a quick workshop with **KnowIT**, an IT consultant company, the team got an introduction to SharePoint. Part of that workshop was learning that SharePoint is not as cooperative as, for example, Microsoft Teams. Meaning only one of us could work on the prototype at a time. This required careful planning to maintain a steady workflow.

3.3 Scrum

Scrum is a method where a goal is divided into smaller pieces, so it is easier to interact with. Within this method there is continuous experimentation and **feedback loops** along the way to learn and improve. This helps teams achieve their goal while working in a collaborative way (Scrum, n.d.).
Scrum is used in projects and in everyday life to get work done as a team. It is important to note as Ken Schwaber describes in his book "Agile Project Management with Scrum" that *"Scrum is not a prescriptive process; it doesn't describe what to do in every circumstance"*. *"Scrum is used for complex work in which it is impossible to predict everything that will occur"*

(Schwaber, 2004, p. xvii). Scrum is used as a framework in projects, but it also includes methods that can help progress the development.

The reason the team chose to use Scrum agile framework methodology is because of the uncertainties and deviations in the process of analyzing, designing, and implementing of the prototype. The agile framework helped the team shift course if needed and helped secure quality for the project. (See chapter 4.2 Scrum). The team used feedback loops methodology. "*Feedback loops serve as a way to increase productivity in an individual's performance, project teamwork, or process. In Agile, feedback loops help us regularly identify areas for improvement*". (Chervenka, 2022)

This feedback loop pattern has been beneficial to the project. After getting feedbacks from each other, employees and supervisors in the end of the sprints, the team could make changes and get a good oversight of the project. *"Feedback loops also allow the team to accommodate changes later in the development process, particularly as new or refined requirements emerge"* (DiCesare, 2023). The team chose this method to adapt better to the changes in the project and the design that needed quick feedback to improve the guide. This proved valuable as the end of the project neared, there was not as much pressure for final changes, because of the continuous process of feedback loops.

3.4 Scrum Elements

In Scrum there are several elements that are used in the framework. Some of the elements the team have decided to use are **Scrum- Accountabilities, Events and Artifacts**. Scrum Accountabilities are the people working in Scrum teams. In our project the team had a Scrum Master and developers. A Scrum Master is a person who uses their knowledge of Scrum to help the team and organization to be as effective as possible. Developers are the people on the Scrum team who work together to create the product (Scrum, n.d.).
Scrum Events are used to create regularity and to minimize the need for meetings not defined in Scrum (Scrum, n.d.). In Scrum Events the team included the **sprint planning**, **daily Scrum**, and **sprint retrospective**. A sprint is when the team works to turn the backlog assignments it has selected into an increment of potentially shippable product functionality (Schwaber, 2004, p. 142).
Daily Scrum meeting is a short status meeting held multiple days in the week by the team during which the team members synchronize their work and progress and report any impediments to the Scrum Master for removal (Schwaber, 2004, p. 141). Lastly the sprint retrospective meeting at which the team discussed the just-concluded sprint and determined

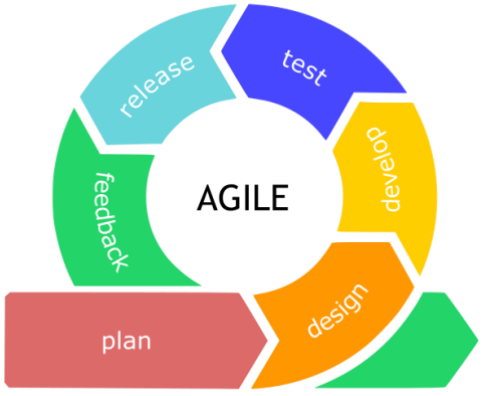


Figure 10 - "Feedback Loop", n.d. by Tigillo (https://tigillo.com/services/software-development/agile-software-development/)

what could be changed that might make the next sprint more enjoyable or productive (Schwaber, 2004, p. 142).
Scrum Artifacts are the plans and work which are transparent and can be inspected allowing for future adaptation; Each artifact has its own Commitment which helped the team understand if they are making progress (Scrum, n.d.). Artifacts are created during the main activities of a Scrum sprint (Harris, 2023). The main artifact the team used is a joint backlog for the sprint and product. Further details on the team's backlog can be found in chapter 3.6 Scrum Backlog . Each sprint and retrospective are described under chapter 7. Sprints.

3.5 Scrum Sprints

In the beginning of each sprint, the team met and discussed what the team should focus on in the sprint, then created assignments and estimations. The team also delegated assignments to future sprints if needed. Every week the team met for a minimum of 3 days to have a daily Scrum either physically or digitally. In these meetings the assignments were explained which the team were doing at the time, progress and if anyone required help, then the team coordinated together to assist the team member. In the sprints the team did not have a sprint review included because through the university the team met with the advisors from both the University of Agder and KM in a steering group meeting. Here the team showed the progress and product functionality to the supervisors. This meeting also provided valuable feedback from the advisors which the team made sure to document.

At the conclusion of every sprint the team had a retrospective. Here the team discussed three main points, what went well, what could be better and what the team can improve on. After the retrospective meeting the team shared the retrospective report with the supervisor from the University who also brought good feedback and points of improvement to the team.

The team's selection of this method is because it is easy to communicate and have progress reports on a weekly basis. The team's core perspective on the project centered around effective communication and good feedback. The adoption of this method allows the team to come with fast feedbacks that can mitigate potential hindrances that can stunt the progress of the project. It is also beneficial to have agile principles given the uncertainties and shifting of designs and primary goals in the project. The agile methodology helped the team to be flexible, have structure and good adaptation to changes. This allowed the team to coordinate and be well prepared but to also help achieve the goals the team and KM had set.

3.6 Scrum Backlog

In the bachelor project the team had a joint backlog for the product and the sprints. A backlog is a prioritized list of project requirements with estimated times to turn them into completed product functionality (Schwaber, 2004, p. 142). This is because the team is developing a prototype for information security and privacy and most of the time is dedicated to analyzing

the system that is in place at the time of writing. The backlog is managed by a Scrum Master who is responsible for the set-up and organization. The Scrum Master also reminds the developers of deadlines and estimations of certain tasks. The developers also have the same say in the management of the backlog. The team has established labels to indicate the nature of an objective, for example if it involves joint work, it is marked with a corresponding label; and if it involves documentation, it is marked accordingly. Below there is a cut out from our backlog:

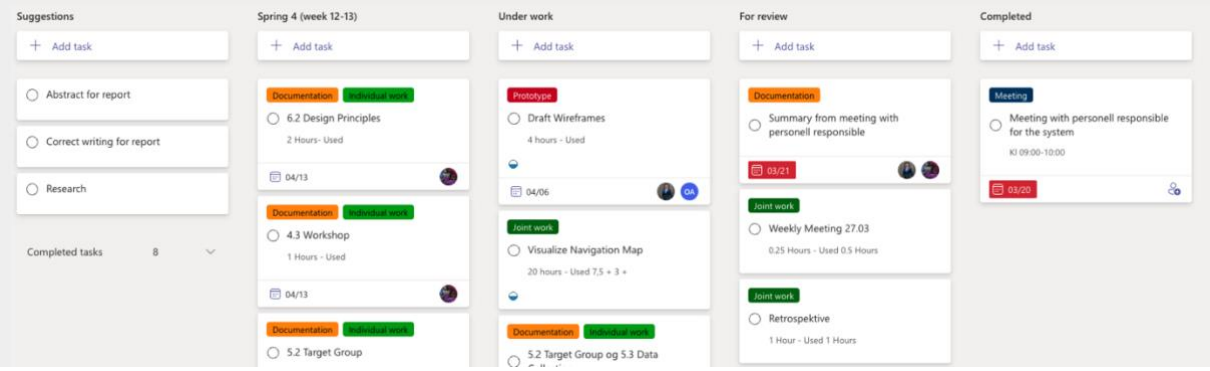


Figure 11 - Backlog 1

The backlog mainly consists of five tables:

Suggestions - Suggestions is a table where a developer/Scrum Master proposes ideas and tasks which the team took up in a daily stand-up.

Current Sprint - The Current Sprint table includes tasks that the team has planned to complete during the current sprint.

Under Work - The Under Work table, is where tasks are assigned or joint-worked on by team-members who have started working on them.

For Review- The For Review table is where the team examines the tasks which are completed, to see the progress and provide feedback.

Completed - The Completed table contains tasks that are finished in the review table and marked as finished. At the end of every week, the team deliberates over the completed tasks before crossing them from the table.

At the conclusion of every sprint the completed table is renamed to the current sprint. Then it is delegated at the end of the backlog. This is so that the team can keep track of all completed tasks and have an oversight over the whole project. Figure 12 below showcases different completed sprints.

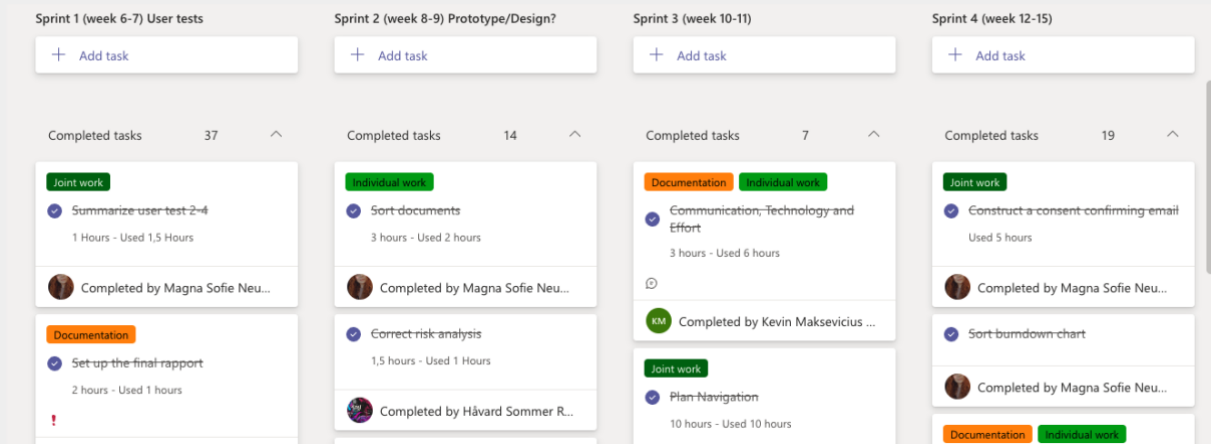


Figure 12 - Backlog 2

4. Quality

In this section quality and quality assurance is discussed. The definition of quality can be varied; however, the preferred definition was from "The International Organization for Standardization (ISO)". ISO-9000 defines quality as *"the degree to which a set of inherent characteristics fulfils requirements".* (TEQ, n.d.)
The team chooses to distinguish between quality in the project and quality in the final product. The quality of the team's work will be evaluated based on the prototype the team have developed. It is worth noting that the guide for data sharing, "Datafabrikken"- Legal Guide for Data Sharing (Datafabrikken, 2023), has been a significant source of inspiration and a valuable reference point for this project. Specific details about what the team and product owner define as quality for the product is listed below:

- User friendly- users of the system understand what it is meant to do.
- Minimalistic – disturbing elements will not be in the system.
- Effectiveness – the right information will be available as soon as possible.
- Self-sufficient – users of the system do not need support from colleagues to understand the system.

4.1 Assurance

In this section, the team quality assurance measures will be discussed. Achieving high quality has been central goal throughout the project. However, working together towards the same common goal and requirements are crucial to achieve good quality. The Great Norwegian Encyclopedia states: "*Quality assurance is planned and systematic activities that are carried out to ensure that a product or service will meet the requirements for quality.*" (Halbo, 2020). The team had Quality Assurance as one of the top priorities. Wasting time could result in the requirements of the product not being met.

"The core purpose of Quality Assurance is to prevent mistakes and defects in the development and production." (Wikipedia, n.d.). Early in the analysis stage relevant personnel were contacted to make sure that the development of the product matched the desired requirements and functionality of the system.

4.2 Scrum

To maintain a high level of quality, the team has chosen to use the Scrum methodology. As mentioned in chapter 3.3 Scrum, there are several benefits by applying this methodology to the to the team's project. Some of the key advantages of using Scrum is that it provides some guidelines for how the team should operate and to deliver a high-quality product. Some ways Scrum has helped us to ensure high quality in our project will be described below.

Testing with target group

By working agile, the team had frequent testing with the target group (defined in chapter 5.2 Target Group) to ensure that the product was meeting the customer´s needs and expectations. Getting feedback and addressing issues early in the development helped the team to ensure that the product is of high quality.

Communication and collaboration

Regarding communication and collaboration, Scrum emphasizes frequent communication with the team, through daily meetings, sprint reviews and retrospective meetings. This lets the team work together effectively and in a collaborative manner. By working together, the team members can identify and resolve problems quicker, resulting that quality is built into the process of the final product.

Continuous improvement

Scrum encourages team members to reflect on their own work and to identify areas for improvement. By continuously reflecting on the team's own work and improving for each sprint, it helped the team to aim for a high-quality product. The practices that are mentioned above helped the team to contribute to higher control and quality of the project and by using this methodology have improved us as team members.

4.3 Risk management

Risk management is referred as *"The process of identifying risk, assessing its relative magnitude, and taking steps to reduce it to an acceptable level."* (Mattord & Whitman, 2021). One crucial aspect of risk management is the treatment of risks that are considered unacceptable, as such risks can exceed the team's risk appetite. This process is known as risk response or risk control and involves the identification of information assets with unacceptable levels of risk, followed by the selection of appropriate strategies for each asset. Such strategies must consider multiple factors, including estimated costs, available alternatives, and potential benefits.

As part of our team project, an analytical process was conducted to evaluate and manage risk. Throughout this process, a series of important questions were posed, including:

- Where is the risk located and what type of risk is it?
- How severe is the risk, and is it considered acceptable?
- What measures are necessary to mitigate the risk?

By answering these questions, our team was able to gain a better understanding of the nature and scope of the risk, determine its level of severity and acceptability, and develop effective strategies to manage and mitigate the risk.

Valuable experience in risk management were also gained. For example, creating back-up of the working files to a safe location. By applying these strategies, the team realized the importance of having a plan in case our strategies failed. Overall, our experience with risk management equipped us better for future projects, both academically and professional lives.

4.4 Risk treatment

In this research project, the team has created a risk analysis table that lists all potential risks, their estimated likelihoods, and the plans for managing them. **Figure 13** shows this table.

Forklaring på ID		Risikoanalyse					
ID forklaring	ID	Beskrivelse - hva kan gå galt?	Sannsynlighet	Konsekvens	Verst tenkige scenario	Tiltaksplan	Ansvarlig
A = Rapport/teori	A01	Lite engasjement i skrivingen	Moderat	Svært høy	At det blir lite fremgang i rapporten	Motivere hverandre	Alle
B = Gruppefeil	A02	Endre andres arbeid uten samtykke	Moderat	Moderat	Motivasjonen kan reduseres	Holde hverandre mer oppdatert på arbeidet	Alle
C = Tekniske feil	A03	Ikke få tilgang til nok informasjon i analysefasen	Moderat	Høy	Gir dårlig innsiktsarbeid for videre arbeid	Være kreative og se på andre muligheter	Alle
E = Samarbeid med bedrift	A04	Hele rapporten blir slettet	Lav	Svært høy	Gir ingen vurderingsgrunnlag	Ha en back-up rapport tilgjengelig	Alle
F = Andre feil	A06	Leveransene er av dårlig kvalitet	Lav	Høy	Svak vurderingsgrunnlag	Gjennomgå arbeid i felleskap, avklare krav om kvalitet	Alle
	A07	Vi får ikke god nok tilbakemeldinger fra veileder(e)	Lav	Moderat	Vi blir dårlig vurdert, og oppnår ikke god karakter	Notere ned konkrete spørsmål	Alle
	A08	Personer er lite kildekritiske	Moderat	Høy	Kan gi inntrykk på plagiat	Vurdere kildegrunnlaget sammen	Alle
	A09	Dobbeltarbeid	Moderat	Moderat	Dårlig bruk av tid og ressurser	Kommunisere mer på hva enhver jobber med	Scrum master
	A10	Dårlig kommunikasjon	Moderat	Svært høy	Bremser opp produktivitet i arbeid	Bruke scrum rammeverket for å kommunisere bedre	Scrum master
	A11	Manglende rød tråd i rapporten	Høy	Svært høy	Svak vurderingsgrunnlag	Lese gjennom i felleskap og sikre bedre flyt	Alle
	B01	Større konflikter som kan hindre fremgang	Moderat	Svært høy	Tar bort verdifull tid og kan føre til umotiverte medlemmer	Løse konflikten med effektiv kommunikasjon	Alle
	B02	Gruppemedlemmer mister motivasjonen	Lav	Høy	Gruppemedlemmer får dårlig holdninger til arbeidet	Ta pauser, jobbe i perioder	Alle
	B03	Gruppemedlemmer leverer ikke forventet resultat	Moderat	Høy	Dobbelt arbeid - kan medføre lav kvalitet på arbeid	Rådføre og støtte den spesfikke	Alle
	B04	Gruppemedlemmene logger ikke timer	Moderat	Moderat	Mister oversikt over ressursbruk, forhindrer å jobbe overtid	Minne hverandre på å tracke timer	Scrum master
	B05	Gruppemedlemmene møter ikke opp uten gyldig fravær	Moderat	Høy	Gruppen må bruke tid på å forklare på nytt	Holde seg oppdatert - huske på gruppekontrakt	Alle
	B06	Gruppemedlemmene kommuniserer dårlig	Moderat	Høy	Det blir utfordringer med samarbeidet	Løser opp i konflikten - og går kommer videre i arbeidet	Alle
	B07	Misforståelser	Lav	Høy	Store misforståelser kan føre til diskusjoner	Prøve å forstå hverandre bedre, kommunisere	Alle
	B08	Uretferdig fordeling av arbeid	Moderat	Høy	Medlemmet kan føle at det er uretferdig	Fordele slik at arbeidet ikke blir for mye for en person	Alle
	B09	Gruppen glemmer å ordne grupperom	Lav	Moderat	Gruppen har ingen plass å jobbe sammen fysisk	Gruppen for holde møte/arbeidsdagen digitalt	Alle
	B10	Alvorlig sykdom	Moderat	Høy	Sykdom kan forhindre planlagt fremgang	Ta igjen arbeid som har blitt tapt i sykdom	Alle
	C01	Problemer med nettverk	Lav	Lav	Får ikke logget på teams, kvalitetsytremet osv	Jobbe med andre ting	Alle
	C02	Problemer med PC og datautstyr	Svært lav	Høy	At gruppemedlemmer ikke får gjort gjøremål	Låne utstyr, skaffe nytt utstyr omgående.	Alle
	C03	Bli hacket	Svært lav	Høy	Miste tilgang til verktøy samt lekke viktig data fra kommunen	Kontakte platformen du ble hacket på og kommunen	Alle
	C04	Miste laptop/mobil	Lav	Moderat	Miste verktøy som man er avhengig av	Ta det på forsikringa evt kjøp ny	Alle
	C05	Problemer med adgangskort, evt mistet	Lav	Moderat	Mistet tilgang til grupperom, sikkerhetsbrust	Holde seg oppdatert - huske på gruppekontrakt	Alle + produkteier
	C06	Brukertilgang blir sperret	Moderat	Høy	Mister verdifull tid	Holde seg oppdatert	Alle
	C07	Digitale verktøy/teknologier koster penger	Høy	Høy	Vi må bruke egene penger for å gjennomføre bacheloprosjekt	Forhøre oss med bedriften om vi kan bli sponset	Alle
	E01	Lite tilgang på intervjuobjekter	Moderat	Høy	At vår forståelse av problemdomenet svekkes	Iterere på fasen. Benytte mer av dokumentanalyse	Alle
	E02	Samarbeidsbedrfit setter av for lite tid til oppfølging	Lav	Høy	At vi mister samarbeidet med kommunen	Prøve å finne en løsning	Alle
	E03	Dårlig kontakt med produkteier	Lav	Svært høy	Lite informasjonsflyt, manglende innsikt i problemet	Finne tidspunkter som passer for alle	Alle + produkteier
	E04	Samarbeidsbedrfit og studentgruppen har ulike forståelse av problemstilling o	Lav	Svært høy	Sluttproduktet tdfredstiller ikke kravene til produkteier	Vedlikeholde god komunikasjon, vise frem arbeidet	Alle
	E05	Bryte samtykkeskjema/taushetsplikt med produkteier	Lav	Svært høy	At vi mister samarbeidet med kommunen/Anmeldelse	Forsøke å fremme mulige løsninger	Alle

Figure 13- Risk Analysis Table

The team has developed a risk matrix that places the identified risks into a two-dimensional matrix, with likelihood on the y-axis and consequences on the x-axis. The matrix in **Figure 14** illustrates the degree of risk associated with each uncertainty, with higher values indicating greater risk. The matrix also employs a color scheme, with green representing low risk, yellow representing moderate risk, and red representing high risk.

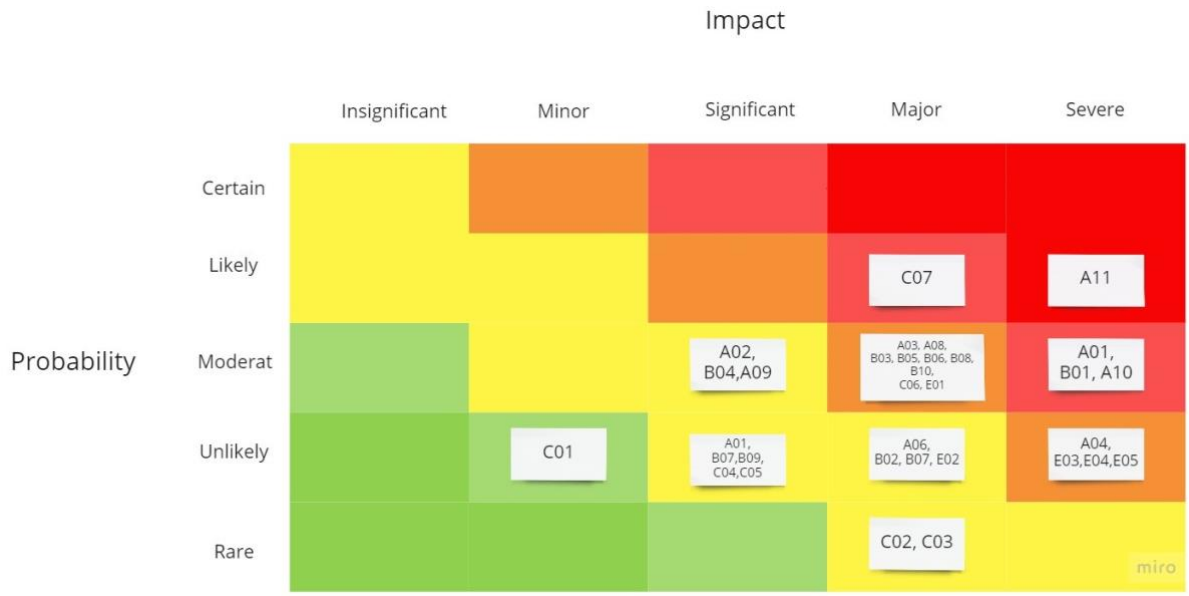


Figure 14 - Risk Matrix

Overall, effective risk management involves the identification, assessment, and treatment of risks that are deemed unacceptable, with the goal of reducing or eliminating the likelihood and impact of negative events on an organization.

4.5 Risk incident

In this section, the team analyzed and outlined a plan for risk incident would happen. The team discussed that there are numerous events that could result in the loss of important information. Examples of these mistakes could be made by team members, cyberattacks, and other potential factors. These are also included in Figure 13.
However, to reduce these risks, the team has developed an incident response plan that will be put into action when an incident is detected, regardless of its impact on the project. Incident Response relates to *"...events that may lead to the compromise of information assets, without necessarily posing a significant threat to the overall functioning of the organization".* (Mattord & Whitman, 2021)

To ensure the effectiveness of the incident response plan, it is essential that each member of the incident response team understands their specific role and how it relates to the whole team and other team members. The team have created an action plan, which is outlined in Figure 13, to guide the incident response team in responding to any incidents that may occur during the project. The plan sets out the procedures and steps that must be followed by the team to address and resolve any incidents.

4.6 Workshop

Workshops are peculiar meetings or seminars where the goal is to work together and try to improve the product. Often the shareholders are invited together with the team producing the product. (Wirtz, 2022)
Workshops can be an effective way to improve the quality of a product if used right. By providing a platform for creativity, problem-solving and collaboration workshops can be used as an effective tool. During the team's workshops, members came together to identify issues, brainstorm solutions, and develop plans to address quality concerns. This process encouraged communication and collaboration between the bachelor team and the employees at KM.
By doing this the team made sure that everyone was on the same page and working towards the same goals. Workshops can also provide opportunities to learn new skills, techniques, and best practices that can be applied to the product development process. An example of this can be the SharePoint workshop (summary can be found in Appendix 6). By bringing together diverse perspectives and expertise, workshops can make the discovery of innovative solutions and a culture of continuous improvement, leading to a higher quality product. The bachelor team have had multiple workshops throughout the project to ensure this. Since developing a product is a continuing process that takes form over time. The continuous meetings with experts have increased the knowledge and quality of the project, greatly assisting the team. These workshops, meetings and interviews are presented in chapter 5.1 Data Collection.

4.7 MoSCoW

To determine the importance of the user stories the team has decided to use MoSCoW for prioritization. The use of MoSCoW will ensure that the functionalities which benefit the users most will be prioritized. (ProdutPlan, 2022)
For the team's solution to make the GDPR process more efficient, the design phase had to be in line with the system definition. System requirements were therefore an important tool to ensure quality in the project. The system requirements were prioritized according to MoSCoW. MoSCoW is a method employed to map the importance of a system's requirements/functionalities. The different system requirements are divided into four categories: *Must have, Should have, Could have and Won't have*, which we will discuss further in the upcoming chapters.
By dividing user feedback into these four categories the team made sure to design a solution according to their input, thus attempting to provide a quality product to the users. Findings provided by the MoSCoW method will also strengthen the system definition which will in turn provide an MVP (Minimum Viable Product).

4.8 Product quality

In order to achieve a high-quality product, the team has adopted a product-focused approach that prioritizes key design features such as efficiency, ease of use, and minimization. Moreover, careful consideration has been given to ensuring the suitability of the product for its intended users. In this regard, the design process has taken into account the diverse needs of all stakeholders within the municipality, including both permanent employees and project workers with temporary status in various areas. By adopting this comprehensive approach, the team has sought to ensure that the product is tailored to the specific requirements and preferences of its users, thereby enhancing its overall quality and usability. These efforts have led to an enhancement in the product's quality, which will be expounded upon further in chapters 5 and 6.

5. Analysis

This chapter is about the analysis process of the project. Firstly, it will describe the data collected through interviews, workshops, and user tests. The target group will then be defined, which were used to create the personas and scenarios in the next subchapter. How the expert evaluation of the old Process Guide was conducted, and how the findings from this were sorted, will also be presented. Lastly, the participant-based evaluation is described with the sorting of the feedback gathered through the performance of this.

5.1 Data collection

One of the first objectives of the team was to gain a deeper understanding of the internal processes at KM, particularly with regards to privacy and GDPR practices. Data collection is a vital part of fully understanding a system's purpose and way of use. As there are several types and ways of collecting data, the team had to narrow down the methods used.

Both primary and secondary data were collected throughout the duration of the project, as this was deemed necessary to achieve a satisfactory solution. "*Primary data are the original data derived from your research endeavors. Secondary data are data derived from your primary data.*" (Deakin University Australia, n.d.)

The ways in which the data for this project has been collected is as follows:

- Semi-structured interviews (primary data)

- Workshops (primary data)
- Interview summaries (primary data)
- GDPR process and forms within the Quality System (secondary data)
- “Datafabrikken” (secondary data)

In this section a more detailed explanation on how the collected data was gathered and analyzed will be presented. This will provide a better understanding of the team’s research process.

The team was able to cooperate with employees of the Municipality to test the system. The tests were conducted in the form of semi-structured interviews, which are helpful for testing a system. It allowed for asking specific questions about the product, while also giving the interviewees the freedom to answer freely. (Jacobsen, 2022)

The team contacted the Legal Advisor in KM for cooperation. Together with the Legal Advisor, an arranged workshop was set up in the early stages of the project to gain a better understanding of the complex language used within the Quality System. Laws and regulations and information about the different form's employees could fill out was not written in a user-friendly manner. With prior knowledge in this topic the team had to confide with the Legal Advisor to gain a certain familiarity with the language used so that it could be made more user-friendly in the prototype.

The first workshop was more focused towards setting up a demo web page and getting more inspiration towards the design of the product. This workshop consisted of the bachelor team as well as consultants from KnowIT. The participants had previously worked for KM with SharePoint, thus having greater expertise on the system. By inviting them the team gained more knowledge and more insight into how to develop a webpage in SharePoint. The invited members have also known experience working with the shareholders in the past and were also working on a few projects for them at the time. The bachelor team was also given a demo page on SharePoint which is connected to KM. By getting this access the team has gained more resources available for future use. (Summary of the workshop and other interviews and meetings can be found in Appendix 6)

During the project the team arranged a workshop with the Legal Advisor at KM in addition to the bachelor team itself. The team had planned an agenda where the participation went through a demonstration of the current product. By inviting the Legal Advisor from KM to the workshop, the team got a better understanding of GDPR and the implementations that are currently operating.
It helped to get a better understanding of the entirety of the system. At the workshop many new ideas were formed as well as ways to improve and redefine the current system. In addition, the diversity of stakeholders/ participants will also bring idea from different perspectives, such as new insight, new ideas and more. This is an important part to secure the quality of the product, and to make sure that the project is developing in the right direction.

On March 21st, a third workshop meeting was conducted with the Information Security Officer, Quality System Manager, and the bachelor team. The primary objective of the meeting was to obtain a comprehensive overview of how the prototype should be positioned. The discussions revolved around determining the nature and extent of the information to be kept in the Quality System and those to be put in SharePoint. Additionally, the workshop provided a deeper understanding of why an external platform is being used. Participants from the Municipality gained insight into the workings of the bachelor team and how and which information they have collected thus far.

In addition to the interviews which the team transcribed and summarized. The interviews were used as a source for inspiration in the creation of the prototype. Reviewing the interviews helped determine the design of the prototype both visually and functionally furthermore the team gained an insight into what employees preferred.

Through “Datafabrikken” the team also gained valuable information regarding privacy and information security. This website provides good information and an easy-to-read format on the different regulations surrounding the projects subject. It also includes examples and explanations considering different forms and laws.

5.2 Target group

“*The target group includes the individuals you want to target in an unmediated way with your project activities, and among whom you want to achieve an effect.”* (Hinze, 2023). Defining the target audience for a product is crucial to ensure that it meets the expectations that the users have.

In this project, the primary target group for the Process Guide for privacy and information security prototype developed by our team is the employees of the organization who will be using it to ensure the protection of sensitive information. The Municipality has clarified the target group from the beginning of the project. The target group are the 400 employees who work in the city hall. The users' age ranges from 30-50 years old. For the system to be effectively utilized, it was crucial that the development team accurately targeted the intended audience. Thus, employing user-centered development approaches throughout the project was of paramount importance.

One of the tasks of the project was to ensure a sense of mastery and completion of tasks without external assistance. Additionally, the system's design should be familiar to the user, such that users can recognize the way of performing tasks like previously used systems.

To align with user needs, the team created a MoSCoW (Must-Have, Should-Have, Could-Have, and Won't-Have) list based on data collected from employees in KM.

5.3 Personas and Scenarios

When developers and programmers test their own project, they may overlook specific details that only a user of the system would experience. To address this potential issue, the team decided to conduct user testing by requesting potential users to perform several tasks within the system while being observed. To develop the personas the team communicated with our supervisor within KM on regular tasks employees might perform throughout the workday.

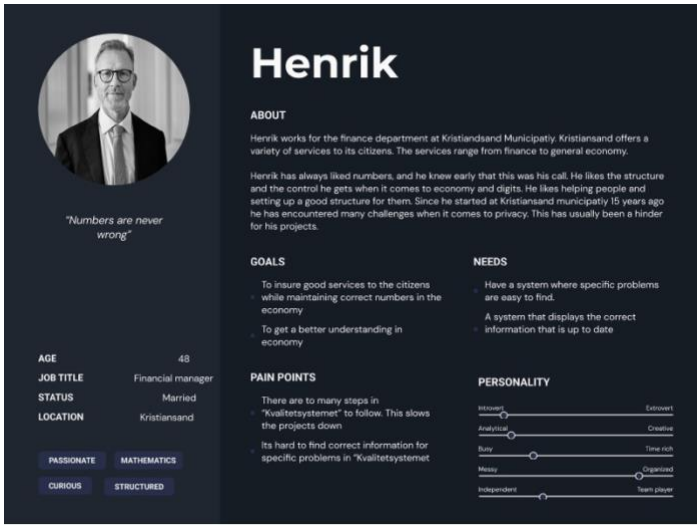


Figure 15 – Persona 1

These scenarios were used for the user evaluation where each person the team interviewed received their own persona with tasks they could resort to if they froze in the tests see **Figure 15**. The team attempted to the best of our ability to match each individual with a persona that would fit best from the list which was created. "*Personas are fictional characters, which you create based upon your research in order to represent the different user types that ılar way*". (The Interaction Design Foundation, 2022). The team greatly emphasized creating personas that would differ from each other but would still share a common goal of using (TeamRetro, 2023)the Process Guide. To see the rest of the personas, see Appendix 8-9.

Participants from various departments in KM were invited to participate in the user testing. A detailed description of the user testing results is available in 5.9 Cooperative Evaluation-Findings .

5.4 Expert evaluation

Expert evaluation is a form of evaluation that is conducted by experts in the field of UX design. (Benyon, 2019, p. 46). This could be the team responsible for creating a system or improving on an already existing one, or other cooperators outside of the team with relevant background. There are several different approaches when it comes to expert evaluation, the particular one used for this project, is heuristic evaluation.
Heuristic evaluation is performed by individuals that are familiar with or have experience with UX, HCI or interaction design. The word heuristic refers to the use of an established list of guidelines or requirements that the system is measured up against. (Benyon, 2019, pp. 246-247). The evaluation is on the existing system, Process Guide. Formality may vary for this type of evaluation, but the team decided that this needed to be a carefully documented process.

This was justified by the fact that the findings and opinions that would result from this evaluation would heavily influence the preparation and performance of a participant-based evaluation. Which participant-based evaluation method was chosen and how it was performed are defined and described in chapter 5.7 Cooperative Evaluation.

Figure 16 - Benyons Design Principles

Expert evaluation provides value at the beginning of a project, by letting the team that is employed confirm the need for and propose an improvement on an already existing system. By prioritizing this type of evaluation, the team took advantage of the opportunity to predict which parts work as is, should be improved and possible pain points that should be excluded in a prototype. When the users are later asked to comment on the system through participant-based evaluation, the findings the team expected to uncover would be either confirmed or denied. Possibly even discovering new challenges and confusions that are unique to the user experience. The benefit of mapping out the suspected pain points ahead of a participant-based evaluation is how it saves time by having clear focus points the team deemed most significant to get feedback on.

5.5 Benyons Design Principles

The team created a table for writing notes and discussions when evaluating the system, and these can be found in Appendix 10. The heuristics used was Benyons Design Principles, as the team were familiar with them from their studies, and since these do cover most, if not all, of the aspects that are important to consider in UX design.
Benyons Design Principles are classified into three main categories, Learnability, Effectiveness and Accommodation. Following these principles helps reduce the resources and time needed for the development of the prototype.
The table below includes the 12 design principles and the three categories they are divided into.

These are the definitions of the categories and all 12 principles. These definitions are presented more as examples of the questions a user might ask, that the system should answer if the principle is met.

The principles 1-4 within **learnability** are concerned with people accessing, learning, and remembering the system. A concise definition of the principles related to learnability will be presented below.

Learnability	
1. Visibility	Key features and functions should be positioned consistently, to be clearly visible to the user.
2. Consistency	The use of design features, similar systems, and standard way of working should be consistent.
3. Familiarity	Common and known symbols and language should be used, to allow the user to recognize these effortlessly.
4. Affordance	The purpose of the design should be made clear.

Table 2 - Learnability Design Principles

The second category, principles 5-7 **effectiveness** concerns giving users the sense of being in control, knowing what to do and how to do it. Key elements in this category are the ease of use. An illustration of the principles related to effectiveness will be presented below.

Effectiveness	
5. Navigation	Provide users with support, to enable them to navigate through the [website?] readily. This includes enabling the user to go forward, or to return to any specific desired page.
6. Control	Make it clear to the user which functions can be controlled by them and allow them to control these with ease.
7. Feedback	Users should have access to immediate reports of effects of their actions. In case of error message, offer users alternatives, to restore their actions.
8. Recovery	Users should have access to rapid and effective recovery actions, especially in case of errors and mistakes.
9. Constraints	The system should be fitted with constraints on allowable actions, to prevent users from dangerous operations resulting in serious errors.

Table 3 - Effectiveness Design Principles

The last category, principles 10-12 **accommodation** concerns accessing the system in a way that suits the users, in a safe and secure way. An illustration of the principles related to accommodation will be presented below.

Accommodation	
10. Flexibility	Users should have access to performing tasks in multiple ways, to suit their preferences and levels of experience.

11. Style	The design should have an appealing appearance and interesting features to attract the user.
12. Conviviality	Interactive designs should be polite, friendly and pleasant.

Table 4 - Accommodation Design Principles (Benyon, 2019, pp. 117-118)

The table used for documenting the team's discussion and evaluation also included each member's individual rating of severity of how each principle was applied. To save time and eliminate the need for repetition, the team agreed to exclude the least prioritized principles. Which were excluded and why, are documented in the Appendix 10. The team justified this by how many of the other principles covered the same comments as the ones that were excluded.
The range for the severity rating used was from 1 to 3. This meant that if a member rated a menu of buttons as a 1 according to the principle of **Affordance**, the member had to argue that it was clear to see that the buttons were clickable and would perform the expected action. But if another member rated the same menu as a 3 in accordance with the principle of **Navigation** or **Control**, then they would have to argue how the wording used, size of text, context or placement of the button were unintuitive and would leave the user confused as to which button to click to get to where they expected to be.

5.6 Expert Evaluation- Findings

The Mad, Sad, Glad table is based on the retrospective used in Agile methodology, which encourages participants to share what made them feel frustrated or annoyed (mad), disappointed (sad) and what made them feel happy or proud (glad). (TeamRetro, 2023).
After rating the severity of the design principles, the team sorted the comments that justified these rating into a **Mad, Sad, Glad** table. A table like this is used to sort data into categories of whether the data makes the user mad, sad or glad. The comments that are sorted into **Mad** represent the direct flaws of a system, which are the parts that need to be changed or excluded entirely. **Sad** refers to the parts of the system that should be improved or discussed when the time for re-designing comes. The category of **Glad** houses, the things that worked as expected, is valuable and must be included in a re-designed prototype.
Since the concept was straightforward, the team adapted the concept to better categorize and address the feedback received from user testing session on the prototype. By using this tool, the team was able to identify areas of improvement. An illustration of the table is presented below, **Figure 17**.

Sorting these out helped the team uncover which parts to stay away from, the parts that are irrelevant to comment on, keeping the focus of the user where its productive during the participant-based evaluation.

For example, during the team's walkthrough, it was uncovered that navigation in the Quality System was quite misleading. In response, the team formed a hypothesis that the

lengthy road from «Innafor», through the Quality System, into the actual Process Guide, could be a significant factor in creating confusion for the user. At the beginning of the project, the understanding was that the team would present a recommended prototype with a more intuitive and user-friendly navigation. This meant that the team was expected to propose an improvement of the entire navigation, as well as the content, so that the experience would prove more effective. This was the reasoning for including the entire navigation in the participant-based evaluation later.

Figure 17 - Mad, Sad, Glad

As discussed in chapter 8.1 Challenges, since the project changed quite a few times, the data gathered about the navigation in the outer layers and menus of the Quality System were deemed moot. Had the team known this from the beginning, it would not focus on this superficial navigation at all. Still, it can be argued that confirming that the navigation in the Quality System was flawed, could in itself justify the need to move it to another platform (Like SharePoint).
(Sandnes, 2018)

5.7 Cooperative Evaluation - Process Guide

“User testing implies acquiring feedback on a design or a system from a number of users.” (Sandnes, 2018, p. 291)

Ease of use in a system has economic consequences by the simple fact that a well-designed system has a bigger chance of getting chosen over other competing systems. A way to increase a system's user friendliness, and make sure that it solves the right issues, is to test the system with its intended target group. This also ensures product quality by providing our team with lacking knowledge of our users' wants and needs.

The team underwent the user tests with a clear objective, the tests were therefore semi-structured, to gain an insight into the opinions of the users of the Quality System's Process Guide. There were 4 user tests performed, each with different employees of Kristiansand. Most users were provided with scenarios that were deemed relevant to test the system and were given tasks to be completed all while expressing their thoughts freely.
In prior discussions it was concluded that the team would split up into two groups where the group carrying out the interviews consisted of three members. One of the three members would be the facilitator, another would transcribe the test and the final member would have a shared responsibility with both roles. The interviews were carried out in meetings rooms within the city hall of KM. This was deemed as the best solution out of convenience and neutrality for both the team and the interviewees.

User testing confirmed a lot of the team's findings in previous evaluations of the system. Most noticeably the users complained about the system overwhelming them with confusing information among other things. This will be discussed in further chapters.

5.8 MoSCoW

Definition of MoSCoW is presented in chapter 4.7 MoSCoW.
The MoSCoW criterias are defined as such:

Must have	As the name might suggest, this prioritization consists of requirements which are necessary for the product. Product requirements that fall under this criteria are vital.
Should have	A step below must haves, requirements under this criteria are not absolutely necessary for the product to function, but are still necessary given more time to implement them.
Could have	Requirements under this criteria are good additions to a product if every requirement in the must haves and should haves is fulfilled.
Won't have	As the name might suggest, requirements that fall under this criteria will not be included in the product.

Table 5 - MoSCoW

These criteria's are what manage a product's requirements. But before utilizing MoSCoW the team had to complete a user evaluation of the current system, which the team discussed in further detail. The next step is to simplify the data that is collected. The team originally did this by grouping answers received from the users into three categories, "mad, sad and glad", coded by color, view **Figure 17** to see the categories.

After further simplification of data there seemed to be a need for a category for “wishes” that the users might have, or suggestions they thought would improve the system. After grouping all of the data into the different categories the team could finally begin evaluating which data could fit into the different criteria (Figure XX).
Noteworthy to mention is the fact that we did not perform MoSCoW prioritization with the product owner, which is Christen, as we did not find an opportunity to do so. Therefore, we might have missed some of the insights an employee of KM might have had towards prioritization.

5.9 Cooperative evaluation- Findings

The findings from the participants-based concluded in a large part the same way as the prior expert evaluation. The leading interview question was if users knew how to navigate themselves to the Quality System. The team found that most of the users tried to search for the term “GDPR” when navigating from “«Innafor»” to “Kvalitetssystemet”. This is an interesting point and might indicate that it would be more intuitive for users if information from the Quality System was available in SharePoint.
Most notable was the fact that the language used within the Quality System was of a professional nature. Meaning that it was very law influenced and difficult to comprehend if a user has no prior knowledge within law. Users had problems navigating themselves within the steps as it was not intuitive enough to understand the process. Some steps are necessary while others are situational, but it is not clear enough in the navigation system. The overall design of the system was confusing as it was uncertain for users why the different sites of the Quality System were designed the way they were. Prior to the interviews the team would discover that the design choices were supposed to imitate the layout of the city blocks. To view the user feedback in greater detail please refer to Figure 18.

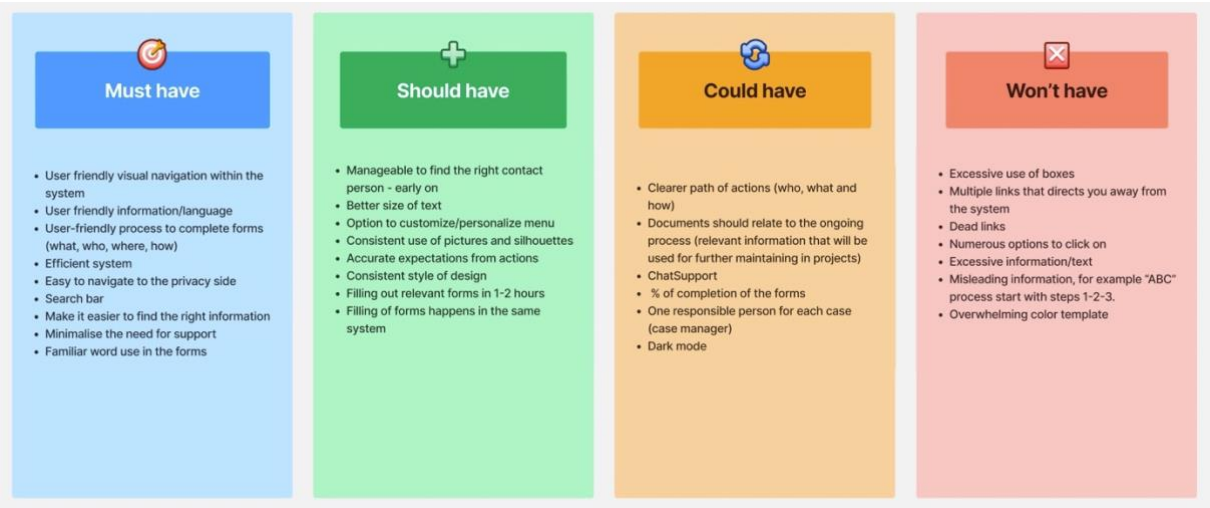


Figure 18 - MoSCoW with feedback from users on the Process Guide

6. Design

In this chapter, the team will discuss the design phase in detail. There will be more details on universal design, navigation map, wireframes, prototypes, cooperative evaluation, and findings. The chapter will go into more detail about why certain choices have been made and take a closer look at the findings the team managed to uncover. To achieve this, the team has developed medium-fidelity wireframes and prototype of the user interface, which were evaluated with another round of user tests. In addition, the team has created system models in the form of navigation maps to visualize the system structure.

6.1 Universal Design

The target group (5.2 Target Group) in our project is large and consists of a diverse number of people, it is therefore necessary for the system we are developing to be designed in such a way that it does not exclude potential users of the system. The user interface in some ways is the most important part of a system when creating trust and satisfaction in the users. (Sandnes, 2018, p. 13) The team will therefore be motivated and make it our goal to develop a system that is universally designed.

Studies show that eyesight starts to decline for adults once they've reached 40 years of age. Being that the average age of the employees is around 44 years old, it will also be important to design system components to be as visible as possible. (American Optometric Association, n.d.)

A key component of the system we are designing is scalability, the offices within KM are not all supplied with the same monitors and therefore scalability might be an issue to address. As the team is using SharePoint to develop our prototype this does not seem to pose an issue. "*Modern pages and web parts are designed to be fully responsive across devices, meaning that images used in web parts will scale differently depending on where they are shown, which layout is used, and the device on which they are being viewed.*" (Microsoft, 2023)

A large part of the focus will be in using universally known logos and pictures in relation to functionality to visually communicate with the users. A drop-down menu is for example universally known to either be an arrow pointing down or to the side or as a hamburger menu. Another visual cue the team will implement is going to be to make it as clear as possible to the users when they are done filling out a form.

6.2 Navigation Map

A navigation map is meant to visualize the path laid out for the user of a system. Creating this is practical as it can help highlight parts of the system that are difficult to navigate to, from or

between. A visualization like this should include all the elements that the user's interaction with, in a system. (Benyon, 2019, p. 19)

Mapping out the navigation for an existing system can help understand the structure and purpose of some elements. The team initially wanted to create a navigation map of the Process Guide as it was, so it would be easier to understand which elements from this version should be included or excluded in the prototype. But it did not require a lot of discussion before the team concluded that the old system was too confusing, and that spending time and energy just trying to understand it would not be worth the effort. In the end, not providing any meaningful insight that would impact the prototype in any significant way. If time were not a factor, this would have been prioritized, as it would provide interesting reflection.

Figure 19- Navigation Map Before Prototype

When the designing process started, discussing the navigation proved helpful in sorting out the elements the team wanted to include in the prototype, and in what relation to each other they should be presented. Appendix 12 shows how the team decided on these elements.
The map needed to include the entire navigation path from the moment the user logs into the system. The first three boxes in our map represent the main page of their intranet, and the other two pages the user would have to navigate through to get to the team's prototype would be.

Figure 19 shows how the navigation was planned to be presented. This shows the four pages the team hoped to include in the prototype. This initial idea included a main page to inform the user of the purpose of the Process Guide, and how to use it. Other static information on this page would be about the two groups that are available to help if an employee gets stuck at any part of the system. From here, the team wanted to give the user the option to fill out a guide by answering simple questions. The result of filling out this dynamic form would provide them with a summary of their answers, and which forms they needed to fill out, and how, based on their answers.
Having such a form was meant to help the employee who had never been a part of a process similar to this before. Providing them with the information needed to complete their goal of ensuring privacy and information security.

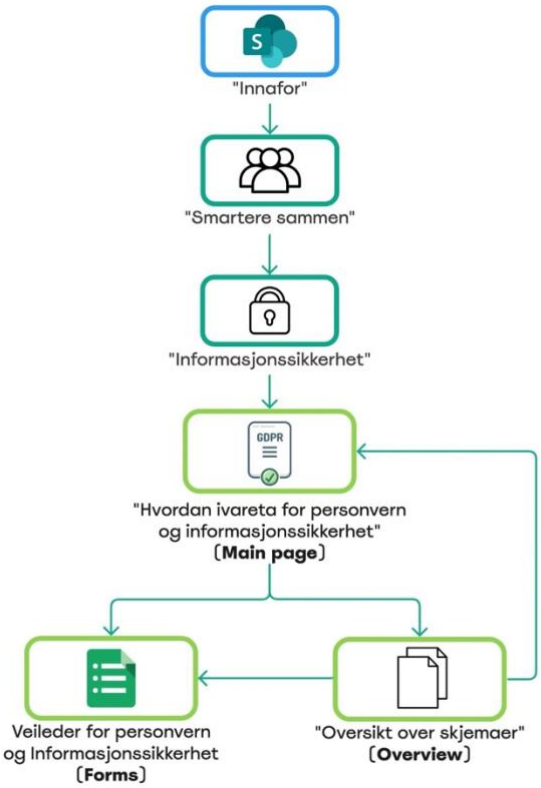


Figure 20- Navigation Map After Prototype

The other option available on the main page was for the user that has been through this process before and knows exactly what and how to perform their task. This is the page that displays all the relevant forms. That way, the user who just needed to get the forms to either fill them out or update an old one, were not required to fill out the guide.

When the team gained access to SharePoint and learned about the restrictions it came with, the team discovered that some functionalities were not possible to implement. Such as having a summary at the end of the guide. This forced the team to find new solutions and prepared how to explain how the prototype would be lacking in relation to the team's vision. Figure 20 illustrates the changes that were made to the map after learning the limitations of SharePoint and the feedback from the prototype user testing. This will be described in greater detail in chapter 6.5 Cooperative Evaluation – Prototype and 6.6 Findings.

As these navigations maps only include the different pages of the system, two supplementary maps can be found in Appendix 13, which shows information that would be included in each page and other functions and options. Knowing what each page should contain was quite helpful when designing the wireframes.

6.3 Wireframes

In the following pages, the team will explain their decision to use a medium-fidelity wireframe, describe the process for selecting the final design, and provide illustrations of the wireframe. In the book "Designing User Experience" wireframes are defined as: *"...outlines of the structure of a software system. They focus on the interaction design and the information architecture of a product or a service. Wireframes work because they focus on the general element of a design without worrying about the final product."* (Osman, 2021) (Benyon, 2019, p. 194).

Medium-fidelity wireframe

In this section, a description of why the team chose to construct a medium-fidelity wireframe instead of a low-fidelity wireframe.

The team used the software platform “Miro” to construct medium-fidelity wireframes and later evaluated the design of the wireframes. *“A medium fidelity wireframe is a step up from its low fidelity counterpart. Medium wireframes will have more detail — including accurate spacing, headlines, and buttons”* (Osman, 2021).
One of the reasons for choosing medium-fidelity wireframe instead of a low-fidelity wireframe, was because the team was designing a prototype that would be integrated into SharePoint, which meant that we had to work within the limitations of the existing SharePoint framework. The already existing design elements, such as fonts, spacing, headlines and buttons were already established, and we had to incorporate them into our prototype. Therefore, starting with a medium-fidelity wireframe allowed us to accommodate these existing design elements, resulting in a more precise representation of the final product.

Illustration of wireframes

The illustrations below are wireframes of the home page. On the home page, the team wanted to illustrate the most suitable design for displaying the two-support team for the information security committee, and for the ICT security group. The wireframe drafts and final draft will be illustrated below.

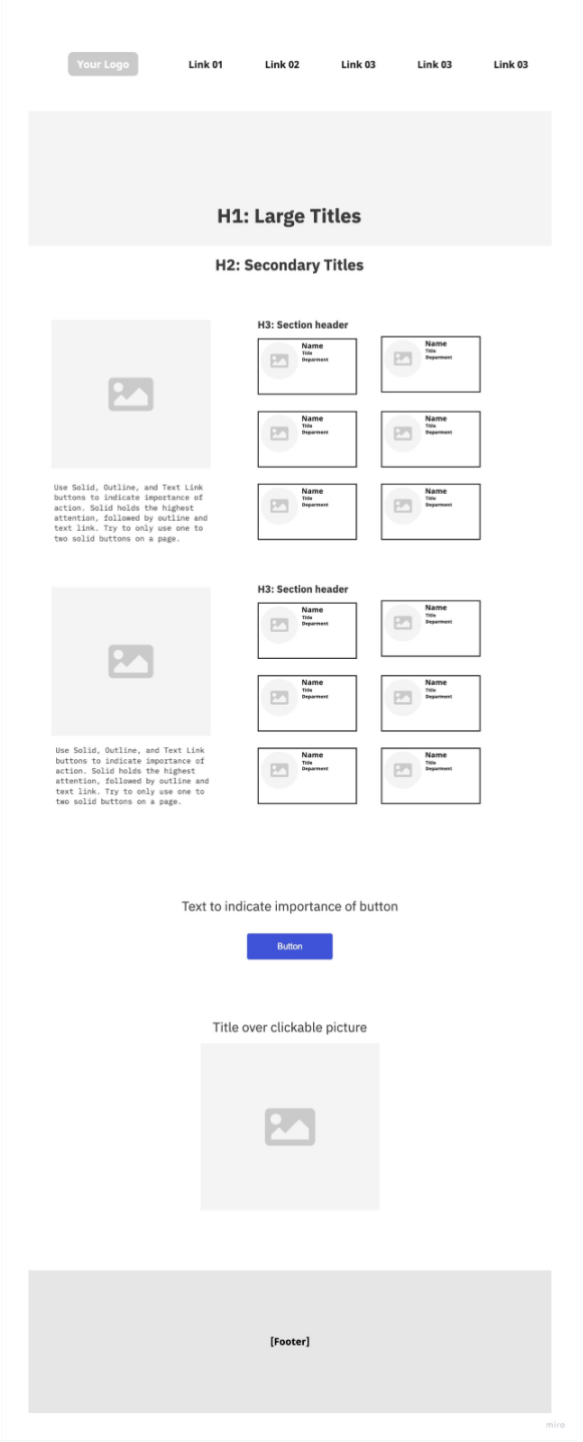


Figure 21 - Wireframe 1 - Main Page 1

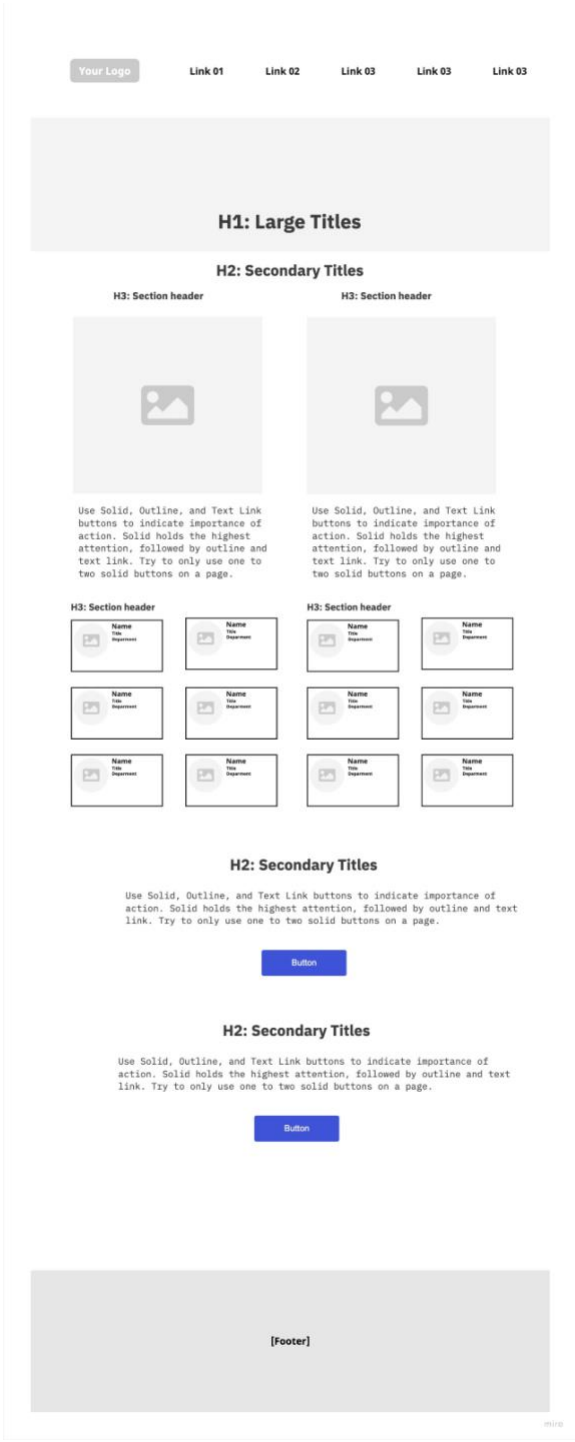


Figure 22 - Wireframe 2 - Main Page 2

On **Figure 21**, there is a big picture on the left side, followed by boxes of the information of the support team on the right side. Further down the page, a button is displayed. This button is supposed to send the user to a new page for “guide for information security”. Below the button, there is a picture that the user could click on, which directs the user to the page “Overview of forms”.

On **Figure 22**, the design is made in a different way. There are two horizontal columns that display the information of both support teams. The reasons behind this choice of style are because the user would not have the need to scroll further down the page to see both support groups. Further down the page, you will see a title, information box and a button. These elements together will inform the user what to expect when pressing the button.

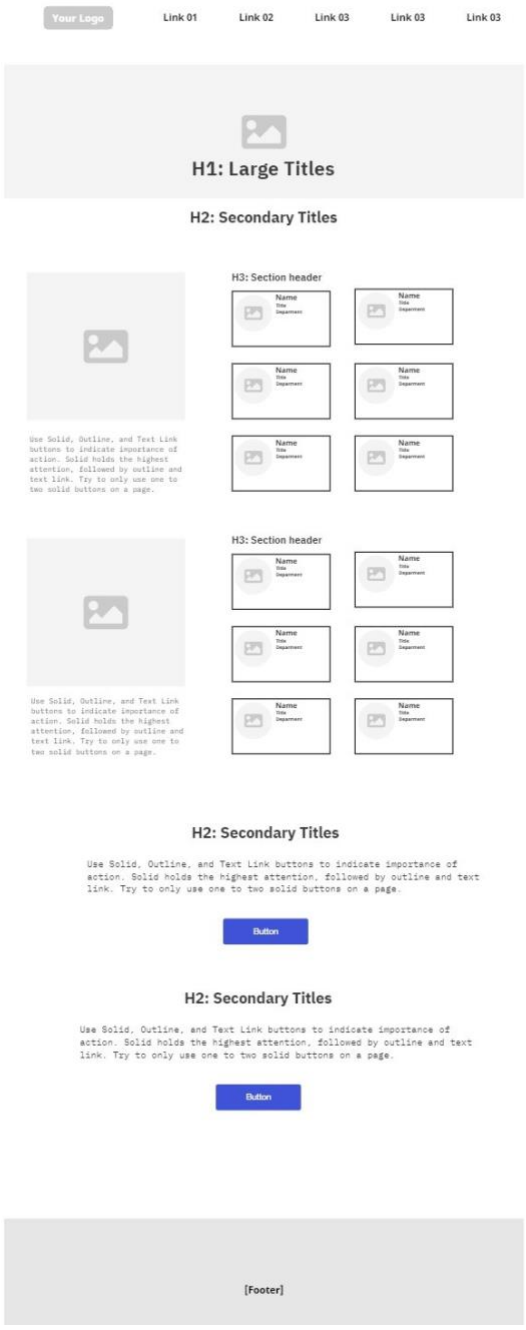


Figure 23- Wireframes 3 - Main Page

Figure 23 is the wireframe the team´s prototype is based on. This final wireframe draft combines the best features of both wireframes shown above.
According to the Appendix 15, it’s been stated that is this wireframe indicate improvements in terms of displaying contact information in a more structed and less daunting manner. Additionally, the team incorporated the improved button text and sub-text from **Figure 22**.
This approach resulted in a more user-friendly interface that enhances the user experience.
You can find a more thorough explanation of this specific and the other wireframes in the Appendix 15.

6.4 Prototype

"A prototype is a concrete but partial representation or implementation of a system design. Prototypes may be used to demonstrate a concept (e.g., a prototype car) in early design, to test details of that concept at a later stage and sometimes as a specification for the final product. A prototype may be made of something as simple as paper, card- board or other suitable material, or it may be developed using a sophisticated software package." (Benyon, 2019, p. 195)

In this section, the team will present the prototype before its improvements based on feedback from the users in chapter 6.6 Prototype Findings. Summary of the user tests can be seen in Appendix 19.

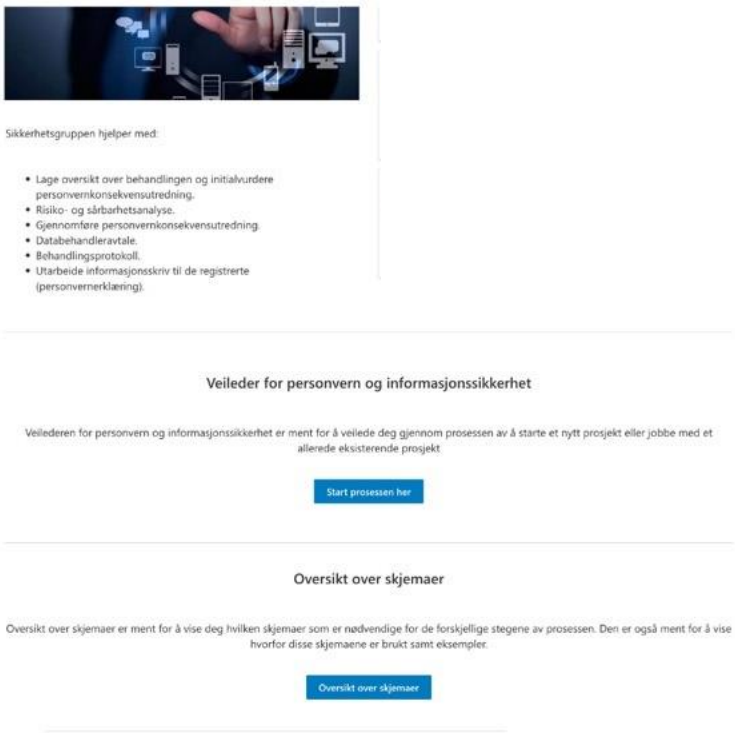


Figure 24 - Prototype - Main Page buttons

An illustration of the main page for privacy and information security is presented above in **Figure 24**. The team performed user tests on this prototype, resulting in valuable feedback that could potentially improve the prototype.

It been stated in chapter 6.6. Prototype- Findings, that moving the buttons on the bottom to the start of the page would improve the user-experience, due to that, users would like to see this information as soon as possible, without having the need to scroll to the bottom of the page. Users expressed an expectation of clear introductory information of a webpage's purpose, content, and functionality. In response, the team created a short introduction text, shown in Appendix 3, that addresses these expectations.

A hyperlink that directs the user to "Kvalitetsystemet" has also been added in the prototype.

Additionally, user tests mentioned that a short text describing the purpose of the two support groups would make it clearer who to contact if assistance is needed. Changing the order of the text and picture was also something users preferred. In response to this feedback the team chose to remove the picture instead, making the page look concise and cleaner.
The team changed the name of the home page to “Hvordan ivareta personvern og informasjonssikkerhet” because the previous title was misleading. Users expressed that they would think it was only a guide if the title of the home page were “Veileder for personvern og informasjonssikkerhet”.

Changes were also made to the overview page. Improvements such as making the intro text more precise and correcting the use of words were made. Additionally, the team added two buttons that direct the users back to the home page – Hvordan ivareta personvern og informasjonssikkerhet” and for the guide- “Veileder for personvern & informasjonssikkerhet”. These changes will therefore hopefully improve the user experience and navigation throughout the page. The team added one more form that was missing, as well as marking all mandatory forms with the word “Obligatorisk*”. Illustrations can be found in **Figure 12 – Overview – Drop Down Menu**.

Figure 25 - Prototype - Information Guide - Slide 7

Users expressed an uncertainty about which action to take when receiving a link as one of the steps, as shown in **Figure 25** on the left-hand side. In response, the team added more informative instructions to all steps based on user feedback.

6.5 Cooperative Evaluation- Prototype

To collect feedback on the prototype it was decided that employing the same method and format as the first user test would be most beneficial for the results. There were 4 user tests and two of these user tests were conducted with some of the same participants as user test 1. This would decrease the chance for any variables to alter the results. Cooperative evaluation

as discussed before is something the team has broad experience in, which therefore made it the natural choice for evaluating the prototype. This was done in a manner where the interviews were semi-structured so that the team received feedback on specific parts of the prototype alongside the entirety of it.
The most noticeable difference was in the number of members present. As previously mentioned, the first user tests had one test leader leading the interview with an observer following up whenever the test leader missed any sort of cues or if the observer had follow-up questions. The final member acted as a secretary, taking notes from the interviews, this included user feedback and any abnormalities if they were to occur. The second round of user tests now included an extra member who acted the role as an extra observer or secretary. This would prove to increase efficiency in taking notes as the team did not need to interrupt the interviewees in the second round of user tests, while this was occasionally necessary in the first user tests.

The team attempted to the best of our ability to interview the same participants as in the first round of interviews. The team was, however, unsuccessful in doing so as some of them were unable to participate due to differing reasons. On the other hand, this would prove to be sort of advantageous as the team was able to include the information security responsible in KM as one of the interviewees. The chief information security responsible has explained in prior meetings that he deals with up to 400 cases within the Quality System. Gathering his feedback would only be beneficial in determining whether the team has managed to create a satisfactory prototype or not. Noteworthy to mention is that all the participants had some sort of connection to and experience with the GDPR process within the Quality System, meaning that all the participants were in some way prejudiced in their feedback of the prototype. Whether this will prove to be of an advantage or not is something which will be reflected upon in the upcoming chapters.

6.6 Prototype- Findings

Positive feedback included opinions on length of information in the different pages of the prototype and the type of information within those pages. Most noticeably the team received good regards on the amount of information on each page. As this was something users were struggling to handle in the GDPR process within the Quality System, which contained huge blocks of difficult to understand writing. The prototype focused heavily on displaying the employees which would assist someone through the GDPR process as they are an important part of it (the process). This was also well received by the participants, who reflected upon this in their responses, as all of them had positive feedback on this.

Negative feedback was mainly aimed towards the prototype having confusing navigation and the number of clicks. Users felt that the prototype had confusing navigation because the title for the different webpages indicated information that they felt they did not

receive. The users also felt that the number of clicks to get to the relevant information they were searching for was too many and wished for an improvement in this area. Users were also negative towards the language used in the prototype as this was still far too complex and difficult to understand.

The interviews were concluded with asking the participants for their opinion of the prototype. Most of the participants seemed to be positive towards the prototype and all of them gave constructive feedback which will prove helpful in further improving it.

Figure 26 - MoSCoW Prototype

7. Sprints

This chapter will showcase the sprints and how each sprint was carried out. To see sprint definition, go to chapter 3.4 Scrum Elements.

7.1 Pre-sprint – (23.01.23- 05.02.23)

In the pre-sprint phase, there was a lot of uncertainty around the project. The team aimed to identify and to scope the project. There were periods where the team had to wait to gain access to the project necessities such as access to the Intranet and access cards for the Municipality town hall. To make use of the time spent waiting, the team planned out the project. KM's workplace consists of Microsoft solutions. This was found to be beneficial as the team had access to and experience using Microsoft applications from prior projects.

Through this phase it was important to have a clear common understanding of the project. To gain this understanding, the team planned meetings with people who work in areas within information security and IT. Meetings were held with KnowIT who have developed the Municipality's intranet and UIA's CISO and data protection officer.This helped the team gain a deeper understanding of the technologies used in the Municipality and the project itself.
The team's supervisor helped set up contact with employees who work with GDPR within the Municipality. A meeting was also held with the communications leader who helped the team a lot by grasping the system, giving suggestions for the project, and helping to gain access cards for the whole team. This sprint was dedicated to deciding on technologies, rules, and estimations for the project. This took time and effort as there were multiple discussions regarding the topic.
The team also established a network which could be contacted for advice. When these processes were set in place, and the team got a common understanding of the project, it was easier to set goals and to plan the project. The team also conducted an expert evaluation on the guide to integrate privacy and information security in projects. After this the team sorted the notes in Mad, Sad and Glad format. All of the meetings mentioned above have summaries that are included in Appendix 6.

Retrospective

The pre-sprint established the structure and roles of the team members and decided on the rules and what technologies to be used. The meetings were productive, with participation from all members and valuable insight and experience gained. The team recognized that there were definite areas of improvement, for example being professional in meetings and being unproductive at times. Overall, the team is satisfied with the initiative that every member took and the goals that were set for the project.

7.2 Sprint 1- (06.02.23 – 20.02.23)

Sprint 1 was focused on personas, scenarios and conducting user tests. The team first created personas and scenarios based on the intended users who utilize the guide to integrate privacy and information security. After these were completed, the team planned user tests for the existing guide. Four user tests were planned and performed. In this period the team formulated questions, decided on the interview format, and prepared NDAs.
With the user tests conducted, the team now had notes which were sorted using the MoSCoW method. The compliance privacy officer of the Municipality also sent the team a version of the guide, that was currently under development. The team examined this design and drew inspiration from it to identify essential components for the team's future prototype.
A meeting reference was also established, where the team could see what must be done for the day and a checklist to see if everything is done. Flexi hours were also established, see chapter 3.1 Communication and effort for more detail.

Retrospective

Significant progress was made in sprint 1, most of the tasks intended for the sprint were completed, and the team gained access to the Municipality's Intranet and town hall with access cards. The user tests produced valuable insight into the existing guide. This feedback was important to the team when considering new adjustments and components for the prototype. Looking ahead, the team agreed to prioritize the backlog in future sprints to continuously progress the project and to ensure an oversight over the tasks.

7.3 Sprint 2- (20.02.23 – 05.03.23)

Sprint 2, the team focused on sorting interview notes, structuring the report, conducting meetings and workshops. The team had to sort through and summarize multiple notes from the previous sprint interviews. This was necessary to ensure that the information was organized. The structure of the bachelor report was discussed, the team decided on how the overall report will be organized, and which chapters should be included.
The first workshop was with the Legal Advisor. In this workshop the team worked closely with the Legal Advisor to attain information around privacy and information security. The second workshop was with a consultant from KnowIT, who was with the development team for the Municipality's Intranet. The consultant trained the team in the use of SharePoint, 5.1. Data collection. After this the team dedicated time to write for parts of the report. System definition was also defined with the help of the supervisor from UiA. This was important to establish for the report and to be a base for the team's understanding of the system.

Retrospective

Overall, the sprint was successful, valuable information was attained such as from the workshops, notes were sorted from the user tests from the previous sprint.
The team felt that the line between break times and work were overlapping each other. To approach this the team agreed to set boundaries and to separate break times and working and to show mutual respect and have the opportunity to express their opinions and ideas.

7.4 Sprint 3- (06.03.23 – 19.03.23)

The focus in sprint 3 was centered around report writing, individual assignments and designing the prototype. The team assigned individual assignments to the members, that were focused on different aspects of the report. A meeting was planned with the person responsible for the Quality System and the Municipality's CISO which will take place in Sprint 4. The team began working on the navigation map for the prototype using Miro. Additionally, the team also took the Municipality's course in Microsoft Forms. This course allowed the team to gain access to design and make forms, which are to be used in SharePoint. The team now had a clear vision and the tools to design the prototype.

Retrospective

The team started on the design of the prototype, however many disruptions and arguments over small details used an unnecessary amount of time. As in the previous sprint the team

wanted to improve on differentiating break times and work and want to have this as the focus in the next sprint. Overall, the team wants to increase efficiency, the goal is therefore not to spend a lot of time fussing over small details and to have a consistent workflow by not interrupting each other in the work times.

7.5 Sprint 4- (20.03.23 – 13.04.23)

The main focal points in sprint 4 were a steering group meeting, design, wireframes, and report writing. The sprint started with a meeting between the team and the person responsible for the Quality System and the Municipalities CISO. This meeting was important, as it helped the team understand the Quality System and identify what aspects could be integrated to SharePoint, see Apendix xx. The team also made significant progress in developing the wireframes for the prototype and gained experience with SharePoint and its functions.
This Sprint lasted 4 weeks instead of the usual 2 weeks. Due to easter holiday the team dedicated their efforts to report writing. The team established rules and assigned individual assignments. During this digital period the team met on Discord and held daily standups. Whenever anyone needed help, the team spent time assisting each other.

Retrospective

This sprint was in large parts successful, most of the tasks were completed and the team's motivation was good. There was significant progress made on the report coupled with the preparation of the prototype. The digital period is now over, and the team is excited to start meeting physically three times a week again.

7.6 Sprint 5- (17.04.23 – 30.04.23)

Sprint 5 focused on the prototype, a meeting and user testing of the prototype. The team developed two prototypes with similar functions but with differing design and layout. Afterwards the members analyzed and compared the two prototypes to determine what features to keep or to discard. In addition, a steering group meeting was held with the supervisors from both the University and the Municipality. In this meeting the team showed the different prototypes and presented the progress in the project.
A final prototype before the user tests was selected. Preparation for the user tests began, where the team again formulated questions and the structure of the tests. A consent form was also created and sent out to the various people who helped with the report. These people contributed either through emails, meetings, or other methods. The consent form sought permission to use their titles for the report. This was important because titles that are linked to the public sector are often easy to trace. All participants consented to this, and the team had permission to use their title in the report. The prototype was tested and performed with four users. The user tests went well, and the feedback assisted the team in making further changes to the prototype, see Appendix 19 for more detail.

Retrospective

In retrospective, the team was happy that the user tests went according to plan. The team acknowledges that we could have possibly been more selective with the users in the tests and have a wider range of different users. Additionally, longer periods with work that require a considerable amount of focus was something that proved challenging for the team and could be improved. However, the team made a strategy to prevent losing focus, such as team members closing their screen, when content is being displayed in plenum. By reflecting on what could have been done better, the team agreed to improve the approach to future user testing and to be better prepared for the next time.

7.7 Sprint 6- (30.04.23 – 16.05.23)

With the final delivery deadline approaching sprint 6 was dedicated to the adjustment and finalization of the project's report and prototype. The prototype changes were made according to feedback from the prototype tests. The team focused its resources on writing and structuring the report. Chapters were also reviewed to refine the writing and ensure that the report was structured as planned. A meeting was also held with the University's supervisor for feedback on the report. The members each had their part and helped each other when needed.

Retrospective

The team express fulfillment in successfully completing the report within the specified deadline, without any major delays. However, it was acknowledged that the final stages of the project required were intensive and long days, which could be prevented by starting on the rapport earlier. By estimating starting on the report earlier, the team could reduce the stress associated with the final adjustments and corrections of the report. Despite these challenges, the overall result of the bachelor project went as planned and met the team´s expectations. Last, the team members want to highlight that they gained valuable experiences and skills by working on this project, as well as they have grown both personally and professionally.

8. Reflection

In this section, the team will engage in reflective analysis regarding the manifold challenges encountered during the project, drawing upon prior experiences and discerning learning outcomes. Additionally, proposals will be offered for the product and its surrounding aspects. The chapter will entail a comprehensive evaluation of the project's successes and shortcomings, with a particular focus on discerning areas for potential improvement based on the team's current understanding. This reflective process will involve contemplation of alternative strategies and decision-making processes that may have yielded more optimal outcomes.

8.1 Challenges

Throughout the project, several challenges appeared, these affected both the progress and in multiple cases changed the scope of the project. These challenges and processes required the team to use their experience and find solutions. Although these difficulties were challenging, they ultimately shaped the final product, forced the team to work smarter together, and experiences were gained. Most of the challenges addressed in this chapter have been visualized in the timeline presented in chapter 1.2 System Definition.

The start and the project

The first difficulty the team faced was how the representative from the Municipality could not meet until a few weeks after the semester started. The team tried to set up a meeting with the representative close to the semester start, but the representative was unfortunately not available at the time. This caused the team to lose some weeks of progress.

The second challenge was how the first project scope was unclear. The team started with the understanding that the project was based around improving a Process Guide for taking care of privacy and information security. The problem was that the Municipality did not specify more than this, so the team had to figure out and define their own role in this project. Kristiansand did not provide the team with either tools or specific expectations of the project, they merely presented the hypothesis that the Process Guide was difficult for employees. This left the team quite independent to use their own knowledge and contacts to try and figure out how and where to start the project. *"Getting clear on what you need to do is pretty critical for successful project completion."* (Tawfik, 2022). Letting the teamwork this independently from the product owner forced the team to really play to its strengths. In a real-world work situation, a team like ours is usually hired by companies or clients that have a clear idea of what they expect or need before a project starts. Therefore, most of the activities performed in the beginning of *this* project were focused on specifying the scope.

The team contacted consultants from KnowIT who have contributed with development for the Municipalities intranet. This provided valuable knowledge, contacts and the team gained access to Kristiansand's SharePoint demo pages, to read more about this go to chapter 7.1-Pre-Sprint.

Communication

Lack of communication within the Municipality also affected the team. As the Municipality did not have a clear vision of what they wanted, the employees who were responsible for the Process Guide did not even know that the team was working on an improvement. This was an observation the team gained from several interviews and user tests performed with different employees. The team had to explain their project many times, and though most employees were positive and seemed to agree with the need for this improvement, others expressed profound skepticism. This meant that the team was on their own and had to remember that the goal was to finish the project with grace and aim for a high-quality bachelor's report.

Rather than convince the municipality employees that the work the team performed did prove the hypothesis. And therefore, the need for improvement or a redesign.
Another example of this is when the team had already performed the first user tests and gathered feedback on the existing Process Guide. When the team later held a meeting with the chief information security officer to gain insight on how the Process Guide ideally should be used. During this meeting, it was only natural for the dialog that the team mention some of the feedback gathered around this Process Guide. A few weeks after this, the team as usual visited the Process Guide, and noticed that the CISO had added some changes that seemed to be based off the small amount of feedback that was shared during the meeting. This gave the team the impression that the flow of communication within the Municipality might have some obstructions, in relation to the lack of warning that the feedback the team had collected and shared in passing were implemented outside of our project.

Subject

The subject area for the project was quite delicate and complicated. The team consists of five students of IT and information systems, so the subject of privacy and information security is quite overwhelming and unfamiliar. This makes it hard to understand with no prior knowledge or formal education. The team know that their expertise and experience only offer value in relation to the technical and visual aspects of the project. Since it was uncovered that one of the biggest issues with the system was the complicated legal language, it was made clear how was not an issue the team could improve without legal guidance. Keeping the balance between simplifying the information for a wider audience, and still honoring the legitimacy of the field, was not a task the team was prepared to take on.
The team contacted the Legal Advisor for the Municipality, who was willing to help as much as possible before their temporary employment ended halfway through the semester. Though the team utilized this employee with meetings and workshops, having relevant personnel like this available for the entire project would most likely result in a more complete prototype.
As this subject affects multiple departments in the Municipality there are multiple opinions about how the guide should be. This affected the team's decision making quite a lot. As one leader's department wanted it one way another department leader wanted it differently. This is very clear as represented in the User test 2 the team conducted see Appendix 19 for more.

Resources and tools

Another challenge was the restrictions imposed by the tools used. Being confined to SharePoint limited the team´s range of creativity when producing the prototype. Through problem solving the team decided to use Microsoft Forms to help create the Process Guide part of the prototype.
Meeting rooms were also limited in the beginning. The supervisor from the municipality booked the team conference room each Monday until the report deadline. The team was informed that it was improbable to book rooms for the other two of the three dedicated workdays each week. The team booked rooms at the campus of the University of Agder, but

by being critical of this improbability it was uncovered that the team did have access to book other rooms at City Hall. This proved beneficial and granted the possibility of booking conference rooms ahead of time. This also helped when planning meetings with the personnel of the Municipality.

User stories

It was challenging to employ user stories in the project, due to lack of communication with the Municipality, it was not always clear what the scope of the project was. The team was given a project by the Municipality that lacked a clear vision of what they expected us to achieve as mentioned above.

This factor prevented the user stories from being created at the right time, which would be in the beginning of the project as the team would have used them to focus on parts of the system which needed to be investigated further. The first user tests gave us the information needed to create user stories, but it was deemed that they would not provide enough value for the remainder of the project in relation to the resources required to complete them. It can be argued that if they were created before testing the system, the team would introduce a new element to the user tests which might have altered the results. An argument for this could be that they would not have influenced the results considerably as the MoSCoW method was used after the user tests. MoSCoW was therefore based entirely from user feedback, which might be more beneficial for the project. We will therefore never know the effect user stories would have had on our project.

8.2 Experience Used

The present bachelor's project draws upon the team's prior experiences in service design and agile methodology, which are evident in the team's utilization of various processes and techniques in executing the project. The team's adoption of an agile development methodology, with a strong emphasis on Scrum principles, has been a significant takeaway, leading to a smooth project flow and streamlined progress.

In addition, the team has displayed analytical thinking and theoretical knowledge in problem-solving, allowing for a comprehensive understanding of the project's requirements. Prior exposure to service design and business models has also contributed to the team's ability to navigate from ideation to finished product development, with data gathered during the analysis phase informing functional and design-related decisions.

The theoretical foundations of the team's coursework have underscored the importance of universal design, which has played a pivotal role in the prototype's development. During the analysis phase, the team's previous experience in qualitative methods and interviewing has been invaluable, leveraging their understanding of the art of conducting interviews. The team has also applied various methods, including MoSCoW, Mad, Glad, and Sad, which they have previously used in other subjects and projects, to great effect.

In summary, the team gained valuable practical experience in applying the knowledge and skills we acquired during the past three years of our bachelor's degree. We learned how to work independently, conducting thorough analysis and research, and expanded our understanding of the field of privacy and information security in a real-world setting. This experience allowed us to develop our professional capabilities, but also make the team more ready for professional life after completing the bachelor's degree.

8.3 Experiences Gained

In the context of our bachelor project, the team have gained valuable experiences in a wide range of areas. The team aims to address several experiences gained in this section, such as **project management, communication skills, professional behavior, technology skills** and **employability activities**. These experiences were gained working on the bachelor project for KM and will be reflected upon.

Project management skills

"Effective project management means setting a clear project plan and using the right tools to monitor progress. The best project managers can manage setbacks while keeping the company's goals and workflow on track." (Klein, 2023). During our bachelor project at KM, the team had the opportunity to apply various project management skills. In this section, we will discuss the learning outcomes the team gained in the agile project management framework known as Scrum, conflict resolution, adaptability, time management, risk management and adaptability.

The team progressed in estimating project timelines and improved tracking our progress (as mentioned in 8.2 Experienced Used) with the Agile project management, Scrum. By using Scrum, the team got a better understanding of time management, such as identifying and prioritize critical tasks, and to allocate resources effectively, and meet project deadlines.

Adaptability: Since the beginning of the project, we faced unexpected changes in our direction, which required us to be able to be adaptable and flexible. For example, when the project and the system we were analyzing changed. Following the Agile methodology helped us to be more adaptable and allowed us to embrace the changes by adjusting our plans accordingly and remained focus on the project goals.

Conflict resolution: The team made effort to solve conflicts in constructive manner. After periods with multiple discussions, the team realized a strategy must be constructed to solve discussions in an effective way manner. As result of this, the team learnt that by developing a strategy for resolving conflicts was effective.

Risk Analysis

The team has demonstrated a limited utilization of risk analysis due to low prioritization, with a preference given to only the most essential fields within the risk analysis domain. Although the team has made progress in utilizing risk analysis, they have been unable to consistently uphold adequate documentation practices. Such as not updating the table and reevaluating

the risks. To improve their risk management approach, the team could have incorporated periodic retrospective evaluations throughout their project sprints. Currently, maintenance of critical events, such as ensuring backups of the files, remembering access cards to gain access to the Municipality, and conflict management, has been established as a routine procedure.

Upon reflection, it is evident that the matter in question merited more attentive and prioritized focus from the team. Had the team undergone the same process again, they would have prioritized the task earlier and been more vigilant in updating the relevant documentation. This is due to time limitations.

Communication skills

Effective communication is a crucial skill and played an important role in the success of the team's bachelor project. The team had the opportunity to develop our communication skills in many different settings. Through this project, we learned how to communicate in a clear and effective manner. Some of the communication skills the team achieved will be mentioned below:

Respectful communication: The team made effort to always respect all team members and other employees in KM in a professional manner. This includes not using offensive and inappropriate language. For example, during team meeting, user tests and other professional meetings.

Active listening: To promote active listening in discussion, the team implemented a guideline that required team members to signal their desire to speak by raising their hand. We learned that this was the most effective way to prevent the discussion to become overwhelming and ensured that each member had the opportunity to share their perspective.

"Silence is sometimes the best answer". Quoted by Dalai Lama XIV

Presentation skills: The team developed the ability to present effective presentations to show our finding and recommendations to relevant people with and without knowledge in privacy and information security.

Professional behavior

Professional behavior in the workplace is a combination of attitude, appearance, and manners. (Herrity, 2023). Throughout this bachelor project, knowledge of behaviors according to the employee expectations in a workplace have been gained. Here are some examples how the team demonstrated professional behaviors:

Showing up on time: The team had a goal to be on time and recognized that this was important. The team planned when to meet during the week, which made it easier to take accountability for potential transporting and scheduling issues and communicated any necessary adjustments in advance. For example, if a team member was late to a meeting, they would send a message or inform on of the team members.

Maintaining project timelines: To ensure that deadlines were held, the team learned that establishing a clear project timeline and specific tasks to each member, made this more

successful to achieve. The team regularly checked in with our project manager and gave updates of how the team were doing.
Dress code: To ensure that the team appearance was positive, the team followed the company`s dress code. Which was to dress casual and clean – because we represented the company.
Additionally, the team have acquired valuable experience that helped us understand the inner working of a professional workplace and its culture. This includes the workflow of the Municipality and how a project is managed. Furthermore, the team gained valuable practical experience in applying the knowledge and skills we acquired, during the past three years of our bachelor's degree. We learned how to work independently, conducting thorough analysis and research, and expand our understanding of the field of privacy and information security in a real-world setting. This experience allowed us to develop our professional capabilities, but also provided the team the necessary skills to successfully transition into the professional life upon completing of our bachelor's degree.

Technology skills

Software tools such as Figma, Miro and SharePoint (mentioned in 3.2 Technologies) were utilized by the team and helped us to facilitate collaboration and to create detailed wireframes. Through attending to workshops, completing tutorials and engaging in practice helped us improve our proficiency with these platforms. The team´s improved skills in these platforms can be seen valuable assets to take into our professional career.

Employability activities

The team realized the importance of connections and how to leverage them effectively. During the project, we were able to meet many relevant professionals. Later, we utilized online platforms such as LinkedIn to connect with these professionals in our field, which helped us expand our network and gain insights into the job marked. As a result, the team developed the skills and strategies it takes to create meaningful connections both professionally and personally.

8.4 Further suggestions

The scope of the project was undefined since the beginning, but the goal was always clear, to make the GDPR process more efficient for employees of KM. The Quality System being the problem domain posed its own set of challenges, the main one being that the team could not make changes to the Quality System, therefore working around the Quality System was necessary. The solution as explained before it was decided to use SharePoint to develop a suggested solution. After user testing the prototype, the team gained an insight into further improvement of the solution which can be seen in Appendix 3-5.
Areas of further improvement include:

- A significant improvement to the team's solution would be to simplify the language used in the prototype. This could potentially be done by employing the help of a legal

advisor, who would have more experience than the team with the language used in the Quality System.

- Improve the guide for GDPR, either by creating a new tool for it, or to improve the forms the team has suggested.
- Figure out if it's possible to automatically fill out all the forms the user is required to complete by just finishing the guide.
- Build a relation between development of the GDPR process and the users actually using it. Taking feedback into account is what keeps users happy and engaged.
- We see benefits in combining "«Innafor»" and "Kvalitetssystemet". "«Innafor»" has a search function which would make it easier to navigate to GDPR, but there is also a third platform, "Styringsportalen". We recommend planning the future of the GDPR process, where it would be located («Innafor», Kvalitetssystemet or Styringsportalen), if any platforms can be combined, how this would affect the GDPR etc. Before the research in the report would be beneficial.
- The design of the current GDPR process implies a lack of knowledge about how users want to navigate themselves inside the Quality System. It is therefore recommended to get a better grasp of this. (Navigation map is important here)

9. Conclusion

The team's task was to streamline the privacy and information security process within the Quality System. The main goal was to make suggestions for an improved privacy Process Guide involved in cases and projects for KM. In the end, making a prototype aimed to make the Process Guide more user-friendly for employees of the Municipality was decided upon. The prototype was produced in SharePoint, linking the necessary information and documents to the Quality System.

In summary, this study has identified several critical factors that the team needs to consider when developing a new system. Throughout the course of the project, the team encountered numerous challenges that have significantly impacted the project outcome. For example, ineffective communication with the Municipality posed difficulties when they made changes to the system that the team were analyzing, which in the end impacted the progress of the project.

These challenges include changes in project objectives and the dynamic nature of the Quality System. Despite these obstacles, the team has succeeded in developing a prototype that is more inclusive and user-friendly, evident in the positive findings from the user testing. The team has leveraged their efforts to create a versatile prototype that can be readily adopted by the Municipality, regardless of their choice to implement it or not. Additionally, the report emphasizes the significance of considering end-users' perspectives as they are the most affected by any system's design and implementation.

References

American Optometric Association. (n.d.). *Adult vision: 41 to 60 years of age*. Retrieved from American Optometric Association: https://www.aoa.org/healthy-eyes/eye-health-for-life/adult-vision-41-to-60-years-of-age?sso=y

Benyon, D. (2019). *Designing User Experience: A guide to HCI, UX and interaction.* Pearson Education Limited.

Bynder. (2023). Retrieved from Definition: Collaboration Tools: https://www.bynder.com/en/glossary/collaboration-tools/

Chervenka, M. (2022, March 18). *Kanbanize*. Retrieved from What Are Feedback Loops and Why You Need to Implement Them?: https://kanbanize.com/blog/feedback-loops/

Datafabrikken. (2023). *Norge.no*. Retrieved from Juridisk veiviser for datadeling: https://datafabrikken.norge.no/juridisk-veiviser-for-datadeling

Deakin University Australia. (n.d.). Retrieved from Primary versus Secondary Data: https://www.deakin.edu.au/library/research/manage-data/plan/primary-versus-secondary-data

DiCesare, M. (2023, January 04). *Mendix*. Retrieved from Agile Process Loop: Why You Need It During and After The Sprint Process: https://www.mendix.com/blog/agile-process-why-you-need-feedback-loops-both-during-and-after-sprints/

Halbo, L. (2020, January 6). *Store Norske Leksikon*. Retrieved from Kvalitetssikring: https://snl.no/kvalitetssikring

Harris, C. (2023). *Atlassian*. Retrieved from Learn about Agile Scrum Artifacts: https://www.atlassian.com/agile/scrum/artifacts#:~:text=Summary%3A%20Agile%20scrum%20artifacts%20are,%2C%20sprint%20backlog%2C%20and%20increments

Herrity, J. (2023, January 31). *10 Ways To Demonstrate Professional Behavior at Work*. Retrieved from Indeed: https://www.indeed.com/career-advice/career-development/professional-behavior-workplace

Hinze, F. (2023). *Who needs what? - Target groups and their needs*. Retrieved from Social Impact Navigator: https://www.social-impact-navigator.org/planning-impact/needs/target-groups/#

Jacobsen, D. I. (2022). *Hvordan gjennomføre undersøkelser?: Innføring i samfunnsvitenskapelig metode.* Cappelen Damm Akademisk.

Klein, M. (2023, April 27). *5 tips & skills for insanely successful project management*. Retrieved from Blink: https://joinblink.com/intelligence/successful-project-management/

Kristiansand Kommune. (2019). *Sluttrapport sammenslåingsprosessen nye Kristiansand.* Retrieved from https://www.kristiansand.kommune.no/contentassets/6631415444344800acea45d6381cef10/~-2022020772-26-sluttrapport-sammenslaingsprosessen-2586748_1_1.pdf

Kristiansand Kommune. (2022). *Kristiansand Kommune*. Retrieved from Jobb hos oss: https://www.kristiansand.kommune.no/navigasjon/politikk-og-organisasjon/jobb-hos-oss/

Lovdata. (2022, January 1). *Personal Data Act*. Retrieved from Act on the Processing of Personal Data Act (LOV-2018-06-15-38): https://lovdata.no/dokument/NL/lov/2018-06-15-38/*#*

Mathissen, L., Munk-Madsen, A., Nielsen, P. A., & Stage, J. (2018). *Object Oriented Analysis & Design.* Hadsund: Metodica ApS.

Mattord, H., & Whitman, M. (2021). *Principles of Information Security (7th ed.).* CENGAGE Learning Custom Publishing.

Microsoft. (2023). *Image sizing and scaling in SharePoint modern pages*. Retrieved from Microsoft Support: https://support.microsoft.com/en-us/office/image-sizing-and-scaling-in-sharepoint-modern-pages-dc510065-b5a5-4654-bc94-e3ecbbb57d8d

Microsoft. (2023). *Microsoft*. Retrieved from What is Sharepoint?: https://support.microsoft.com/en-us/office/what-is-sharepoint-97b915e6-651b-43b2-827d-fb25777f446f

Olseng, E. T. (2022, January 22). *Nasjonal Digital Læringsarena (NDLA)*. Retrieved from Målgrupper og målgruppevalg: https://ndla.no/subject:1:47678c7b-bc09-4fc8-b2d9-a2e3d709e105/topic:1:70dc6ab9-5c82-49d1-a71c-64afda657c0d/resource:b6526674-c8de-473d-a867-05fec13be9c0

Osman, M. (2021, November 2). *The Differences in Wireframe Fidelity: From Low to High Fidelity Wireframes*. Retrieved from HubSpot: https://blog.hubspot.com/website/high-fidelity-wireframe

Sandnes, F. E. (2018). *Universell utformin av IKT-systemer: brukergrensesnitt for alle.* Universitetsforlaget.

Schwaber, K. (2004). *Agilde Project Management with Scrum*. Microsoft Press.

Scrum. (n.d.). *Scrum.org*. Retrieved from What is Scrum?: https://www.scrum.org/learning-series/what-is-scrum/the-scrum-artifacts

Statistics Norway. (2021). *Statistisk Sentralbyrå*. Retrieved from De 100 mest folkerike kommunene: https://www.ssb.no/befolkning/folketall/artikler/norges-100-mest-folkerike-kommuner/tabell-1.norges-100-mest-folkerike-kommuner

Tawfik, D. (2022, July 18). *10 common project management challenges (and how to overcome them)*. Retrieved from Mondayblog: https://monday.com/blog/project-management/project-management-challenges/

TeamRetro. (2023). *TeamRetro*. Retrieved from The Mad Sad Glad Retrospective: https://www.teamretro.com/retrospectives/mad-sad-glad-retrospective

TEQ. (n.d.). *TEQEgypt*. Retrieved from About Quality: https://teqegypt.com/about-quality-2/

The Interaction Design Foundation. (2022). *Personas: What are Personas?* Retrieved from Interaction Design Foundation: https://www.interaction-design.org/literature/topics/personas

Wikipedia. (n.d.). Retrieved from Quality Assurance: https://en.wikipedia.org/wiki/Quality_assurance

Wirtz, D. (2022, August 3). *Facilitator School*. Retrieved from What Is a Workshop?: https://www.facilitator.school/blog/what-is-a-workshop

Appendix

Appendix 1- Statement from Employer (Christen Kaaveland Egeland)

Kommunen og UiA inngikk høsten 2022 en avtale om at bachelorgruppen skulle se på mulighetene for «å utvikle strukturer/systemer/løsninger som gjør det mulig for flere av kommunens ansatte, som har ansvar innovasjon- eller digitaliseringsprosjekter og aktiviteter, å være i samsvar med GDPR uten å trenge omfattende opplæring eller omfattende støtte fra nøkkelressurser.» Kommunen har i dag prosedyrer, sjekklister og kontrollskjemaer som oppleves som omfattende og vanskelige av brukerne, og som ikke blir ikke brukt i ønsket grad. Arbeidet skulle som et minimum ende opp i en prototype som viser en alternativ måte å tilgjengeliggjøre disse ressursene på. Fokuset har vært på tilgjengeliggjøring av de digitale ressursene, ikke på det GDPR-faglige.

Bachelorgruppen har gjennomført kartlegging i form av intervjuer med sentrale personer innenfor både beredskap, informasjonssikkerhet, IT og kommunikasjon. Gruppa har gjennomført brukerundersøkelser med ansatte fra ulike deler av kommunen før de startet utarbeidingen av en protoryp. Prototypen har blitt testet på flere brukere, og justert opp mot tilbakemeldingene fra disse. Det skal og gjennomføres en presentasjon av den ferdige oppgaven for relevante personer i kommunen.

Bachelorgruppen og kommunens representant har hatt jevnlig kontakt, både i form av møter og skriftlig kommunikasjon. Studentene har arbeidet svært selvstendig, og har vært flinke til å navigere i organisasjonen og selv løse utfordringer som har dukket opp underveis. De har vist mye initiativ, og har å har lykkes med å jobbe godt sammen som en gruppe gjennom å ta aktive grep for dette. Det har kommet veldig gode tilbakemeldinger på studentene: De opptrer profesjonelt og er «på» uten å være påtrengende. De oppleves som høflige og godt forberedt og de utfordrer uten å oppleves som ufine eller bedrevitende.

Bachelorgruppen har utviklet en prototype innenfor kommunens M365-plattform, som viser en enklere måte å tilgjengeliggjøre GDPR-ressursene på enn dagens løsning. Samarbeidet har vært nyttig, og gruppen har bidratt med inspirasjon, innspill og kunnskap som vil være nyttig for kommunen i det videre arbeidet med GDPR.

Appendix 2- Self-reflection

Magna:

This bachelor project has given me many experiences that I know have prepared me for writing a master's degree in two years, and eventually getting a relevant job one day. For the most part I have acted as a group leader. Not that we ever established one. But the responsibilities I have had, have been quite similar to the responsibilities of a team leader. Though I have share many of these with Kenny, but also at times Kevin. Driving the dialog that defined the project at the start of the semester, and volunteering to write meeting summaries after each day, was how I started the semester. This were the activities that established my particular strengths in the team. Strengths like having control in relation to the project scope, meetings and documentation. In my search for high quality (in all aspects) I was not afraid to ask the hard and sometimes weird questions. These helped encourage discussion and help the team feel more confident in our project and at the Municipality. I have done my best to help keep the balance between having a good atmosphere in the team, but also keeping us productive throughout the project. Many of the different roles I have taken, I have shared with other members, such as team leader, secretary (during meetings) and devil's advocate. But the role that was mine alone, was the secretary of the team. This included setting up our entire Teams folder structure, document structures, making sure everything is documented and providing graphical assistance in the form of illustrations and feedback.

Håvard:

Participating in this bachelor's project has been an incredibly enriching and educational experience. I have been fully engaged in the entire development process, gaining valuable insights into collaboration, project management using a flexible framework, design and development, as well as documentation and reporting. These experiences have equipped me with a wide range of skills and lessons that I will carry with me into my professional career. Throughout the project, my role has been adaptable, allowing me to be involved in various aspects and visit different parts of the project. Additionally, I have willingly contributed wherever there was a need, whether it was writing, design, wireframing, conducting interviews, or performing administrative tasks. I have also contributed to maintaining high quality standards by utilizing my previous experience in conducting interviews and further enriching my expertise in this domain. Given the project's emphasis on qualitative methodology, I have found it crucial to meticulously document notes and create comprehensive summaries following each interview. As the project neared its completion, I played a significant role in report writing, as it was the most pressing requirement at that stage. In general, the group has excelled in mutual support, with each individual contributing their utmost effort across all aspects.

Kevin:

This project has given me insight, experience, fun and challenging moments, and individual development. The team experienced challenges in getting to know each other's weaknesses and strengths but I believe the team had a strong bond. The dynamic of the team worked well, and we learned more about each other throughout the project, this has been a pleasure. For me the project has been full of experience. As a Scrum Master I got an oversight over the project and learned to appreciate the scrum methodology as a whole. In total my skills in this area increased. The writing aspect of the report is also quite big so naturally my skills in this area evolved, and I got better in academic writing. It was also very exciting how the team had to build the project from the beginning meaning most of the phases had to be decided by the team and it was exciting to contribute my ideas. I also assisted members when needed, which helped me grow my communication skills. I also helped in quality checking, and structuring the final report, even though it was a hard period before delivery it was also effective and a good experience I shared with Magna. Overall, I gained valuable experience which has helped develop my skills and knowledge.

To gain more insight into the workings of a Municipality was also engaging. Through various meetings I met employees who had vast amounts of experience in different fields, and it was a pleasure to collaborate with them. It was also exciting to see the workings of a Municipality through their systems and employees. In total it was an exciting project with a new team who had a good dynamic and working together was a fun experience.

Kenny:

Throughout this bachelor project, I have not only grown individually but also developed professionally. It has been an absolute pleasure to work alongside this exceptional group, and I am very grateful for the opportunity to be a part of such a dedicated and hardworking team. The collaborative spirit within the group has made every step of this journey enjoyable and fulfilling.

As a person that is passionate about making products that meet the needs of users, I found this project very rewarding. I enjoyed taking responsibility for the design process, from being involved in the user research to prototype refinement. I was engaged at every step. Overall, this enhanced my design skills and is something I will bring to my professional life.

Additionally, I took responsibility for various tasks related to the bachelor project, such as writing assignments and providing assistance to team members. These responsibilities improved my project managements skills, which emphases the importance of teamwork and communication.

Engaging with professionals in the field was another interesting responibility I had within this project. Interacting with experts, seeking guidance, and collaborating to gain insights expanded my understanding of the field of IT (Information Technology).

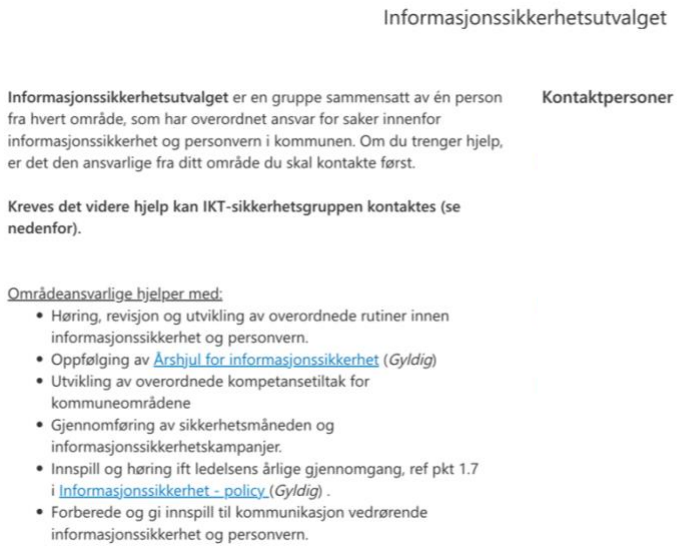
Overall, the entire experience has flown by, filled with learning, growth, and countless memorable moments. This project has been an incredibly rewarding journey. Working with my talented teammates has been a source of motivation. I am proud of the contributions I

made to our collective success and look forward to applying these skills and experiences from this project in my professional career.

Osamah:

To work together with this group and the Municipality has been an enjoyable and educational experience. I have to the best of my abilities engaged myself in all aspects of this project. My main responsibilities throughout the course of the project have been to transcribe interviews and to design and create the prototype with Kenny. Most notably being the only member that was a part of all the interviews acting as the main transcriber for most of them. This is something which I have extensive knowledge of from previous courses. Together with this I have been a part of writing the report. In addition, I have also, together with the rest of the group, gone over the report for additional quality checks of the writing. This project has been very beneficial for me as it has given me an insight into the day-to-day work of a consultant. I can imagine that many of the experiences I have had on this project will undoubtably be helpful later in my career. In general, it has been extremely fun to work with this group seeing as every member contributed towards everything.

Appendix 3- Main Page Updated


Informasjonssikkerhetsutvalget

Informasjonssikkerhetsutvalget er en gruppe sammensatt av én person fra hvert område, som har overordnet ansvar for saker innenfor informasjonssikkerhet og personvern i kommunen. Om du trenger hjelp, er det den ansvarlige fra ditt område du skal kontakte først.

Kreves det videre hjelp kan IKT-sikkerhetsgruppen kontaktes (se nedenfor).

Kontaktpersoner

Områdeansvarlige hjelper med:

- Høring, revisjon og utvikling av overordnede rutiner innen informasjonssikkerhet og personvern.
- Oppfølging av Årshjul for informasjonssikkerhet (*Gyldig*)
- Utvikling av overordnede kompetansetiltak for kommuneområdene
- Gjennomføring av sikkerhetsmåneden og informasjonssikkerhetskampanjer.
- Innspill og høring ift ledelsens årlige gjennomgang, ref pkt 1.7 i Informasjonssikkerhet - policy (*Gyldig*) .
- Forberede og gi innspill til kommunikasjon vedrørende informasjonssikkerhet og personvern.

Figure 27 - Main Page 3 - InfoSec committee

Figure 28 - Main Page 4 - ICT Security Group

Appendix 4- Information Guide Updated

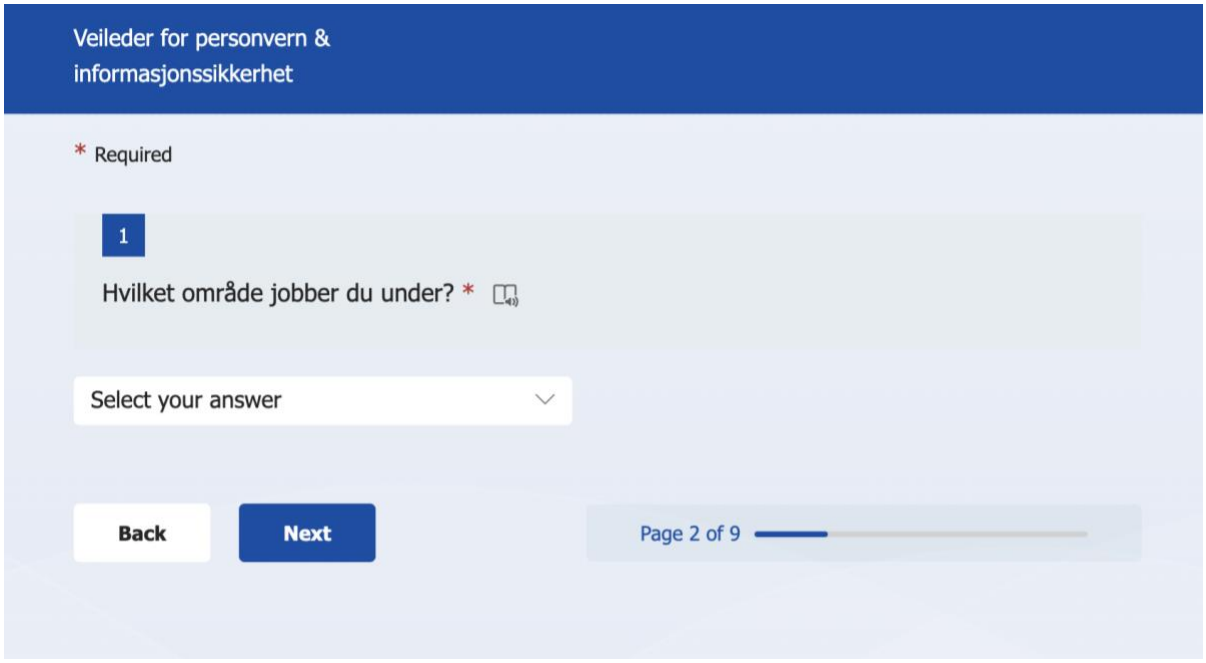


Figure 25 - Information Guide - Slide 2

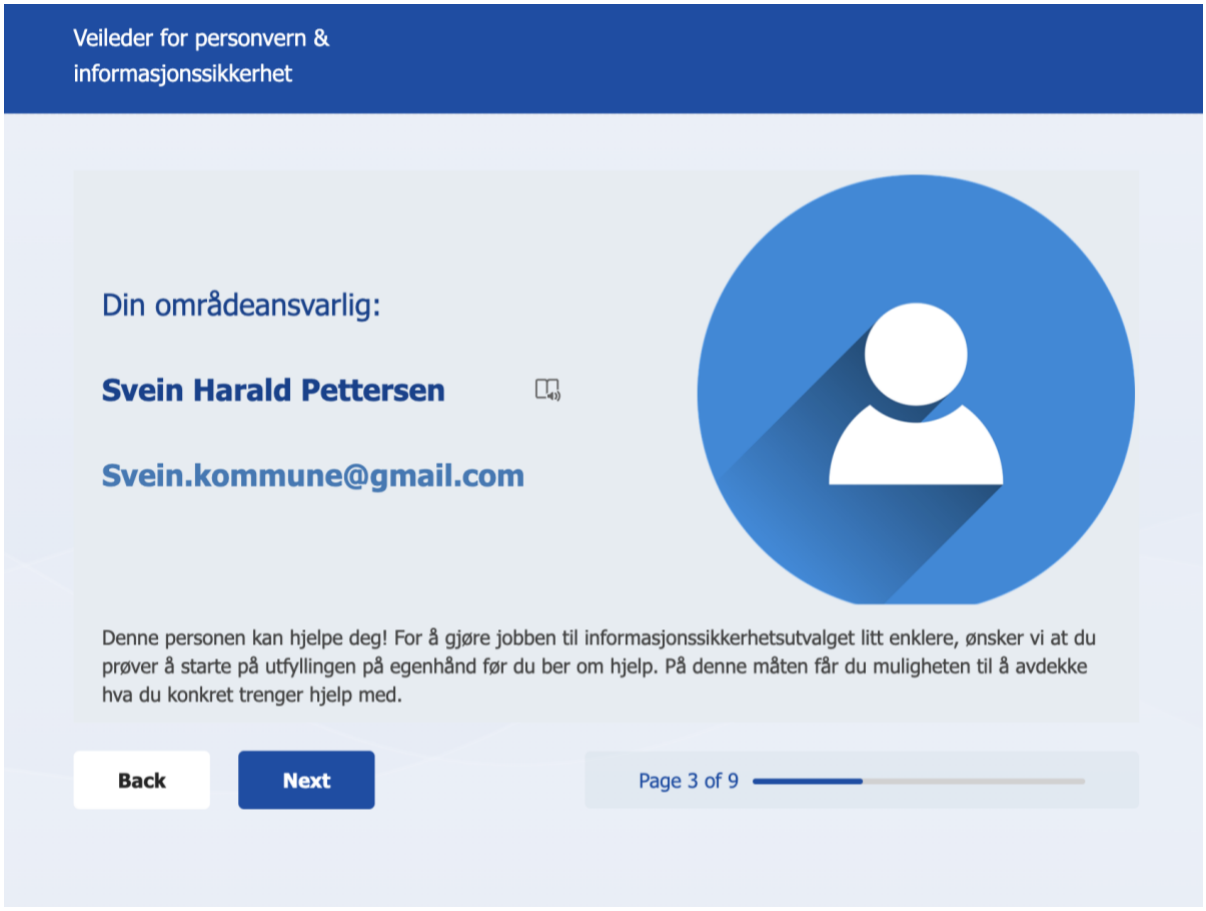


Figure 30 - Information Guide - Slide 3

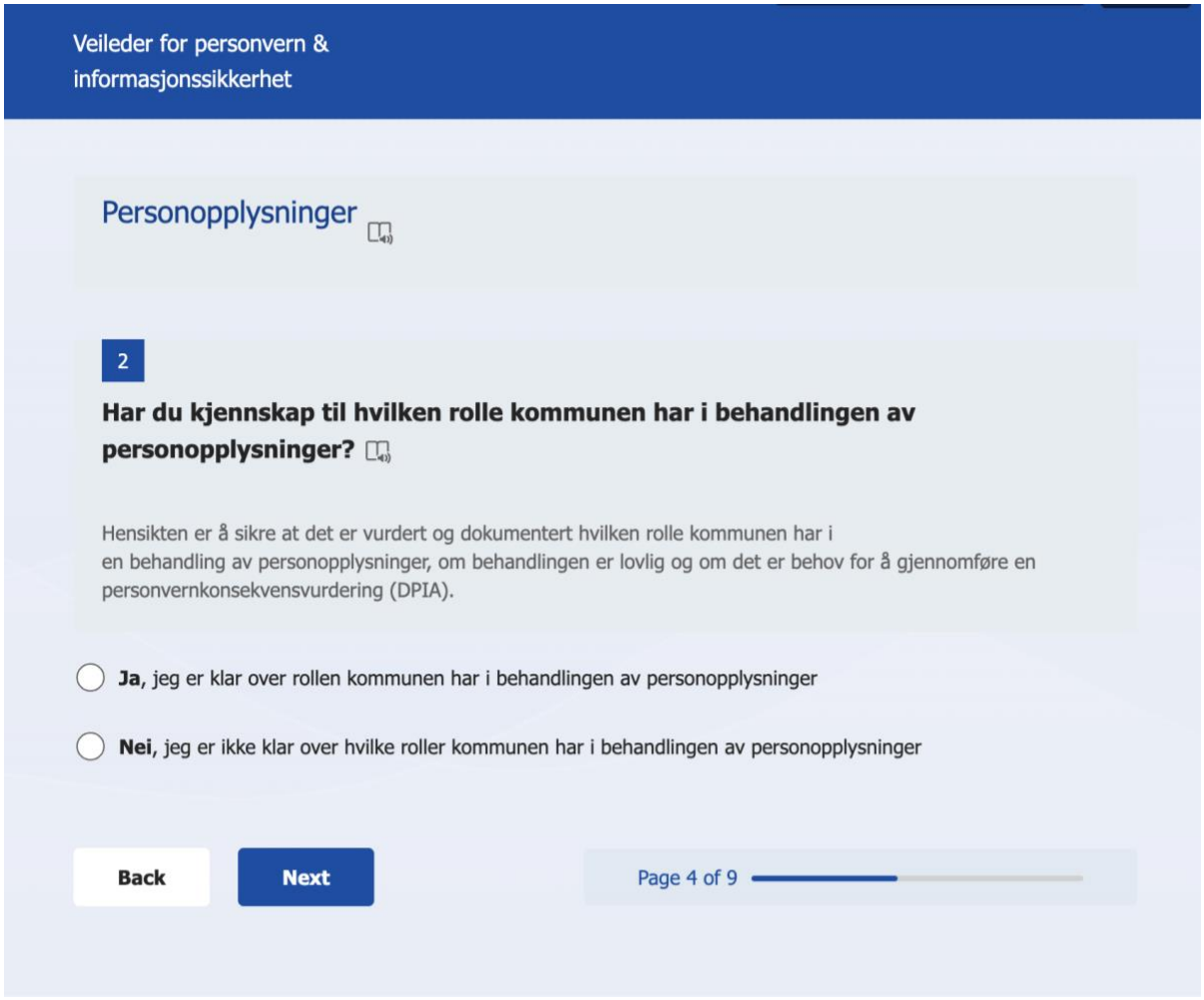


Figure 31- Information Guide - Slide 4

Figure 32- Information Guide - Slide 5

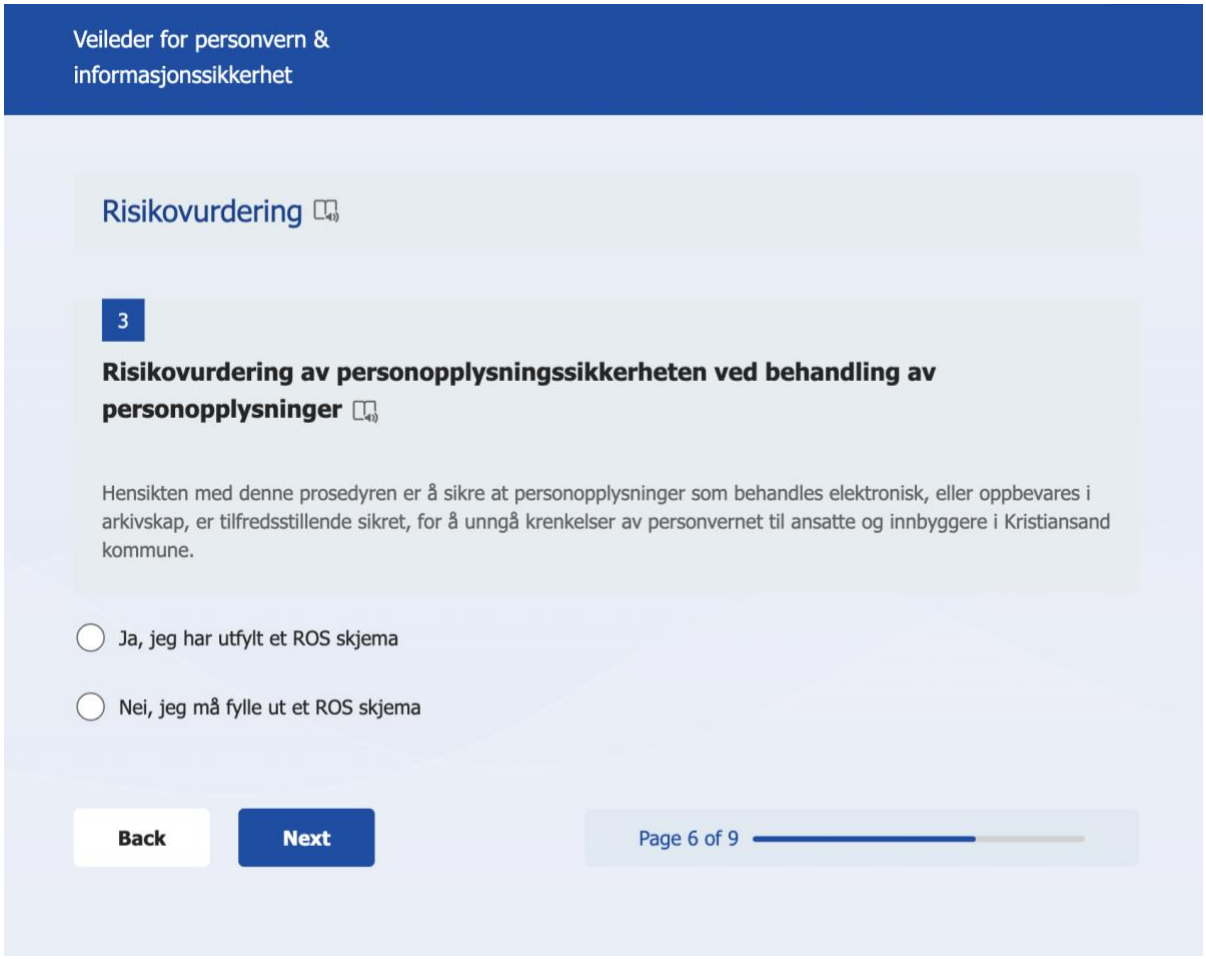


Figure 33- Information Guide - Slide 6

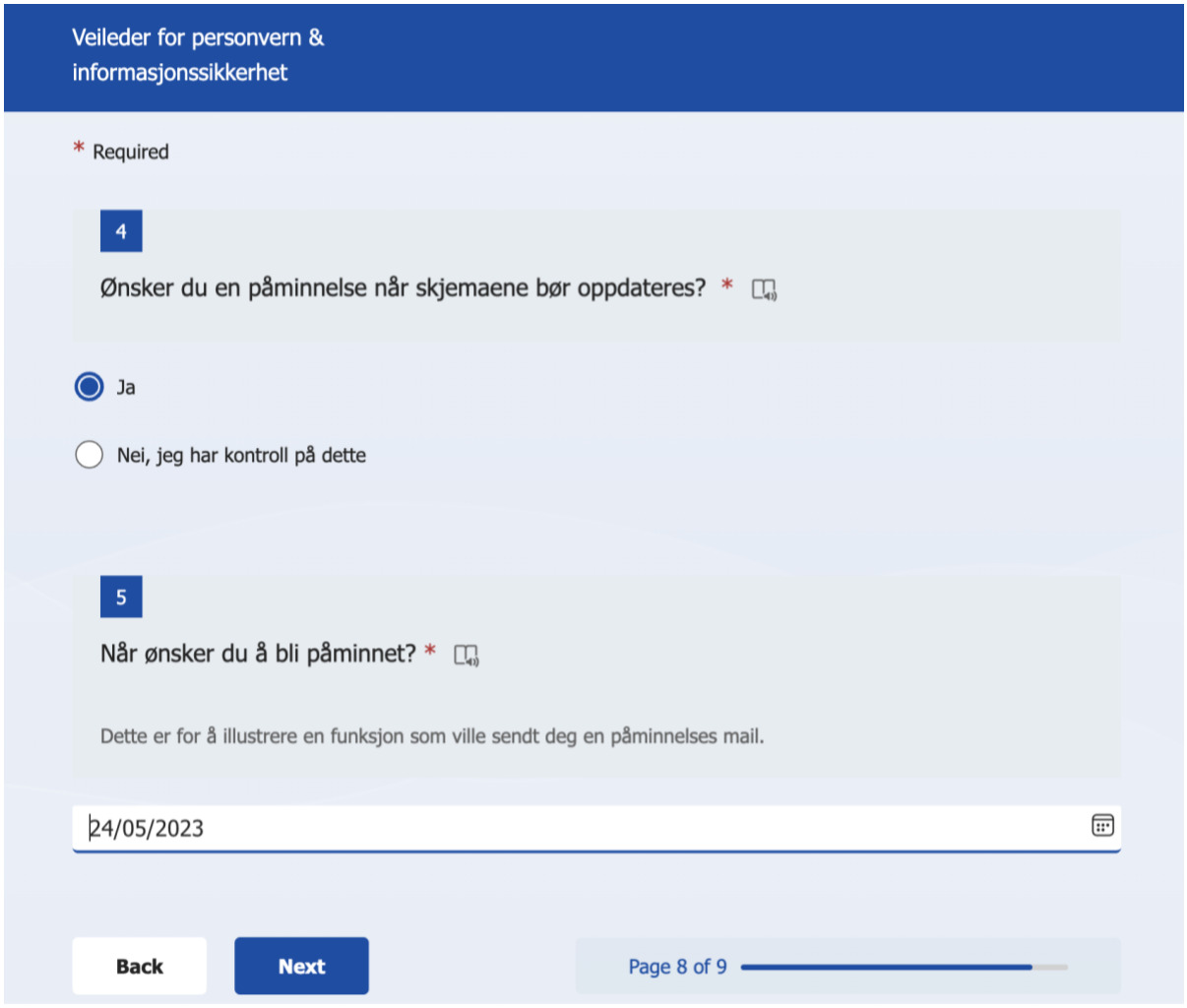


Figure 34- Information Guide - Slide 8

Figure 35- Information Guide - Slide 9

Appendix 5- Overview Updated

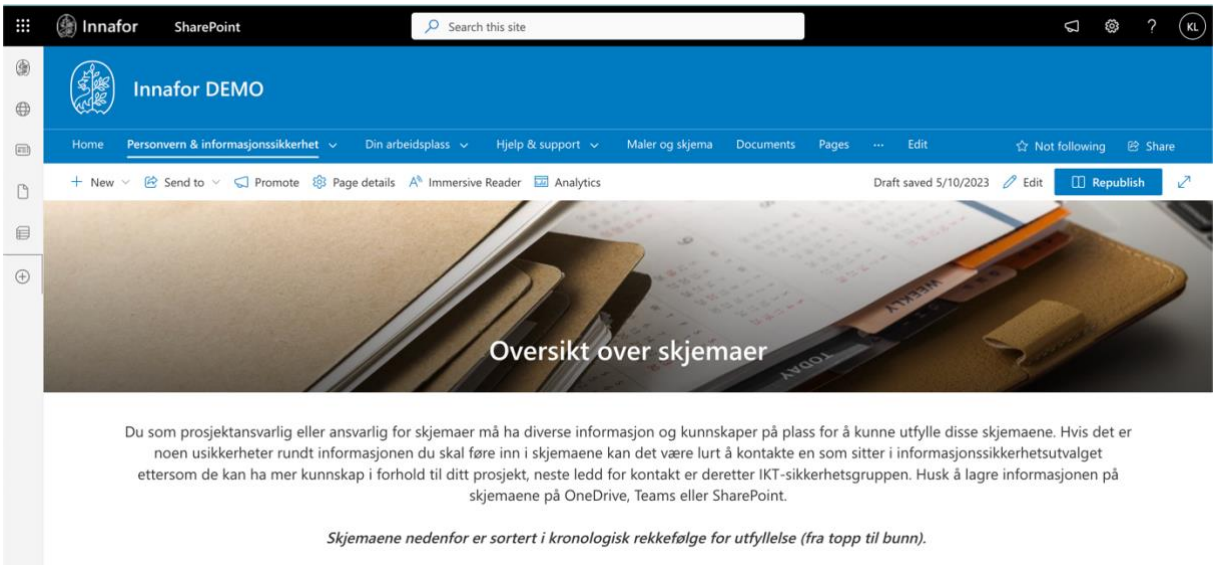


Figure 36- Overview 1 - Title and info

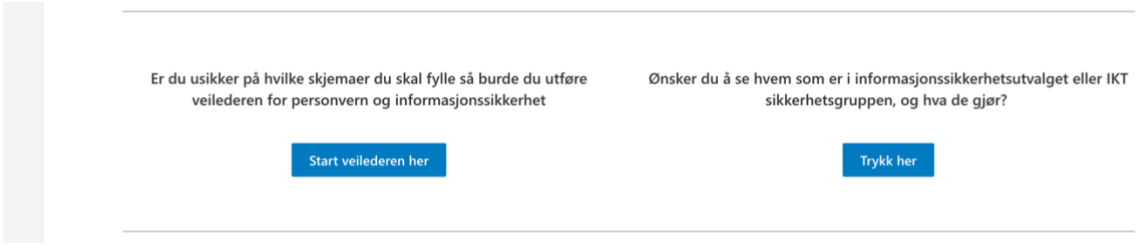


Figure 37 - Overview 2 - Buttons

Figure 38 - Overview 5 - Drop-Down 2

Figure 39 - Overview 6 - Drop-Down 3

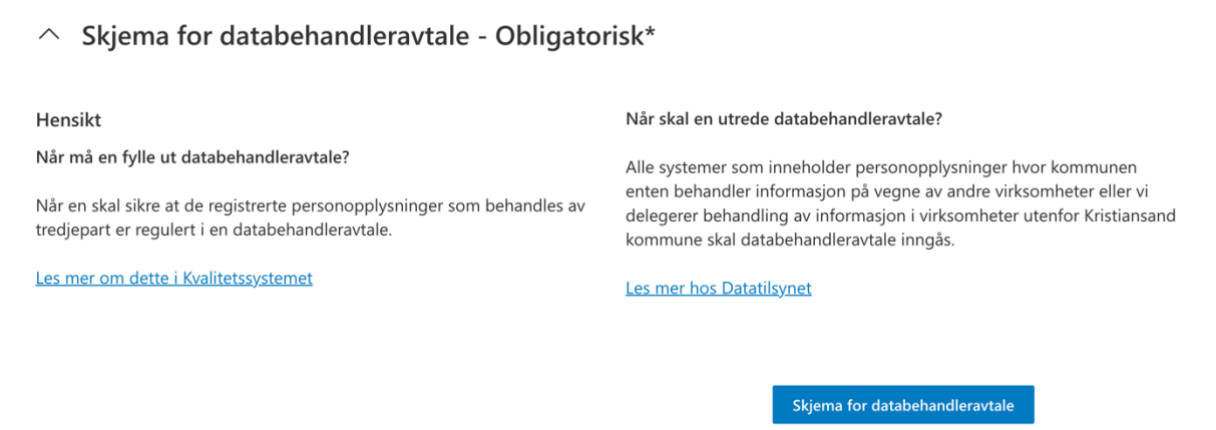


Figure 40 - Overview 7 - Drop-Down 4

Figure 41 - Overview 8 - Drop-Down 5

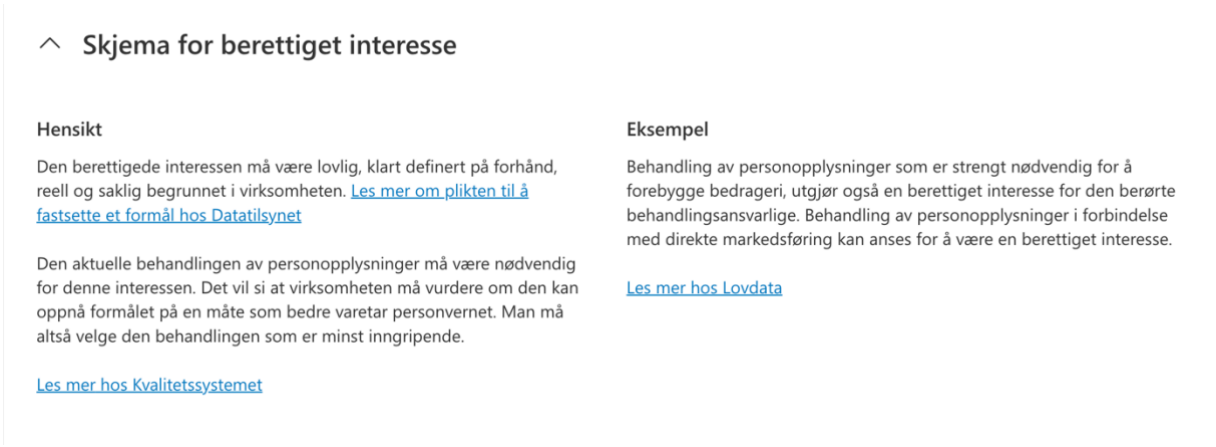


Figure 41 - Overview 9 - Drop Down 6

Appendix 6- Insight Work - Summary

Meeting with KnowIT – 26.01.2023.

The purpose of this meeting was to examine the websites and systems of KM with the aim of improving its quality system. To achieve this, the team requested a meeting with KnowIT, a company that had previously worked on the Municipality's website using SharePoint. The team, who had previous connections with KnowIT through former students from UiA, sought to gain insights from KnowIT's experience working with the Municipality.

During the meeting, the team asked the employees in finding the information security and privacy process, which was met with some difficulty initially. However, with the help of the team, the employes were able to locate the necessary information. The team also sought KnowIT's opinion on the quality system, and how it could be improved and implemented in SharePoint. The employees of KnowIT provided valuable insights on the limitations of the current quality system and identified areas for improvement. Additionally, KnowIT was helpful in identifying relevant contacts for the team, such as those working with SharePoint, the quality system, and those who had worked with the information security and privacy forms.

This meeting proved to be a pivotal point in the progress of the project, as it provided the team with the necessary information and contacts to move forward with the team's study. The insights gained from KnowIT's experience with the Municipality's website and systems proved to be invaluable in the development of the team's recommendations for improving the quality system.

Meeting with Communication leader – KM – 02.02.2023.

In the context of our work on gaining insight, we held a meeting with an employee of the KM. This employee utilized the quality system to access pertinent information regarding consent forms and privacy policies associated with their project.

During the meeting, it was suggested that the search function could be enhanced to enable searches for "relevant items" in both SharePoint and the quality system, rather than solely within SharePoint. The current search capabilities have been observed to be limited, with information related to privacy and information security located exclusively within the quality system. This has led to confusion for system users.

The employee expressed frustration with the time-consuming and confusing nature of the forms that they were required to complete, as well as the lengthy process necessary to advance their project. Specifically, the employee emphasized the importance of a well-understood process, where all pertinent information is consolidated into a single system. The overreliance on Excel and Word documents, which often lack clarity, was highlighted as a source of confusion, as were forms that were frequently cancelled. Furthermore, the employee noted that the quality system contains a variety of different forms scattered throughout, which contributes to disorganization. The employee proposed the adoption of a more structured system to address these issues.

Upon completion of the necessary forms, the employee expressed confusion regarding the subsequent steps that must be taken to advance their project. Specifically, the employee cited the need to engage with numerous parties as an impediment to progress. The employee concluded by calling for a simplified and more comprehensible process.

Meeting with Legal Advisor – 09.02.2023.
The employee being interviewed in this case is a privacy and security advisor in the KM. Their job is to assist employees in the Municipality with any questions they may have regarding privacy. As the Municipality has adopted a process for employees to follow, it is beneficial to have someone who can help with this.
The privacy representative is a more independent role that ensures that the Municipality complies with privacy regulations. This process can involve up to five forms that need to be filled out. Currently, a few steps are still missing from the process that organizations are working to implement.
The privacy security team is a newly formed team that will help employees fill out templates, specific steps 3 and 4. The others are mandatory to fill out. Currently, the privacy statement and treatment protocol are missing from the list. Currently, the process flow for updates via the website goes through several people.
The privacy page has been updated from being a page with lists of documents to being a functioning page with buttons for different information. This update has visibly reduced questions about privacy. The employee says that ideally, the Municipality should have its own system just for this.
The employee comments that the process of the privacy map is written in complex language, but it is essential that employees must understand if they are to use this system. Users of the systems states that they need help since they are not familiar with privacy law. When one does not have a legal background, the process can be very cumbersome and difficult. The current process map relies on repetition to achieve efficiency, but it can be challenging for new employees to complete the process.

Meeting with CISO KM – 09.02.2023
As part of our research process, we conducted a meeting with an CISO employed by KM. The purpose of the meeting was to gain insights into the issues related to the usability and efficiency of the Municipality's privacy and GDPR (General Data Protection Regulation) system.
During the meeting, the security officer shared that the employees were dissatisfied with the language used in the system, stating that it was often complex and difficult to comprehend. Although the officer acknowledged the need to use legal terminology in some instances, he suggested that the language could be simplified in other areas, as it was too cumbersome and resulted in confusion among the employees.
Moreover, the security officer highlighted that the employees struggled to understand the terms used in the templates provided for filling out the forms related to data privacy and

GDPR. Consequently, they spent a significant amount of time deciphering the meaning of the terms instead of focusing on the content of the forms.
The meeting also brought attention to the challenges associated with the current information system. The employees find it difficult to locate the relevant documents, forms, and information, as these are not organized in a user-friendly manner. This has led to frustration among employees and has adversely impacted their productivity.
The security officer stated that his office is the primary point of contact for employees seeking assistance with GDPR and data privacy matters. He reported that he deals with roughly 200-400 forms, making it a time-consuming task that affects his overall productivity. To address this issue, the officer is exploring ways to enable employees to navigate the system more independently and reduce the number of queries that he must handle.
Overall, the meeting was informative, providing valuable insights into the usability and functionality of the information system in KM. The findings of this meeting will inform the development of our prototype and will be incorporated into our recommendations to improve the usability and efficiency of the Municipality's information system.

Meeting with UiA CISO- 31.01.23

The team received an audit from the IT manager at UiA, during which the team inquired about how the university handles privacy and information security for its students and employees. The IT manager referred the team to UiA's CISO (CISO) and Privacy Officer. The team then proposed a meeting with them about our bachelor's thesis, to which they agreed to offer their assistance.
The initial inquiry of the team concerned how UiA ensures the protection of data for its students and employees. The CISO and Privacy Officer responded that it is a continuous process involving risk assessments and data protection impact assessments (DPIAs). They also noted that privacy issues often arise in relation to data that is sent outside the EU/EEA due to the strict privacy laws enforced by the EU. Consequently, they must be meticulous in their selection of companies with which to conduct business. If a company is American but has a European branch, they must ensure that data still is within the EU and is not transmitted to the US. This is due to the fact that most major companies are American but operate data centers within the EU. The CISO and Privacy Officer also mentioned an interesting case involving Maximillian Schreps.
Following this discussion, the team inquired as to whether UiA has a system in place that allows employees to access the information they require. The CISO responded that they have a management system containing numerous documents, e-learning, and onboarding procedures. The CISO and Privacy Officer acknowledged that the management system can be cluttered with many documents, but they mentioned that a new tool/system is expected to be implemented soon. The team then asked what the most challenging aspect for companies is regarding privacy and information security. The CISO and Privacy Officer responded that it is difficult to balance security and user-friendliness, especially with multiple forms in place for different procedures.

The CISO stated that most attacks occur in the form of phishing emails, but since their system has a two-factor authentication process, a significant number of attacks are prevented. The CISO added that they have an alarm system that is designed to detect any suspicious activity within their systems, along with an incident response team responsible for managing any incidents that may occur.
Regarding the use of technologies that have not been approved by UiA, the Information Security and Privacy Officers advised the use of approved programs as the first course of action. If unapproved programs must be used, they suggested not sharing sensitive information on unapproved platforms. To prevent the unauthorized dissemination of student information, the CISO aims to enhance the awareness of faculty members within UiA.

Meeting with KM CISO and system responsible for the Quality System

The team held a meeting with the chief informationsecurity officer and system responisble for the “Quality system”. The agenda for the meeting was to discuss what the team can implement from the Quality Systemto SharePoint. In this meeting there were also questions surrounding how the Quality Systemwas implemented and why. The meeting is crucial for the further development of the prototype.
The team asked why everything isn't in one system, for example SharePoint. They explained that it’s because it’s another external system/portal where workplace documents are placed. Here the documents need to get approved by a document administrator, so that there is a proper system for administration of files. The system responsible for the Quality Systemdescribed that the merging of the three municipalities put the employees on a time crunch. They had to roll out all the data to the new system and after a couple of years they could start working on it and improving it. They are still to this day working on the “Quality system to make it better.”
The system responsible for the Quality Systemexplained to the group that information, documents, schemes and processes around the workplace are held in the “Quality system”. Whilst SharePoint is used for communication, social interactiveness and newsletters for the workplace. The advice that was given to the team was to link documents in Sharepoint to the Quality system. This is because documents often get updated in a yearly manner and they are assigned specific ID’s which are then replaced with the new documents, but they are still assigned with the same ID. Also the team can help around the process for information security and privacy but can't take the information from the Quality Systemand put it in SharePoint, because SharePoint isn't meant for such a purpose. The CISO also explained that from next year a new document/process will take effect. The process is from digiorden which is a KS system.

Workshop with legal advisor from KM 27.02.2023

The team planned a workshop with a privacy and information security adviser in KM. The purpose of the workshop is to find out what information is important to include in the process map, what can be explained more easily and what can be removed. The team's plan is to gain

inspiration from “Datafabrikken’s” tool for privacy and information security, and then go through the Municipality’s process guide. In the meeting the team plans to compare the differences between the two systems and produce suggestions on how to improve the municipality’s system.

The adviser said all the department managers would be responsible for helping employees within their own departments regarding questions about GDPR and the countless forms they might have to fill out. They explained that the different departments have not received sufficient training within GDPR and wish that the Municipality will do something about this after they leave. The Municipality states that all employees have sufficient knowledge, but the adviser disagrees with this statement. The employees are therefore in an inconvenient situation as the in-house adviser is leaving and the resources for follow-up projects will therefore be more limited.

Appendix 7 - Process Guide in the Quality System

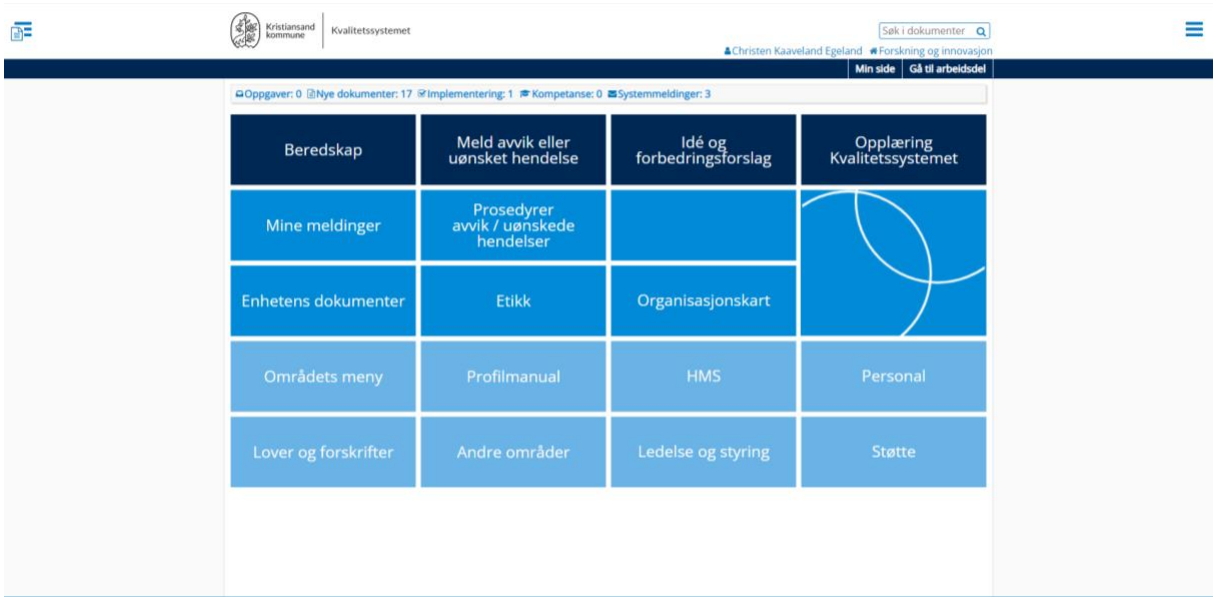


Figure 43 - Process Guide 1 - First menu

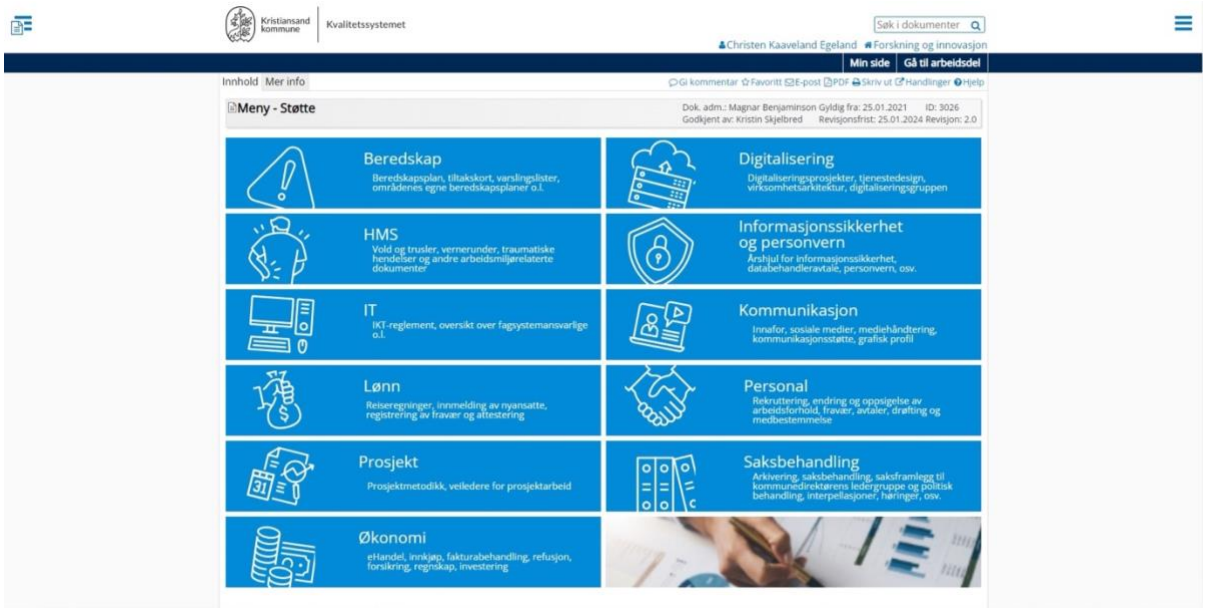


Figure 44 - Process Guide - Second menu

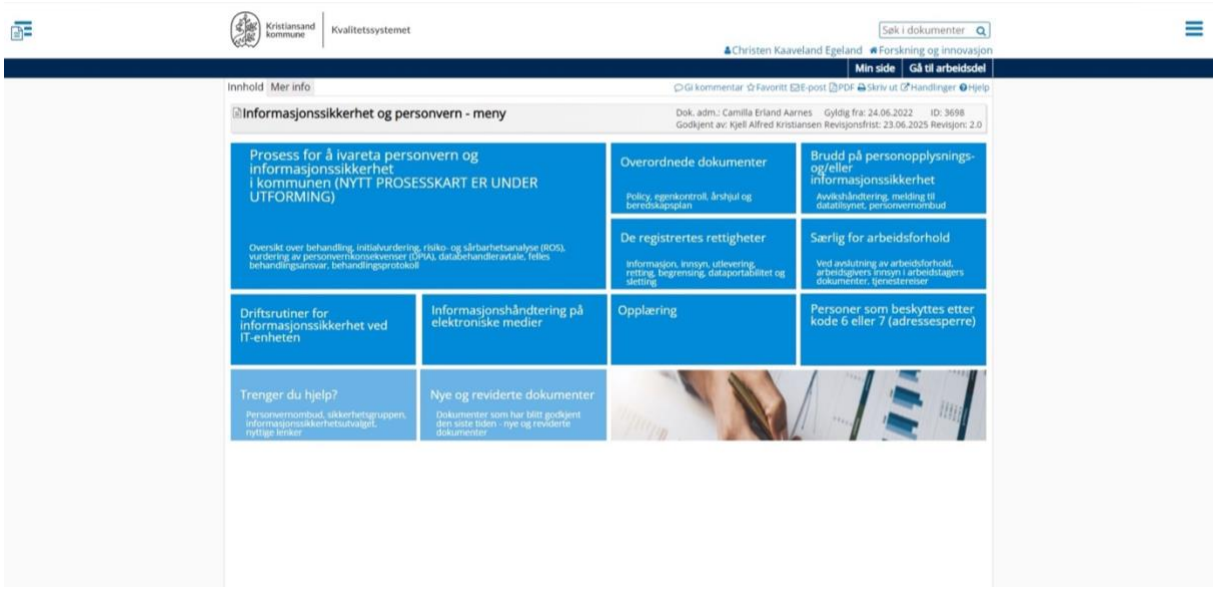


Figure 45 - Process Guide 3 - Third menu

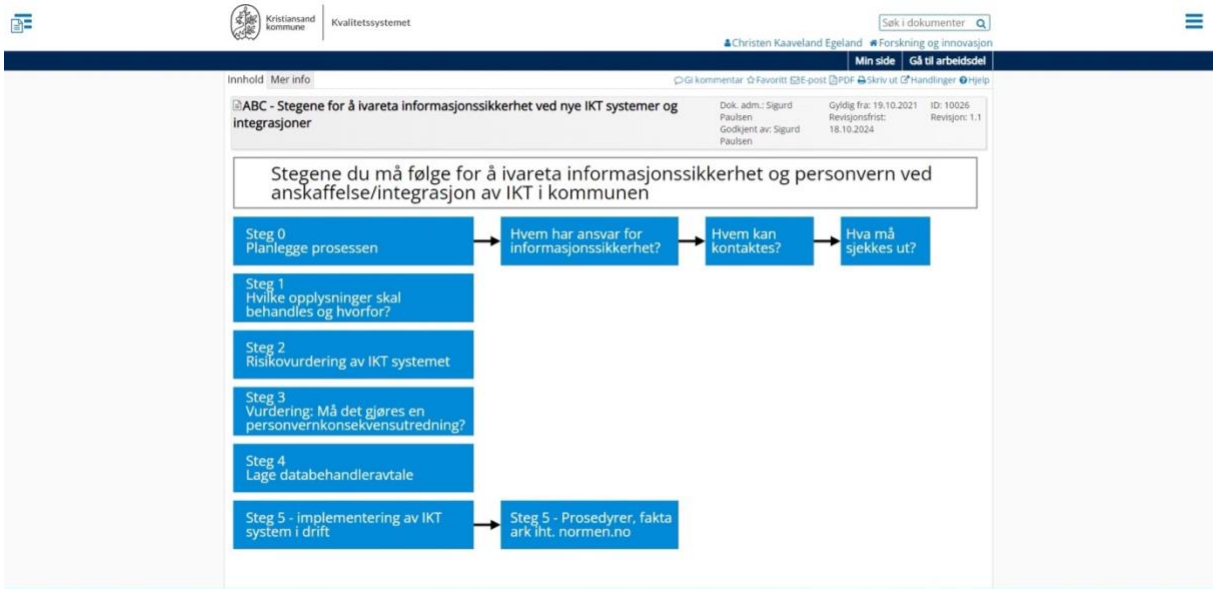


Figure 46 - Process Guide 4 - The actual Process Guide

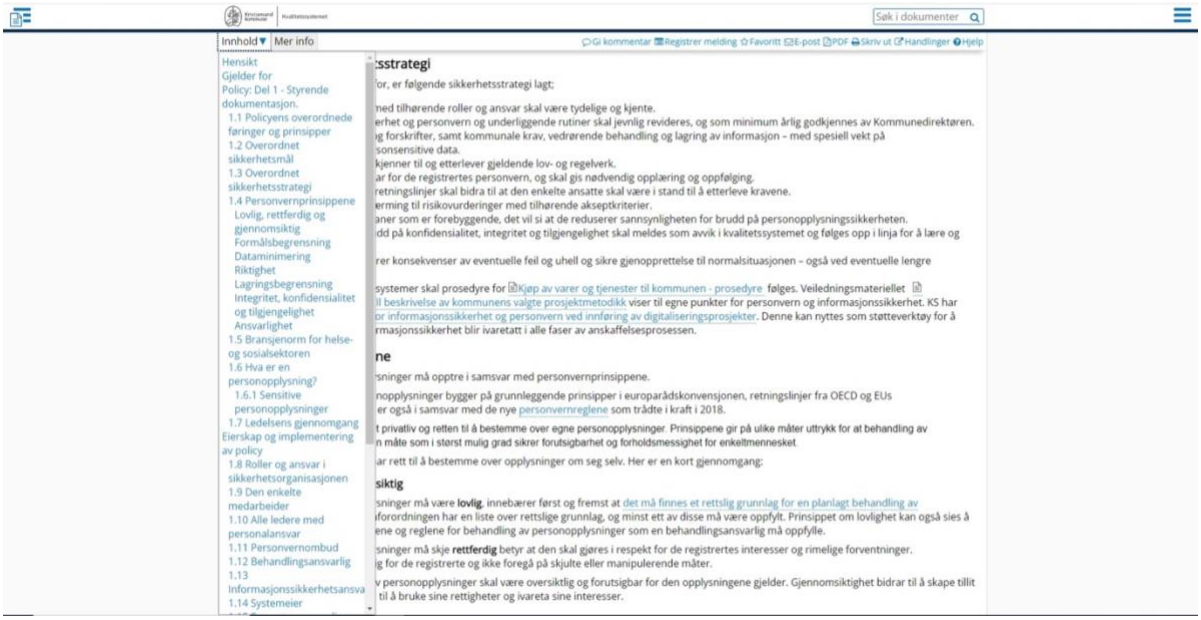


Figure 47 - Process Guide 5 - Step 0

Appendix 8 - Personas

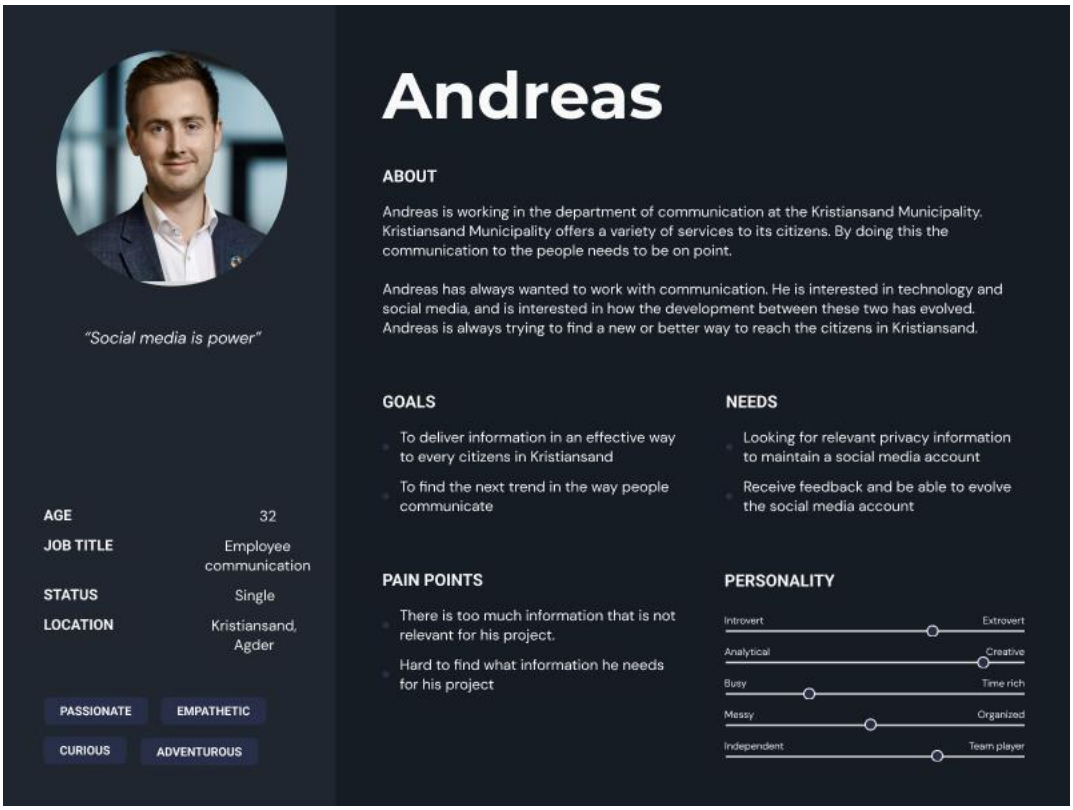


Figure 48 - Persona 2

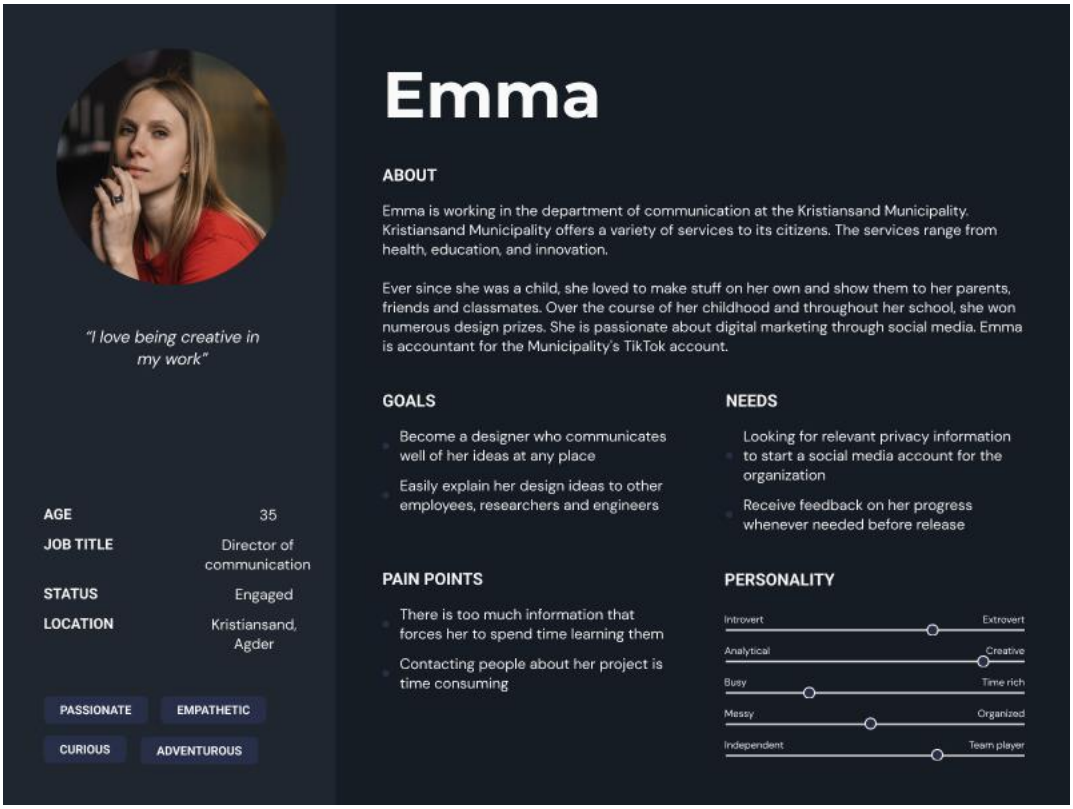


Figure 49 - Persona 3

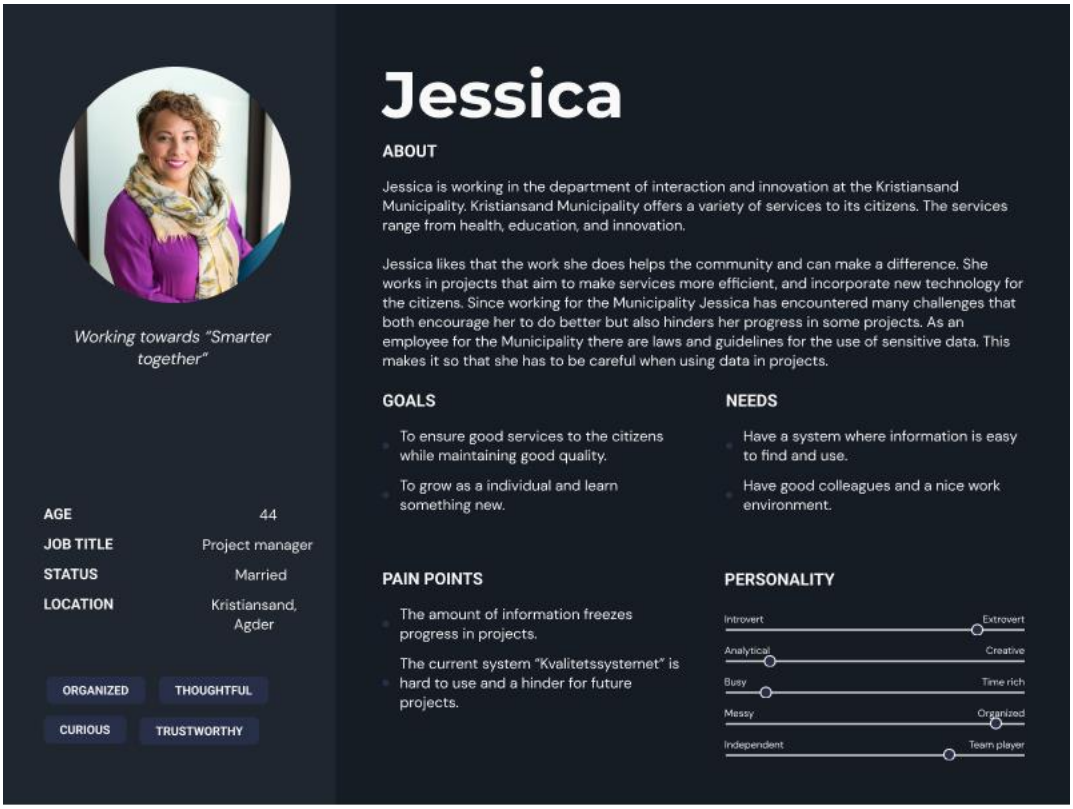


Figure 50 - Persona 4

Appendix 9 - Scenarios

Scenario 1 – Andreas

Andreas is an employee of KM. He works in the communications department. Andreas wants to employ the help of his fellow colleagues to make fun and light-hearted videos for the citizens of Kristiansand to give an insight into the lives of their public workers. He therefore needs to know what laws and regulations he must follow to post his colleagues to the Municipality's social media account.

Scenario 2 – Henrik

Henrik is a financial manager in KM and wants to make a report on poverty-stricken homes in Kristiansand. Henrik's experience with privacy laws and regulations is limited and he needs to make sure that he is allowed to write about this topic and what his limitations are regarding the report. Henrik navigates to the "Quality system".

Scenario 3 – Emma

Emma is the Director of the Communications department within KM. She has been tasked with creating a new social media account for the organization. To create the social media account Emma needs to know if there are any privacy laws and regulations to be aware of. Emma uses a part of the organization's Intranet which is called Quality Systemwhere she can find the right information.

Scenario 4 – Jessica

Jessica is a project manager and is currently looking to implement a new system in the emergency room. When implementing this system there are a set of laws, guidelines, and internal rules she must follow to advance the project. These are necessary to follow and know or else there is a big chance that the system will be put on hold and not be implemented. To find the information Jessica needs, she goes to the Quality Systemthat is made for such purposes.

Appendix 10- Expert Evaluation

Evaluering av Kvalitetssystemets Prosesskart

Rangering 1-3

Kriterier: Benyons Design prinsipper
Antall sider: 6 (inkludert Sharepoint hjemmeside)
Link til pensum: https://useg.it/t/it-og-informasjonssystemer/raw/branch/master/IS-104/2019-Autumn/viewer/files/Lectures/Lecture%206%20-%20Design%20Principles%20for%20usability.pdf

Hvilke prinsipper ekskluderes og hvorfor?
Argumentere godt og tydelig, "disse er det samme" er ikke nok. Si hva som gjør det prinsippet som droppes irrelevant, referer det til prinsippet det erstattes med og relater til kontekst av systemet.
Style- er i dette prosjektet irrelevant med at de har en etablert grafisk profil for oss å følge. Hva det eventuelt hadde påvirket er oppsett i forhold plassering og størrelse. Dette vil dekkes av **Visibility** prinsippet ved at synligheten er mer i fokus enn estetikken. Dersom det er eldre som jobber i kommunen så er det viktigere for dem å se og forstå/kjenne igjen det de ser. Dette vil dekkes dersom **Visibility, Familiarity** og **Affordance** er dekt.
Control – er noe de ikke trenger enda ved at der er en informasjonsside, det kunne eventuelt tilbydd mer brukervennlighet, men det er avhengig av en hel systemrenovering. Mulige erstatningsprinsipp kan være **Navigation** og **Feedback**, dette ved at det viktigste er at de vet hvor de er og at det de gjør har effekt.
Recovery – er nok også litt overfladisk å fokusere på ved at dette systemet kun vil ta den frem og tilbake mellom sider hovedasakelig. Tilgjengeligheten for en typisk tilbakeknapp i webbrowser, bør være nok. Likevel er ikke mange feil man kan gjøre på en slik informasjonsside. Her vil også **Feedback** være nok for at brukeren vet hva de gjør og hvor de er, som er ufarlige ting.
Constraints – er noe som kan dekkes av **Affordance**, ettersom det allerede finnes en del begrensinger innad i systemet. Dette fordi den tilbyr lite dynamisk funksjon, men heller statisk informasjon.
Flexibility – Den har mer fleksibilitet nå enn hva vi ønsker eller mener er praktisk i prototypen. Ettersom løsningen i dag tilbyr mye forvirring. Ut fra kvaliteten vi har definert i dette systemet ønsker brukeren mindre valgmuligheter. Eneste relevante fleksibilitet som burde tilbys er valget mellom knapp eller søkning for å finne frem til hvor man skal.

Benyons designprinsipper - *Definisjoner*

Learnability:

Visibility – For å sikre at ting er synlige for brukeren, denne innebærer hvilke funksjoner og hva systemet gjør.
Consistency – At sider, funksjoner og systemet er konsekvent. Ting skal ikke endre seg når bruker går fra side til side.
Familiarity – Systemets utseende og funksjonalitet skal være lett gjenkjennbart for brukere.
Affordance – At knapper og ting skal se ut som det de er ment for.

Effectiveness:
Navigation – Brukeren skal kunne bevege seg rundt i systemet uten problemer.
Feedback – Mate brukeren med informasjon sånn at de vet utfallet av handlingene deres i systemet.

Accomadation:
Conviviality – Systemet's språk skal være hyggelig og imøtekommende brukeren.

1. Forside

Prinsipp	Magna	Kenny	Osamah	Håvard	Kevin	Total
Visibility	1	1	2	2	1	1

- Ikke tydelig at knapper er knapper, er det informasjonssider eller funksjon?
- Varierende mellom størrelse på tekst, (den minste kan være vanskelig for dårlig syn)
- God kontrast på knapper (farger)
- Unødvendige knapper/bokser
- Minimalistisk/ryddig
- Ser ikke menyene oppe til høyre og venstre
- Drop-down meny til høyre faller ned rart (størrelse, farge, plassering x aksen)

Contrast check: WCAG sier at småknappene i blå tekst under navbar går iett med bakgrunnen

Consistency	1	1	1	1	1	1

- Samme størrelse på tekst familien (16px på småtekst, 25px på knapper)
- Farger er konsistent
- Knapper har lik størrelse
- Ene tomme boksen er feil plassering

Familiarity	1	1	1	2	1	1

- Brukerene har nok kjentskap grafisk profil i forhold til farger
- Kvadraturen sammenligningen?
- De er nok vant til med minimalisme og myke komposisjonsprinsipper (mangler skygger osv?)
- Som generelle internettbrukere er de nok
- De mørkeste blå (linje/rad 1) ser ut som overskrifter for de andre knappene (kollonen under)

Affordance	3	3	3	3	2	3

- Ikke tydelige knapper (skygge og hovereffekt)
- Er alle blå tekster linker til andre sider? Er de samme tekst?
- Dropdown menyen(e) har hamburger ikon

Navigation	3	3	3	3	3	3

- Står ikke hvor man er når man trykker seg inn, eller hvordan man kommer til
- Logo knapp tar en til "forsiden"
- Personal siden har en knapp som heter "tilbake til støtte" (men gikk ikke igjennom støtte i utgangspunktet), men de andre sidene har ingen tilbake knapp
- HMS finne to veier til (flexibility), dårlig måte ved at det ikke er konsekvent hva det er i relasjon til (støtte eller hovedfunksjon)
- Søkemotor henter kun opp dokumenter, ikke funksjoner
- Problematisk å finne fram til relevant informasjon
- Ingen bekreftelse på hvor en befinner seg i systemet (breadcrumbs)
- Tilbake til "Innafor"-siden
- For mange valg

Feedback	3	2	2	2	3	2

- Dårlig skalering
- Boksene sin plassering i forhold til hverandre endres drastisk med skalering
- Hover effekt, skygger mangler
- Informasjonsboble kunne vært hjelpsomt
- Logg ut knapp?
- Vanskelig å forutse hva man får opp når man trykket et sted eller utfører en handling
- For mange valg

Conviviality	1	1	2	2	2	2

- Språket er nøytralt, enkelt og upresist
- Kunne vært en hilsen (hyggelig velkommen)
- Ikke frekt men ikke spesielt innbydende språk
- Overfladisk, misledende, pompøst språk

2. Støtte

Prinsipp	Magna	Kenny	Osamah	Håvard	Kevin	Total
Visibility	1	1	1	1	1	1

- Teksten er for liten
- Ikoner/symboler gjør det tydeligere
- Informasjon om hva hver knapp/funksjon inneholder
- Litt overveldende tekst kanskje? (forslag med dropdown for hver knapp med informasjon og underkategorier)

Contrast check: samme utfall som forside

Consistency	1	2	1	1	2	1
• Alle knapper har ikon • Samme farge på alle knapper • Tekststørrelse er lik for det blotte øye (15, 14, ?) • Boksene har lik størrelse/plassering og farge • Noen knapper har forskjellige funksjon ved klikk • Noen sider har tilbakeknapp (tilbake til støtte)						
Familiarity	1	1	1	1	1	1
• Vi antar at de aller fleste brukere har kjennskap til hva ikonene innebærer/betyr • Symbolene henviser tydelig til virkeligheten • Dokument ikon inntil "Meny- Støtte" i undernavigeringsmenyen er misvisende						
Affordance	1	1	2	2	2	2
• Knapper er tydeligere med ikon, mangler fortsatt respons • Ikoner henviser/advarer fint til innholdet						
Navigation	1	1	1	2	2	1
• Knapper har informasjon om hva de innholder • Noen knapper har pop-up meny for underkategorier i stedet for at den fører deg dit • Sier at vi er i menyen til støtte • HMS og personal er de eneste knappene med knapp for å gå tilbake til meny.						
Feedback	2	2	1	2	2	2
• Pop-up meny eller ny side • Lite respons						
Conviviality	1	1	1	1	1	1
• Språkbruk/ordvalg er forståelig • Relevant for de ansatte, internt						

3. Informasjonssikkerhet og personvern

Prinsipp	Magna	Kenny	Osamah	Håvard	Kevin	Total
Visibility	2	2	2	2	3	2
• Mer varierende tekst størrelse, virker det som • Stor padding mellom overskrift og tekst under • Stor forskjell mellom bokser • Forskjellig farge på boksene • Store bokstaver på noen bokser (ser rotete ut)						
Consistency	2	2	2	2	1	2
• Forskjellige størrelse på bokser, uten åpenbar grunn • Varierende med om det er ikon, mye tekst eller ikke • 2 forskjellige farger på knappene • Forskjellige output av lignende funksjoner						

• Noen knapper har ikke tekst?						
Familiarity	1	2	1	1	1	1
• Mangler ikoner • Har mer tekst, alt for mye						
Affordance	2	2	2	2	2	2
• Ingen respons • Mangel av ikoner						
Navigation	3	3	3	3	3	3
• Du ser hvor du er • Mangler tilbakeknapp • Ingen bekreftelse på hvor en befinner seg i systemet (breadcrumbs) • Tilbake til "Innafor"-siden • For mange valg for brukeren						
Feedback	2	3	2	3	3	3
• Ulik respons per knapp • Lite respons • Dårlig skalering • Ikke tydelig logg ut knapp						
Conviviality	2	2	2	2	2	2
• Komplisert/faglige begrep • Mer tekst, lite forståelig når det ikke er i relasjon til ikoner/symboler • Veldig kald/nøytral tekst • Nedelatende ordbruk (hvis ikke du forstår så er du dumt og kan dra hjem hadebra)						

4. Prosess for å ivareta infosec & personvern

Prinsipp	Magna	Kenny	Osamah	Håvard	Kevin	Total
Visibility	1	1	1	1	1	1
• Enkelt å se bokser (bortsett fra den øverste boksen?) • Smelter litt sammen mellom "steg" og tittelen på steget • Enkelt å se rekkefølge på prosessen						
Consistency	2	2	2	2	2	2
• Litt ut av det blå tekstboks • Piler for å vise til videre informasjon innad de ulike stegene • Kun noen bokser har flere steg/spørsmål • Steg 5 har bindestrek for tittel, men de andre stegene har ikke det • Mangler 0.1, 0.2, 0.3, … • Piler sier at de er like, ikke "steg" sier at de ikke e samme type boks? • Kun noen bokser har hover effekt med informasjon (ca 50%)						

• Noen av knappene fører deg til en side med informasjon, og andre knapper fører deg til andre ting						
Familiarity	2	3	1	3	3	3
• Samme farge som resten av systemet • Samme font som resten av systemet • Minimalistisk konsept • Knapp for hvert steg • Piler peker i retningen man skal gå i, men også ikke? • Ulogisk å starte med steg 0						
Affordance	2	2	2	2	2	2
• Ingen repons med knapp, farge forskjell? • Er ikke tydelig at noen knapper har informasjonsbokser og andre ikke • Er det knapper eller liste?						
Navigation	3	3	3	3	3	3
• Hvilken retning?? • Hva skjer egentlig? • Aner ikke hva man får av å trykke på knappene/uforutgsigbar • Forvirrende å trykke seg rundt i systemet, hvis en for eksempel skal trykke på bilde/tittel av informasjonssikkerhet ansvarlige så blir en ført til en tidligere side uten mulighet for å komme seg tilbake. • Ingen tilbakeknapp • Blir sendt til sider med mye info • Ved å trykke på “Steg 5” knappen så blir en ført tilbake til forrige side i systemet.						
Feedback	3	3	2	3	3	3
• Kun noen bokser har hover effekt med informasjon (ca 50%) • Ingen tilbakeknapp (STEG 5) • Død lenke steg 5.1						
Conviviality	2	3	1	2	3	2
• Nøytralt • Tungt • Upresist språk/for presist?						

5. Navigasjonsbar

Prinsipp	Magna	Kenny	Osamah	Håvard	Kevin	Total
Visibility	2	3	3	3	3	3
• Søkefeltet kunne vært tydeligere • Liten skrift						

- To hamburgermenyer kan virke forvirrende for hvilken av de som skal trykkes
- Hover effekt på "min side" og "gå til arbeidsdel" har svak kontrast
- "Hjelp"-knappen er utydelig og dårlig plassert.
- Navn på innloggede og avdelingsnavn tar mer fokus enn søkefelt

Consistency	2	2	2	2	3	2

- Innholdet fra begge hamburger menyene er forskjellige representert i oppsett og farger
- Høyre hamburgermeny dropper ned rar plassering
- Nesten alle knapper har forskjellig design, og forskjellig plassering
- Lik farge på knapper
- Feedback av hover effekt og klikk er ikke konsekvent.

Familiarity	1	2	2	2	2	2

- To hamburger menyer er ukjent (den venstre)
- Kristiansand kommune logo er gjenkjennbart for ansatte

Affordance	2	2	2	2	2	2

- Knapper ser ut og virker som de skal

Navigation	3	3	3	3	3	3

- To hamburgermenyer??
- "Min side" i bar, "Min profil" i hamburgermeny og under navnet til påloggede
- Hvorfor er noe gjemt og noe er på linjen?
- Innholdsmenyen kan åpne alle tre nivåer for alle som tilbyr det, på samme tid, veldig rotete
- Søkefeltet fører ikke bruker til relevant informasjon

Feedback	2	2	3	2	3	2

- Man får flere valg om man minimerer siden
- Ulik respons hvordan en får respons på knapper
- Ulik respons fra hamburgermenyene

Conviviality	1	2	1	2	2	2

- "Gå til arbeidsdel" kan virke forvirrende
- *Min* side, *min* profil, får en tilhøringhetsfølelse
- Siden er litt minimalistisk og men gir Windows 98 vibe

Stegene sine innhold

Steg 0 – Vegg med tekst (styrende dokumentasjon)

Steg 0.1- Organisjonskart

Steg 0.2- Tabell for ansvarlig (steg 0)

Steg 0.3- PDF fil om sjekkliste for informasjonssikkerhet og personvern

Steg 1 – Behandlingsprotokoll – registrering av behandling av personopplysninger (TEKST)

Steg 2 – Risikoburdering av personopplysningssikkerheten ved behandling av personopplysninger (TEKST)
Steg 3- DPIA
Steg 4 – Databehandleravtale
Steg 5 – Tilbakeknapp
Steg 5.1- Død link (ingen aktuell innhold)

Appendix 11- Cooperative Evaluation - Process Guide - Notes

Brukertest 1 – Process Guide

Fargekoder for koding = Wont have- Should Have – Must have – Could have

Kvalitetssystemets meny

Oppgaver	Sammendrag
Åpne kvalitetssystemet	Rotete/uforståelig Lite intiutivt Overveldende Er alt relevant?

Støtte

Oppgaver	Sammendrag
Gå inn på "Støtte"	"Støtte" var forvirrende (ordbruk) Litt mer oversiktlig Forvirrende navigering

Informasjonssikkerhet og personvern

Oppgaver	Sammendrag
Gå inn på "Informasjonssikkerhet og personvern"	For mye tekst/overveldende Liten tekst Uspesifikt språkbruk(ønsket med direkte) "Boks/kvadratut oppsettet" kunne stoppet etter forsiden

Prosess for å ivareta personvern og informasjonssikkerhet i kommunen

Bruk ABC prosessen

Oppgaver	Sammendrag
Bruk ABC prosessen	Steg 0 skaper forvirring Lærte av å gjøre/utføreprosessen Skjemaer er veldig forvirrende, krever en hel landsby for å fylle ut (Ønsket tydeligere steg for steg med eksempler) Tidskrevende å fylle ut skjemaene

	Hadde stoppet opp på egenhånd før støtte/søkefelt er ikke til hjelp Alt for mange klikk frem til relevant skjema Hadde ringt egen leder for å finne ut hvem hun skal kontakte(enn å bruker systemet) Overveldet/stresset over informasjonen Vanskelig å finne kontaktperson/bør komme først Teknologien er ikke begrensingen, men heller ordbruken/språket "En risikovurdering skal gi svar på" var mer forståelig Skjønner ikke tilhørighet av visse vedlegg/linker Kan rosvurdering gjøre enklere(mer tids og personell effektivt) Skaper forvirring om tilhørigheten av systemet (hvem skal bruker det, hvem bruker det egentlig) Steg 3 har for store/lange ord, ønsker mer forklaring Bilde under steg 3 gir ingen verdi Skjemaer som var fylt ut på egenhånd måtte endres mye med hjelp Ikke tydelig hva hvert steg tilbyr eller hvilke som må utføres/gås igjennom Steg 5 tar en tilbake et nivå, ble bamboozled

Brukertest 2 – Process Guide

Kvalitetssystemets meny

Oppgaver	Sammendrag
Åpne kvalitetssystemet	Helse og mestring avdeling har annen meny Variasjon i bruk og forståelse av kvalitetssystemet Fornøyd med siden

Støtte

Oppgaver	Sammendrag
Gå inn på "Støtte"	Veldig bra Oversiktlig og godt fordelte kategorier "Ganske selvforklarende hvor en skal trykke seg inn" Veldig mye tekst God balanse mellom komponenter i systemet Ledelse og styring virker mer intuitivt Dårlig ordvalg "støtte"

Informasjonssikkerhet og personvern

Oppgaver	Sammendrag
Gå inn på "Informasjonssikkerhet og personvern"	Siden har blitt forbedret Språkbruk er forvirrende "Menyen er helt grei"

Prosess for å ivareta personvern og informasjonssikkerhet i kommunen

Oppgaver	Sammendrag
Gå inn på "Prosess for å ivareta personvern og informasjonsikkerhet i kommunen"	Visuelt ikke godt nok Bruker denne siden stadig Ønsker silhuetter i forhold til ansvarskart

Bruk ABC prosessen

Oppgaver	Sammendrag
Bruk ABC prosessen	Navn på knapper er ikke intuitivt Navigeringsretning i kartet er ikke intuitivt (ABC 123, nedover /bortover) Innholdet i steg 0 møter ikke forventningene Forventninger av informasjon møtes ikke For mye tekst Kompleks språk/ikke brukt i daglig tale Vanskelige begreper burde ha linker til definisjon/informasjonsboks "Hvem har ansvar" burde inkludere mindre om hvem som har ansvar og mer om hvordan ansvar rollen har Møter en vegg med tekst "Intet sigende setninger". Forvirrende oppsett (kursiv, overskrifter) Synes at det er greit at navn vises Synes ikke ting henger sammen, Knapper ikke gjør sin hensikt. Sjekklisten er vanskelig å forhold seg til, når det kommer til prossesen. "Min påstand er at jeg får ingen hjelp av stegene" Problematisk struktur Hvem og hva skal gjøres "Utrolig forvirrende" Dokumenter bør kobles til det overordnede rammeverket og prosessen. Ikke sammenheng mellom språkbruk i DPIA mal og Steg 3 (ikke relatert til overodnet rammeverk) Riktig informasjon bør være lettere tilgjengelig Skjemautfylling tar mye tid Vet ikke helt hva Steg 5 skal bety heller.

Brukertest 3 – Process Guide

Kvalitetssystemets meny

Oppgaver	Sammendrag

Åpne kvalitetssystemet	Dårlig skalerbarhet Ikke lett å finne relevant informasjon Tungvin informasjon Brukeren må få hjelp for å navigere seg

Støtte

Oppgaver	Sammendrag
Gå inn på "Støtte"	Knappestørrelse er overveldende Bokser er ikke systematisk God fargeprofil Bokser kan følge en alfabetisk rekkefølge

Informasjonssikkerhet og personvern

Prosess for å ivareta personvern og informasjonssikkerhet i kommunen

Oppgaver	Notater	Sammendrag
Gå inn på "Prosess for å ivareta personvern og informasjonsikkerhet i kommunen"	Skjønner at "Steg 0" er ting som hadde vært gjort før en starter med et prosjekt, men hadde ikke gjort det sånn selv. Hadde tatt 0.1, 0.2 og 0.3 under steg 0. "Alt skal følge en flow, tenker jeg".	

Bruk ABC prosessen

Oppgaver	Sammendrag
Bruk ABC prosessen	Innholdet er ikke forventet Forventer innhold som er tilpasset brukers behov Ansatte er vant til å lese tungvinte dokumenter "Lite brukervennlig" Uoversiktlig organisasjonskart Knapp der det står fagsystemansvarlig i egen avdeling Vil ha en mal som fylles direkte Forvirrende vedlegg Skjul informasjon bak en "les mer" knapp Steg 5 er forvirrende

Brukertest 4 – Process Guide

Kvalitetssystemets meny

Oppgaver	Sammendrag
Åpne kvalitetssystemet	Mye farger Ikke tydelig hva meningen bak fargene er Utydelig hva de ulike knappene skal være/lede deg til Bruker søkefeltet for å finne fram til personvern

Støtte

Oppgaver	Sammendrag
Gå inn på "Støtte"	Vanskelig å finne informasjon angående personalhåndbok Bør være mye enklere å finne fram ting.

Informasjonssikkerhet og personvern

Oppgaver	Notater	Sammendrag
Gå inn på "Informasjonssikkerhet og personvern"	Skjønner at "Prosess for å ivareta personvern..." er den knappen å trykke på for å gå videre Hvis innholdet er bra, ville det gått bra.	

Prosess for å ivareta personvern og informasjonssikkerhet i kommunen

Oppgaver	Sammendrag
Gå inn på "Prosess for å ivareta personvern og informasjonsikkerhet i kommunen"	Gir mening å starte på steg 0

Bruk ABC prosessen

Oppgaver	Sammendrag
Bruk ABC prosessen	Helt forferdelig Ikke nyttig informasjon for brukeren. Førsteinntrykk: helt forferdelig, ikke nyttig informasjon, blir irritert Må sitte å jobbe masse, blir overveldet, blir helt "matt" Stopper pga GDPR, vi orker ikke For mye tekst på steg 1 Synes det hadde vært mye enklere å ta kontakt med noen andre De forklarer begrepene og setter det i kontekst Kontaktes boks er dårlig, uheldig informasjon Kontaktes boks Synes verktøyet er bra Mye å skrive "Blir som en bok" Skjønner ikke hvorfor bruker blir ført til en vedlegg liste. Skjønner ikke hva ordet behandles betyr Skjønner bildet Dårlig inntrykk at man blir sendt tilbake til start siden Død link virker uprofesjonelt

Appendix 12- Navigation Map- Brainstorming

Navigasjonskart

Komponenter

Link til:
Miro- https://miro.com/app/board/uXjVPpVAVQM=/
Grafisk profil- https://www.profilmanualen.no/kristiansandkommune/logo/hvilken-logo-skal-brukes
Riktige definisjoner

- https://lovdata.no/dokument/NL/lov/2018-06-15-38
- https://www.datatilsynet.no/om-datatilsynet/planer/datatilsynets-strategi/hva-er-personvern/

Funksjoner

- Fylle ut skjemaer mens man går igjennom guiden
- Oversikt over Sikkerhetsgruppa og Informasjonssikkerhetsutvalget (med kontaktinformasjon)
- Guide som avdekker og avgrenser relevant informasjon avhengig av brukerens navigasjon
- Drop down tekstboks, pil ved viderekobling, fremgangs måler,

Sider

1. Informasjon/oversikt (intro med hvorfor ivareta, kontakt informasjon, (silhuetter eller bilder?) hvordan guiden brukes, hva den brukes til, skal du kun fylle ut/oppdatere et skjema, oversikt over guiden/prosessen med steg og skjemaer de vil møte på)

Navn: Forside, Oversikt over personvern og informasjonssystemer, Startside, Oversikt, Prosesskart for GDPR, Prosess veileder for GDPR/personvern og informasjonssikkerhet, Bevare Personvern, "Hvordan beskytter man personvern i mitt/egne prosjekt(er)?"

2. Selve guiden med spørsmål

Navn: Stegene, Prosess guide for GDPR, Veileder for å bevare personvern og informasjonssikkerhet, Personvern for prosjekter (nye og eksisterende), Personverns skjema, Guide for GDPR, "La oss starte!", "Begynn prosessen her", "Start prosessen her",

3. Felt utfylling (en side med relevante felt om blir avklart gjennom guiden, som igjen skal fylle ut *alle* relevante skjemaer)

Navn: Skjemautfylling, Mal for skjema, Skjemaer, Forslag til skjemaer til (følgende) projekt, Prosjektavklaring, Nødvendige skjemaer, Skjemaer til utfylling, Relevante skjemaer

4. Side over alle skjemaer (filter for å kun vise relevante felt)

Navn: Oversikt over (alle) skjemaer, Skjemaer knyttet til GDPR, Skjemaer, Mal over skjemaer, Liste over skjemaer, Relevante skjemaer

Spørsmål til selve guiden

Alle skal ha definisjon med hva, hvorfor og hvordan

1. Hvorfor skal du bruke guiden i dag? (Starte/anledning nytt prosjekt, oppdatere/sjekke eksisterende prosjekt)
2. Hvilken avdeling jobber du i? (LISTE OVER AVDELINGER, får tildelt en kontaktperson, både sikkerhetsgruppe og informasjonssikkerhetsutvalget)
3. Hvor lenge varer prosjektet? Når skal dataen slettes?
4. Skal personvernsopplysninger deles (Hva er det, hvorfor, hvordan (skille mellom særlig og sensitive)?
   Eventuelt statsstøtterettslige begrensinger
5. Taushetserklæring (hvis ja = DPIA)

Skjemaer

- ROS-vurdering
- Taushetserklæring
- Initialvurdering og DPIA
- Vurdering av behandlingsgrunnlag berettiget interesse
- Veileder til mal for oversikt behandling av personvernsopplysninger

Appendix 13- Navigation Maps

Figure 51 - Color code for the Navigation Maps

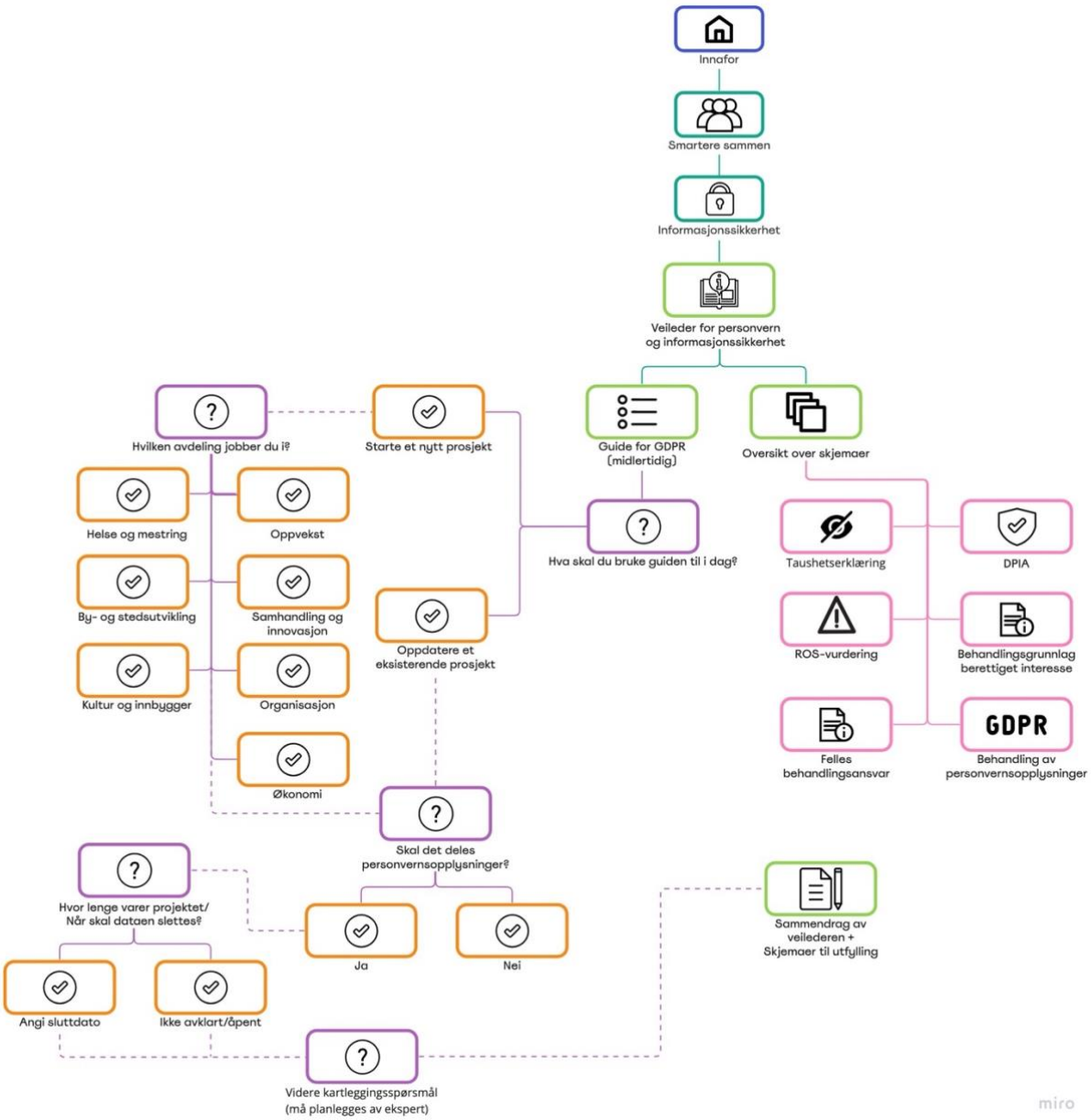


Figure 52 - Extended Navigation Map

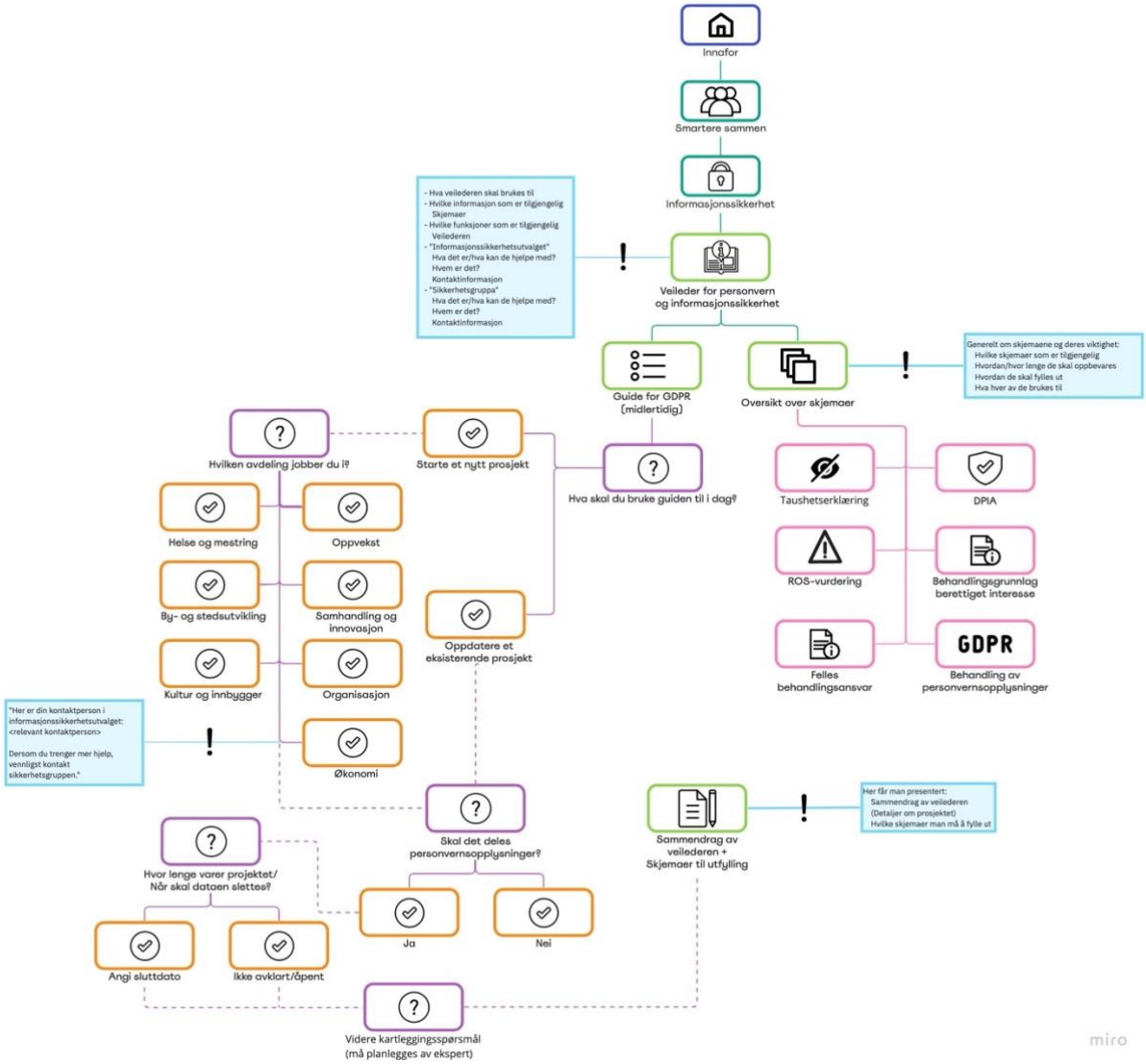


Figure 53 - Navigation Map with Information Boxes

Appendix 14- Wireframes

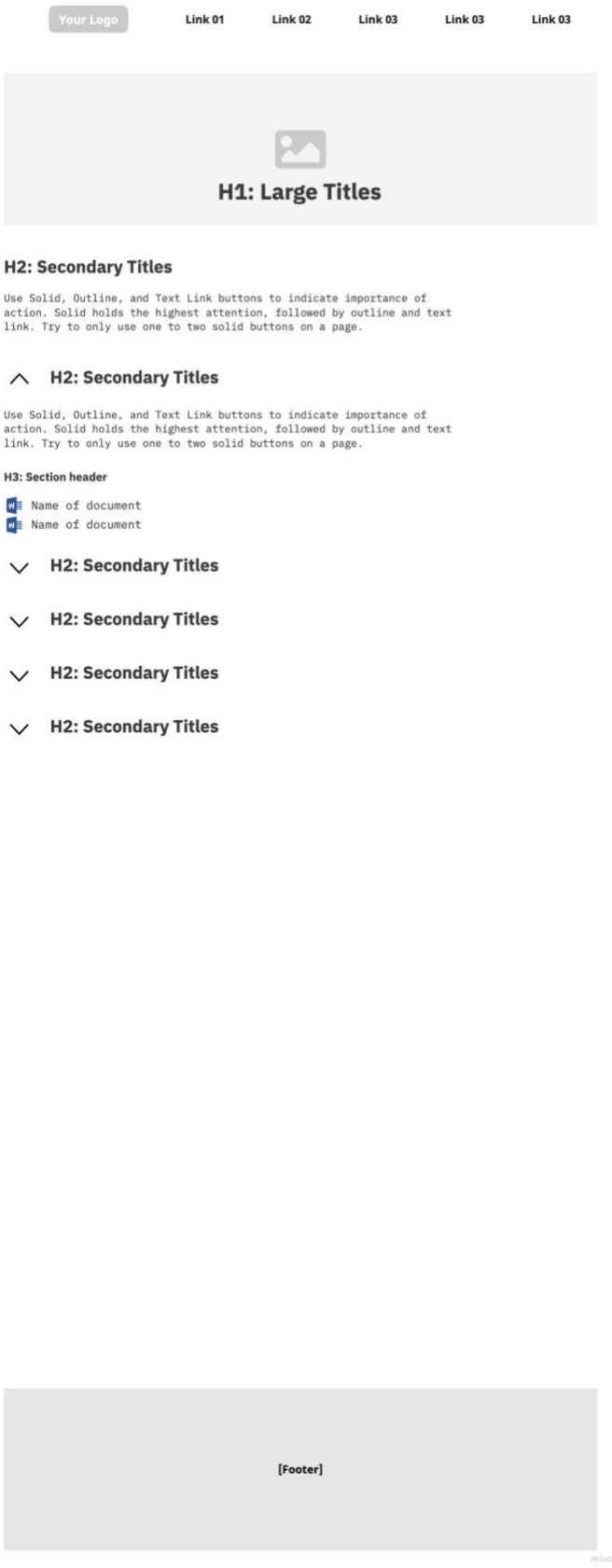


Figure 54 - Wireframe 4 - Overview 1

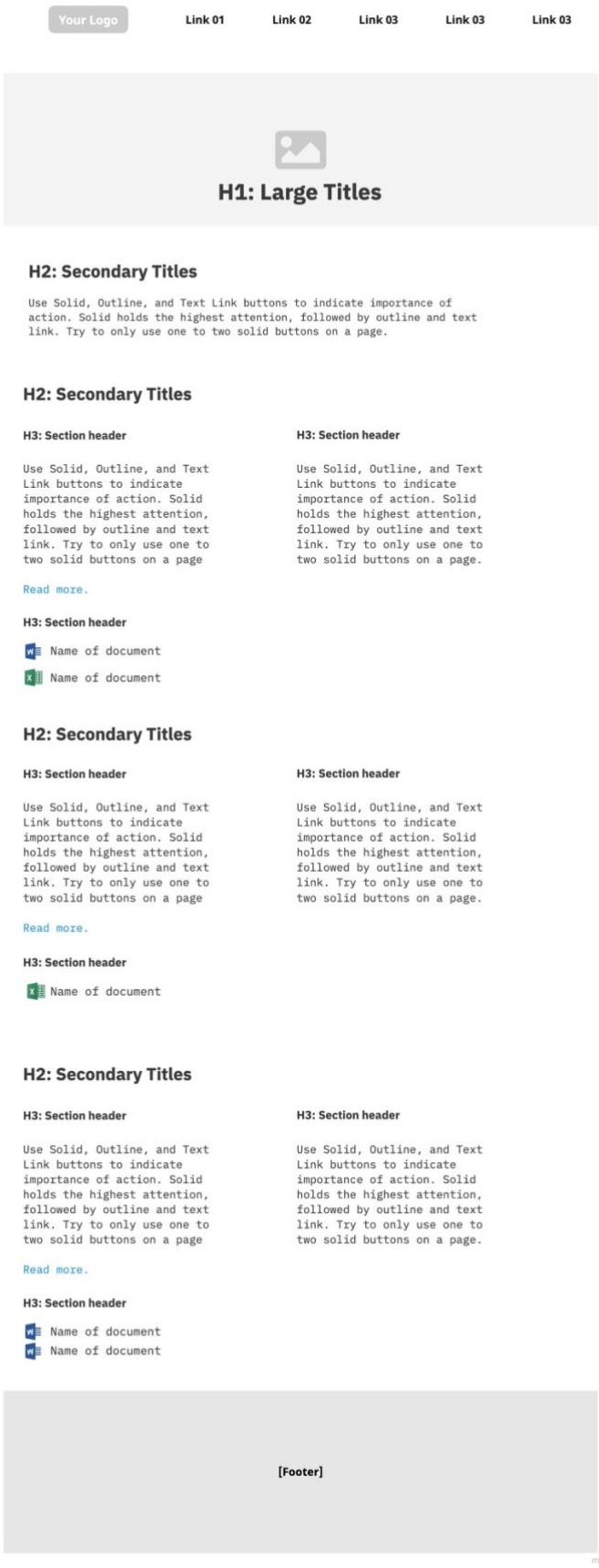


Figure 55 - Wireframe 5 - Overview 2

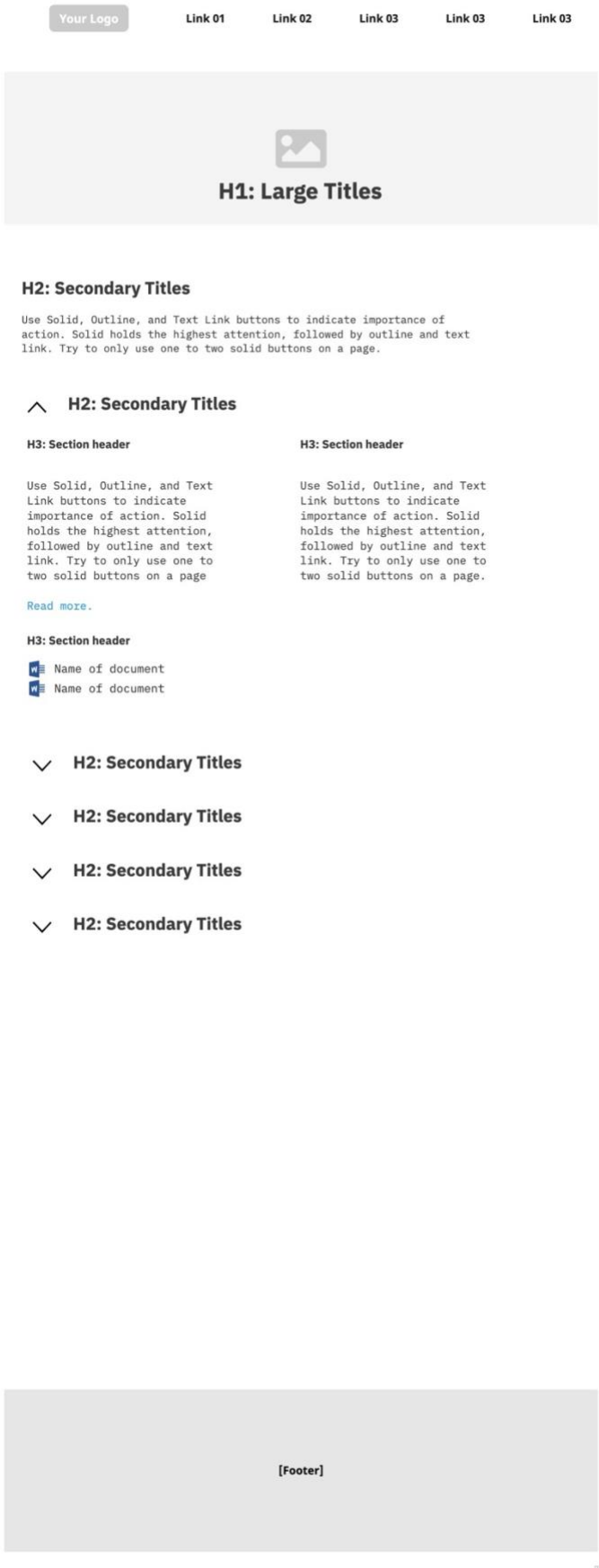


Figure 56 - Wireframe 6 - Overview

Appendix 15- Wireframe - Team Discussion

Wireframes - *Discussion*

Home page 1		Home page 2	
Pros	Cons	Pros	Cons
Kontaktinformasjon vises mer oversiktlig og ikke like overveldende Man får først se informasjonssikkerhets utvalget som er de første man skal kontakte, dersom man ikke får hjelp av dem, vil neste "gruppe" være neste steg Leseretningsvennlig	Kun tekst og knapp tar lite plass og får "valget" til å virke rart/uprofesjonelt/over sees Bilde som knapp er ikke intuitivt Knappene videre gir ikke brukeren noe informasjon om hva de kan forvente	Blir introdusert til begge gruppene først med tekst også vet hva valgene er før man skroller ned til hvem man kan kontakte når man vet hvem som er mest aktuell Ingen forvirring om hva det er Får kontroll over hva man kan forvente ved at tekst forklarer hva knappen fører deg til Stor tydelig overskrift, blikkfang og oversikt	Kontaktinformasjon tilbyr mye tekst som fremstår å være overveldende Når man skroller vil innholdet variere lite (bilde og bilde, tekst og tekst, personer og personer)

Overview forms 1		Overview forms 2	
Pros	Cons	Pros	Cons
Drop down meny = liste som tar mindre plass og lar en se hvilke skjemaer man kan velge, og klikke på dem dersom man ønsker informasjon/eksempel og link til skjema	Steg droppes Liste over alle skjemaene vises under alle	Informasjonen vises i leseretning (kan hoppe over eksempel om man ikke har behov) Informasjonsboks om hva siden viser Bytte ut bilde med skjema ikon	Informasjonen vises likt som i kvalitetssystemet (nedover) Dette gir inntrykket av at man MÅ lese alt før man kommer til skjemaet man ønsker Kan bli overveldene for sluttbruker. Ref brukertest: "Shit, gurimala så mye tekst! Jah mhhh jahh mhhh jahh!"

Forms notater:

- Skulle ønsket en funksjon der “hele” formen kunne blitt oversatt fra engelsk-norsk og motsatt. Dette mangler i forms. Det er kun default teksten på starten som blir oversatt, men ikke selve spørsmålene.
- Under spørsmål 2- Hvilken avdeling jobber du i, var funksjonalitet en begrensing. Vi skulle gjerne ønsket at når du trykker på “din avdeling” - så får du opp kontaktpersonen din på samme side. Dette er da ikke mulig, og man må lage en egen section for hver kontaktperson. Det hadde vært mye mer smooth om denne funksjonen hadde fungert

Appendix 16 – Prototype – First draft – Main Page

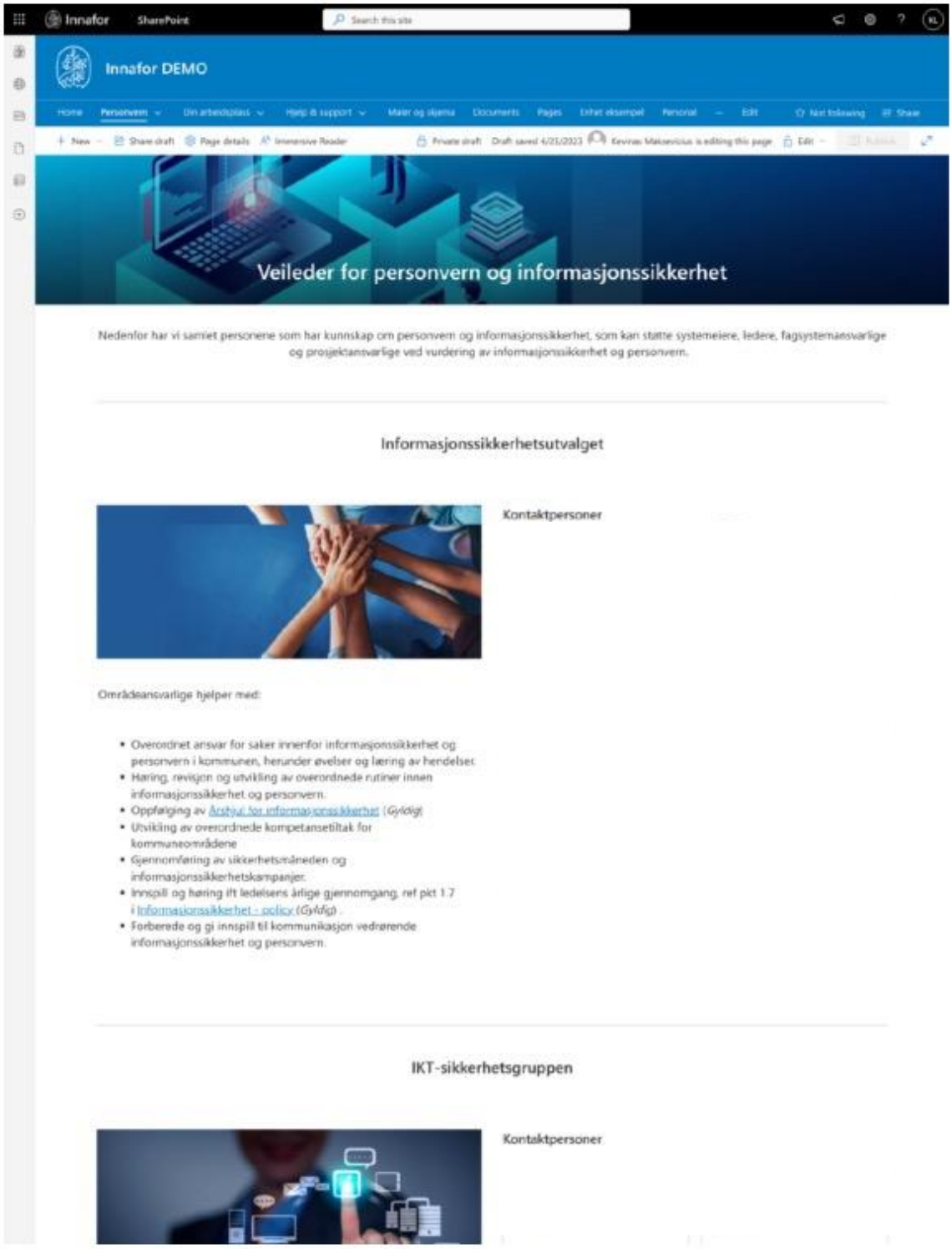


Figure 57 - Prototype - Main Page

Appendix 17 – Prototype – First draft – Information Guide

Figure 58 - Prototype - Information Guide - Slide 0

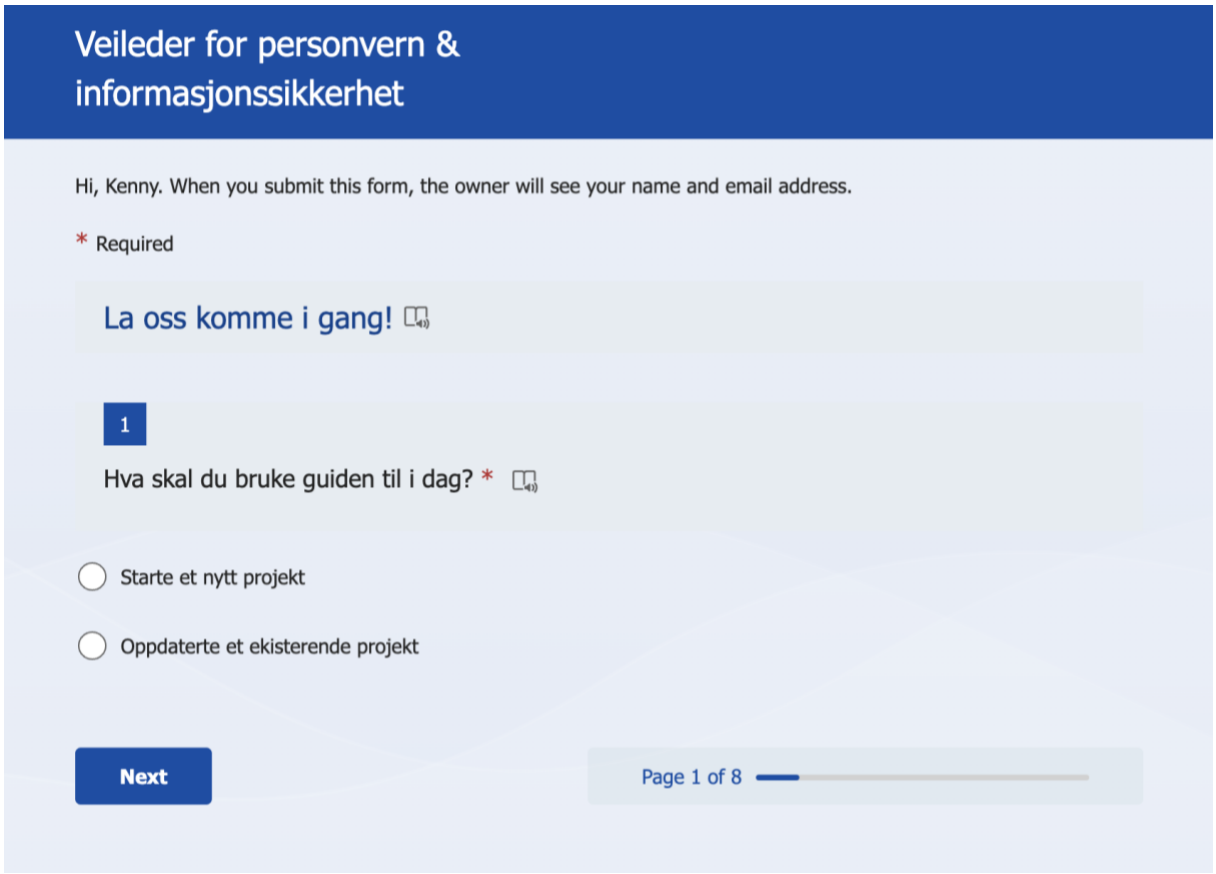


Figure 59- Prototype - Information Guide - Slide 1

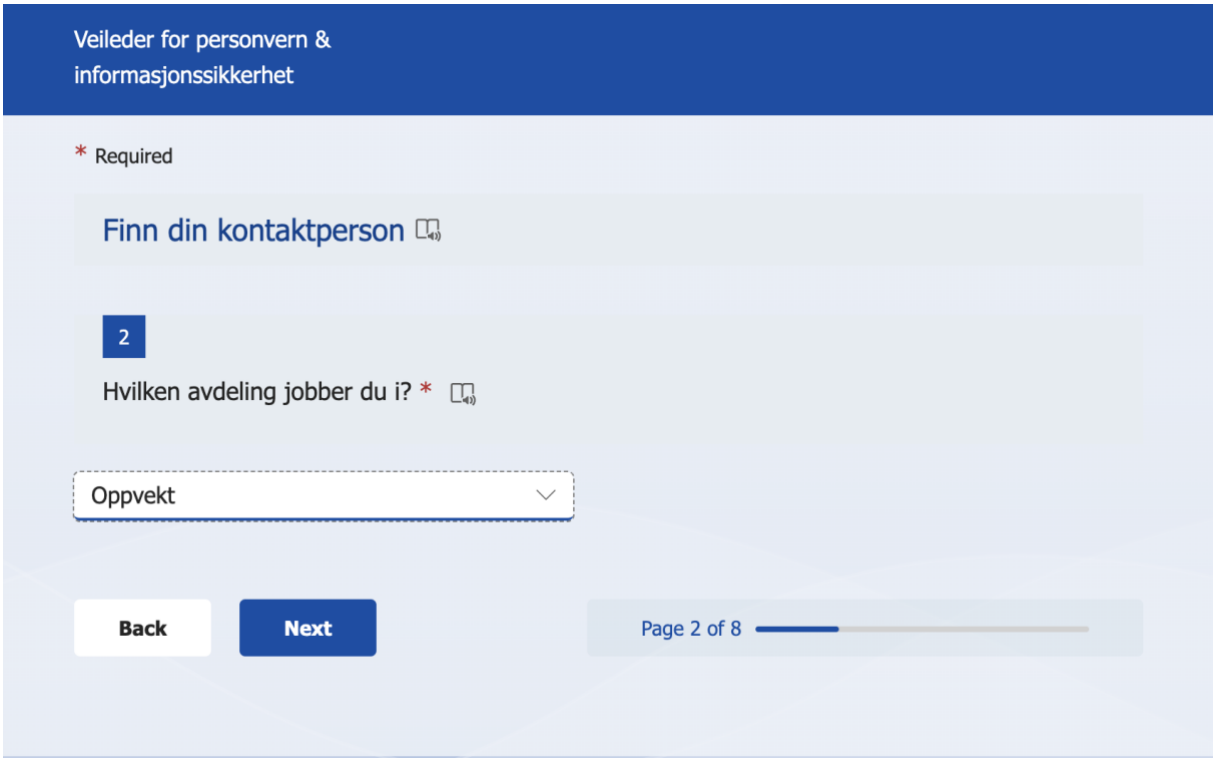


Figure 60- Prototype - Information Guide - Slide 2

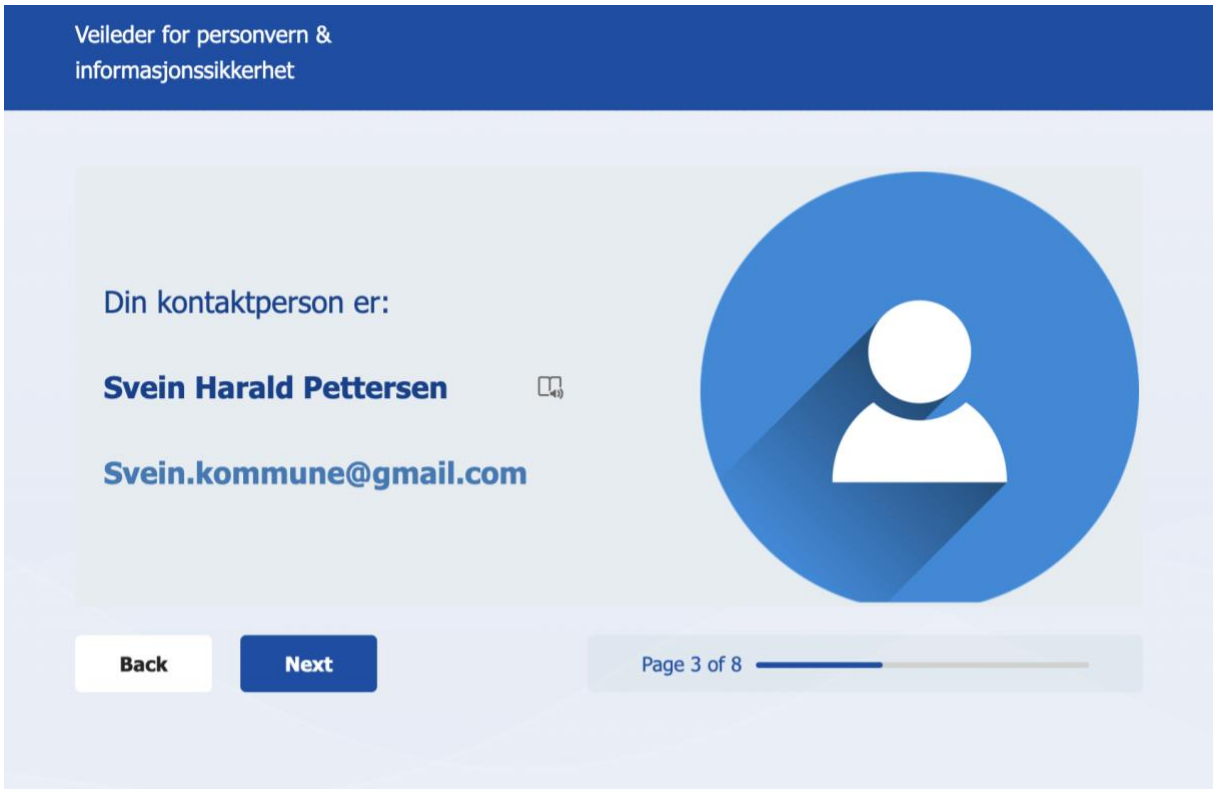


Figure 61- Prototype - Information Guide - Slide 3

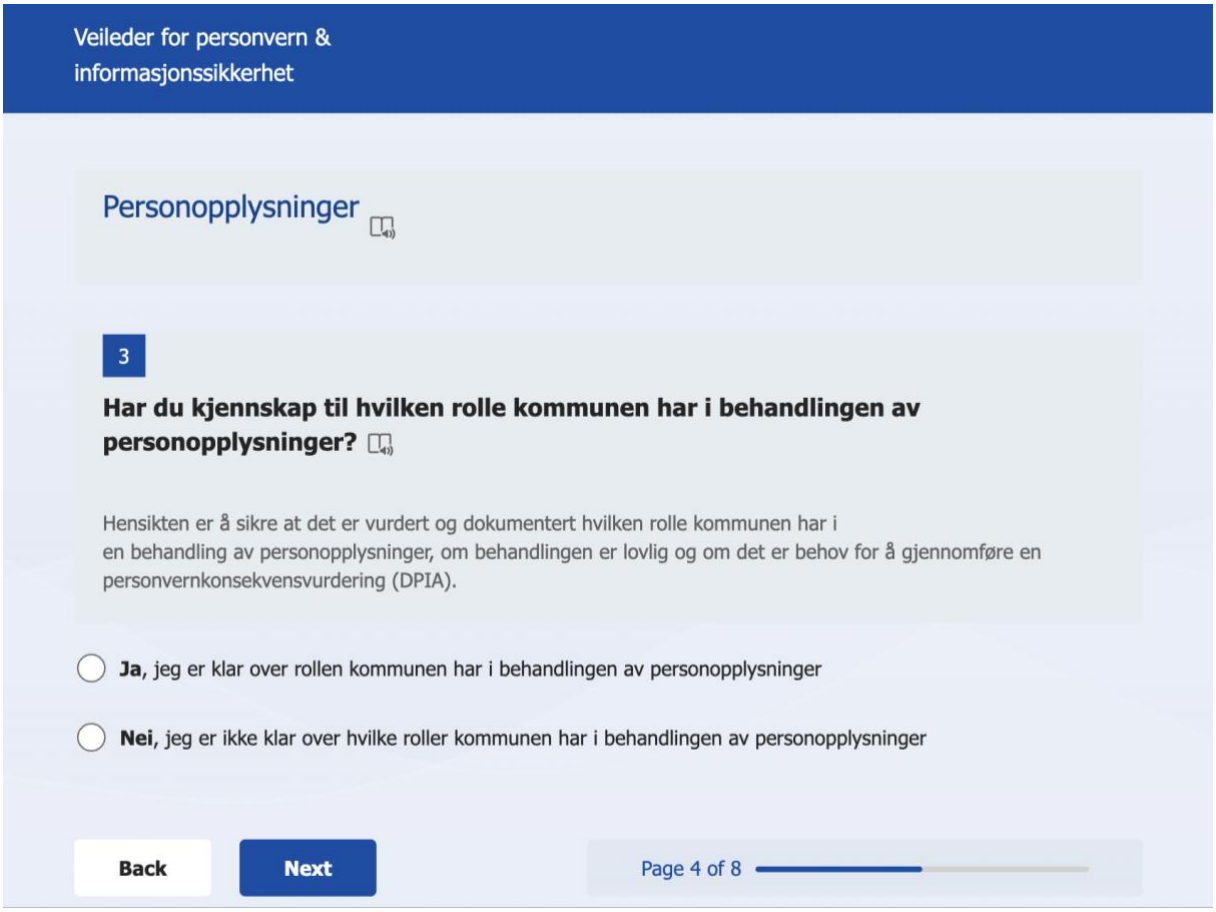


Figure 62- Prototype - Information Guide - Slide 4

Figure 63 - Prototype - Information Guide - Slide 5

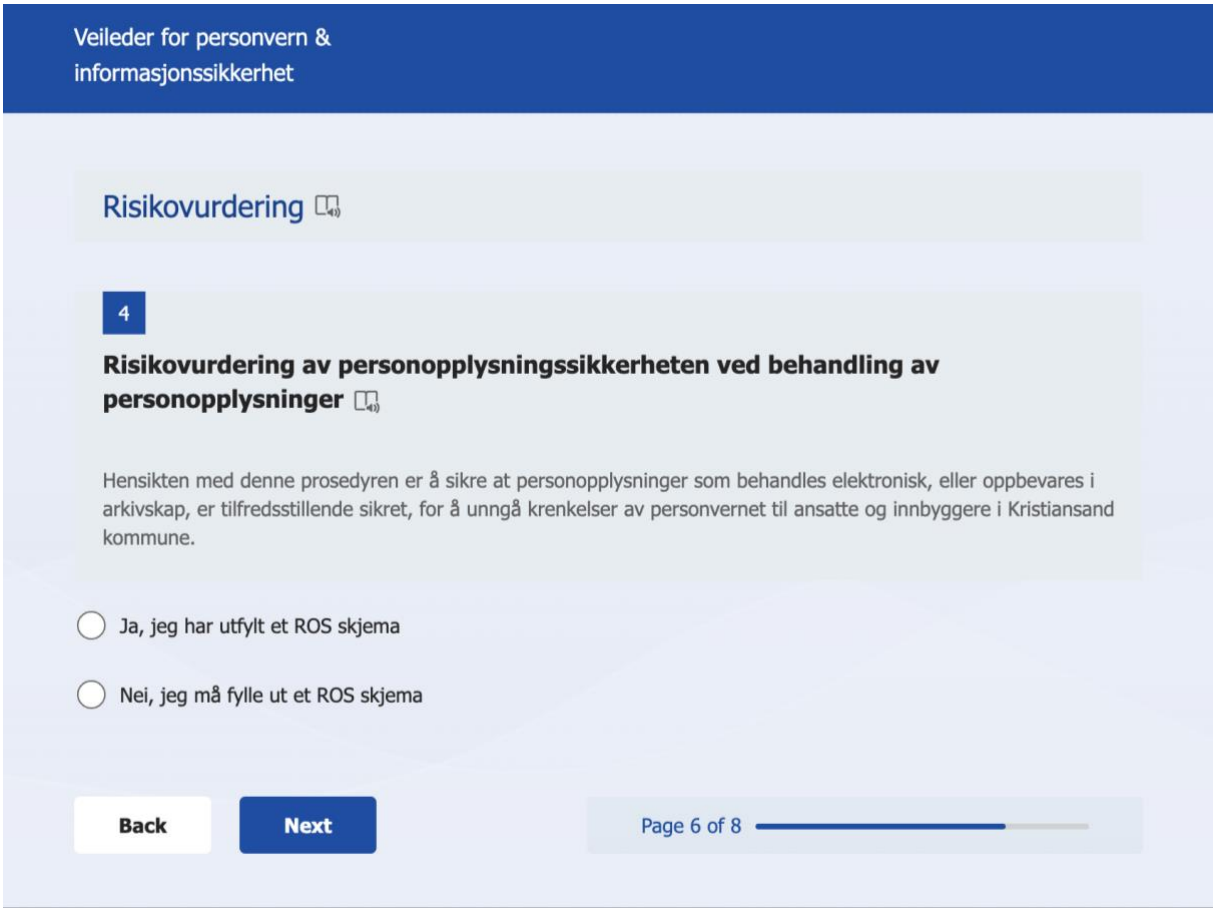


Figure 64- Prototype - Information Guide - Slide 6

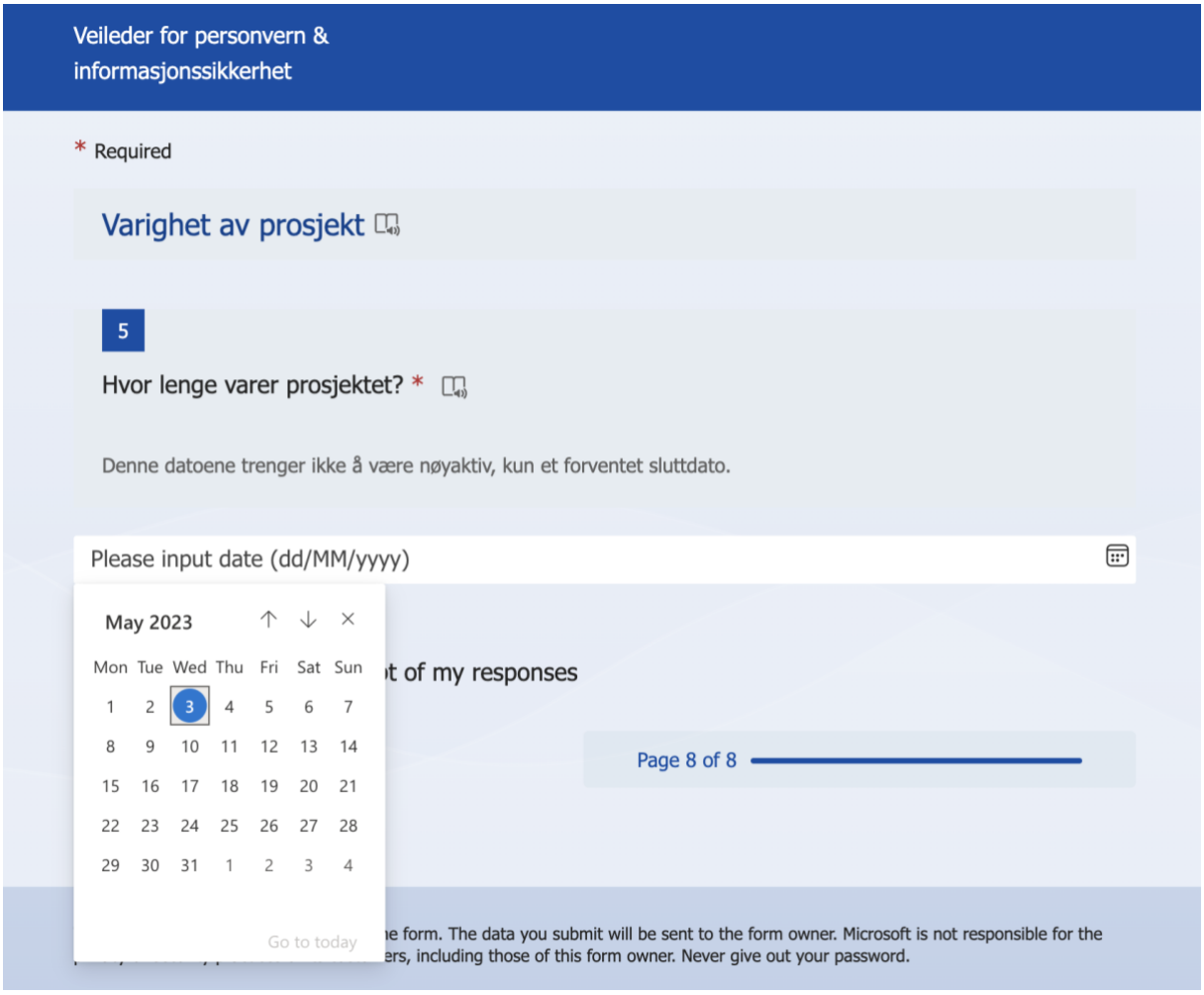


Figure 65- Prototype - Information Guide - Slide 8

Figure 66- Prototype - Information Guide - Slide 9

Appendix 18 – Prototype – First draft – Overview

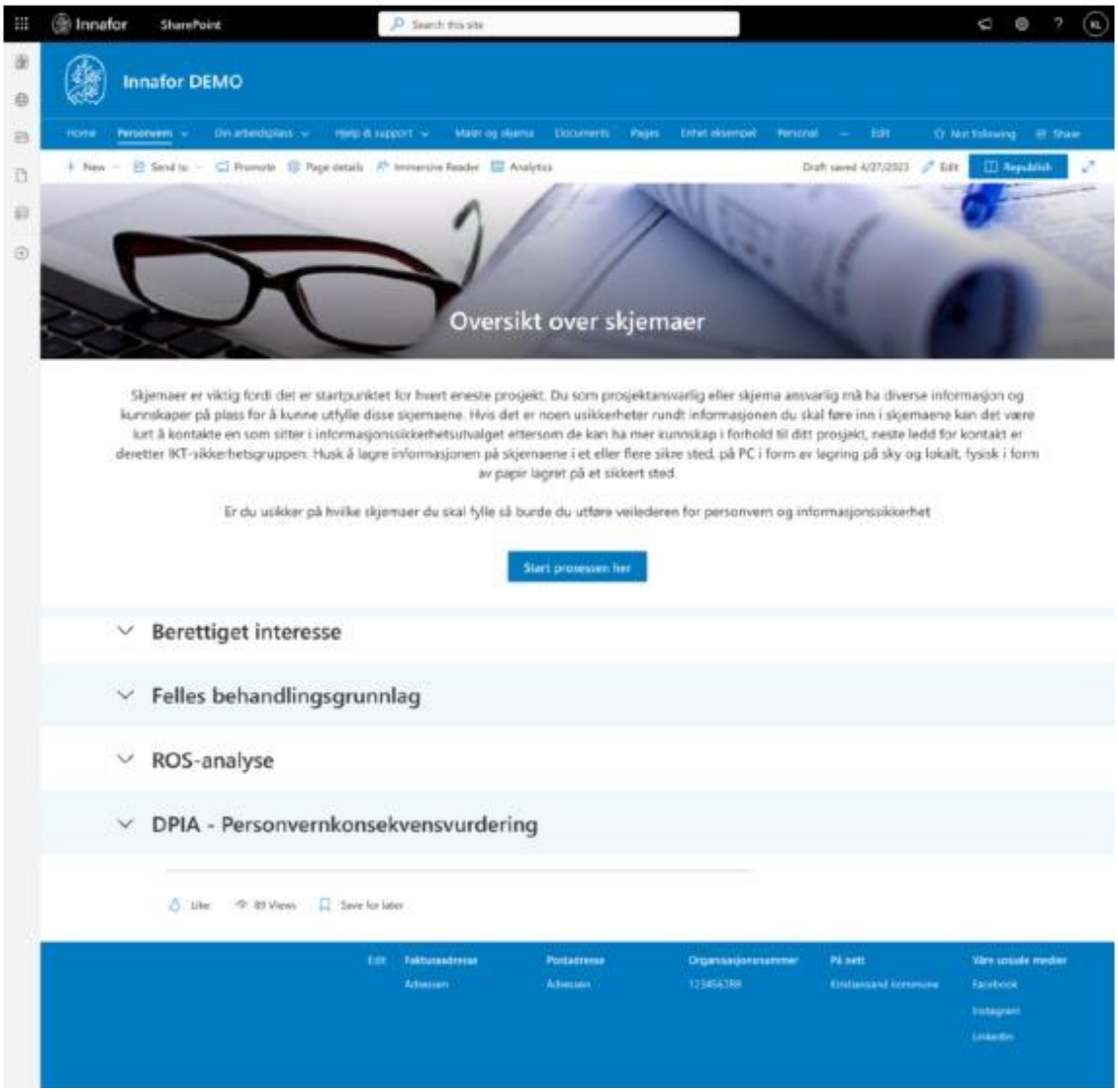


Figure 67- Prototype - Overview

Appendix 19 – Cooperative Evaluation – Prototype – Notes

Brukertest 1

Prototype

Fargekoder for koding= Wont have - Must have – Should have - Could have

Sider	Notater
Forsiden	• "så gøy" • Kontaktpersoner er positivt. • Mangler mail på IT, veldig viktig! • Riktig plassering på informasjonssikkerhetsutvalget og IKT-sikkerhetsgruppen. • "Helt supert" • Knappene er bra plassert til veileder for personvern og informasjonssikkerhet, "kanskje flytte knappene over kontaktpersonene" • Ville hatt en lenke til kvalitetsystemet- meny for infosek og personvern, tidlig oppe i siden, eventuelt i ingressen. • "Liker at dere ikke har skrevet så mye!" • "Nydelig" . • "Spent på prossessen" . • Bra tekstmengde, ikke mer. • "Mange vil se alt på engang" • Knapper er intuitive
Veilederen	• Hatt en tilbakeknapp i form • Ville hatt riktig "design" "pleier å ha ruter" • Ordbruken er veldig bra • Skrivefeil på "oppdaterte" • Usikker ordbruk på ordet "Prosjekt"-> annet ord? • Feil, skal ikke være avdeling, skal være "område" • Perfekt å få vite kontaktpersonen • "Veldig ryddig" • Svarer ja over rollen til kommunen, men betyr ikke at jeg har utfylt det • Bør endre setningen • Likte spørsmål 2 bedre- bør stå "jeg har fylt ut Ros skjema" • Bør stå noe om at en kan ta kontakt med IKT-sikkerhetsgruppen for utfylling av skjemaene. • Bør stå hva kontaktpersonen din er ansvarlig for å hjelpe deg med. • Var ikke intuitivt å skjønne at en skal kontakte kontaktperson. • "Hva om prosjektet mitt er ferdig?" • Hvis det er et eksisterende prosjekt, kanskje dato på neste side.

	• Trenger vi siste spørsmål om "hvor lenge varer prosjektet?", kan også være forvirrende i noen sammenhenger, det er og obligatorisk, greit å fjerne det? • Påminnelse funksjon for å oppdatere ROS skjema • Føler ikke at det kreves noe spesielt i sluttmeldingen •
Oversikt	• Ansvarlig for skjema* • Lagring i SharePoint, Onedrive eller Teams. • Grei mengde med tekst her også. • Lenke tilbake til "veilederen"- kontaktpersonene • Hyperlinke "informasjonssikkerhetsutvalget" i introduksjonen • Start veileder istedenfor prosessen. • Overskt over behandling DPIA, veldig fint, bør stå at det er obligatorisk for alle fagsystemer med personopplysninger. • Les mer – bra at den lenker til datatilsynet (kanskje ekstern lenke gjør det lettere for brukeren) • Ikke så skrekka og at man ikke orker dette • Fint beskrevet – inntrykk at det er lettlest for hun • "Godt og konsist" • Dette er et komplisert fagområde, men dette var et oversiktlig og fint. • Berettiget er ikke oblig bytte plass med felles behandlingsgrunnlag • ROS analyse og DPIA først • Virker som ROS og DPIA er de mest "populære" skjemaene. Kanskje god grunn til å legge det øverst. • Flyttet ros analyse til styringsportalen, men problem med tilganger • Ikke irriterende at man får opp ny fane ved skjema • Språket er fortsatt avansert (DPIA og generelt). • Forenkle språket • Strukturen er pen, teksten er fortsatt litt for komplisert • "Klasseforskjell" • "Positiv kroppspråk" • Stått hvilke oblig skjema og hva som må fylles dersom noen krav • Ville sett med ENGANG hva som er OBLIGATORISK (i tittelen på dropdownen)!!!!!!!!!!!! • Mye bedre språk, og prossesen er mye mer forståelig, sammenlignet med Kvalitetsystemet sin integrasjon for personvern og informasjonsikkerhet • DPIA informasjonen er maks ord beskrivelse • Dropp kameraovervåkning

Annet	Forside forslag: • Ville heller hatt knappene til veileder og oversikt over kontaktpersoner. • Kan eventuelt legge prosessen og oversikt i to kolonner over informasjonssikkerhetsutvalget.

Brukertest 2

Prototype

- Generelle komentarer

Synes det er intuitivt å bruke "personvern"-knappen for å navigere seg til informasjon. Personvern er ikke det viktigste for innafor, dermed hadde dette kanskje ikke vært så tilgjengelig på selve siden. Urealistisk lett å finne "personvern" - litt lengre i høyre navbar

- Personvern, gdpr, infosek, alt funker
- Tåler at det skulle vært en knapp, men hva burde knappen hete?
- Lov og juss sak?

Under meny

- Helt topp vet hva Knappene betyr
- Selvforklarende det han ser, veldig greit at det var to knapper og ikke hundre
- Trenger brukeren å vite at det er veileder for personvern når det ligger under personvern i hovedmenyen, foretrukket at det var en knapp istedenfor en overskrift over et punkt

Sider	Notater
Forsiden	• "Hvor er veilederen?" Forventer å se veilederen først. • Kanskje legge til kontaktpersoner i undermeny? • Litt misvisende overskrift? • Bilde er et eksempel, men kan være forvirrende for brukeren hvis ikke det er i sammenheng med IT? • Ville hatt beskrivelsen av hva kontaktpersoner gjør over selve kontaktinformasjonen deres. • Under områdeansvarlig- bytte plass på bilde og tekst • Vite bedre forskjellen mellom gruppene i begynnelsen av siden • Synes det er greit med oppsett av tekst og kontaktinformasjon. (Ved siden av hverandre) • Blir irritert at det ligger oversikt over skjemaer nederst i siden når brukeren velger veileder og ikke oversikt over skjemaer i under menyen • Greit oppsett på veileder for personvern og informasjonssikkerhet • Minske antall klikk

Veilederen	• "Skjønner hva jeg skal gjøre" • Forståelig • Greit på spørsmål nr 1 komme i gang • Automatisk avdeling og kontaktperson tildelt • Må velge rekkefølge og ordbruk bedre. Forvirrende å si at veileder skal vise deg til hvilke skjema som er nødvendige, men så blir du spurt hvilken avdeling du jobber i for å få kontaktperson er "irriterende". • Fjerne overskriften "Finn din kontaktperson"- blir litt irritert av det • Ble i tvil hva han skulle gjør etter han har trykket nei. (beskrive hva en bruker skal utfylle, legge til at hvis en bruker trenger hjelp kontakt din område ansvarlig) • En mer beskrivende overskrift eller ingress, for eksempel "Du må trykke på linken og fylle ut skjema?" • Irriterende å først trykke på linken og at de blir ført videre for å så måtte klikke på det igjen. For mange klikk. • Forvirrende hva formålet med veilederen er. For eksempel er det vanskelig å vite om man skal først fylle ut skjemaet brukeren blir gitt og deretter gå tilbake til veilederen er ikke tydelig. • Skal vises tydelig om et skjema er obligatorisk eller ikke. • Si at det skal være obligatorisk • Heller skrive for eksempel "Hvor lenge er det nødvending å oppbevare data?" istedenfor "Hvor lenge varer prosjektet?" • Få en oversikt med hva som er nødvendig å gjøre etter at en har utfylt veilederen. • En side til for "Dette er ditt sammendrag" og sende det til deg. • Ønsker at man får en oppsummering hvilke skjema han må fylle ut • "Send" knappen er forvirrende. • Brukte veileder for å få veiledning, men må printe ut og levere til kontaktperson, er forvirende. • Personopplysninger- bør bli presisert om dette gjelder ditt prosjekt
Oversikt	• Glad for at knappen er for "start prosessen" er der. • Hvem som skal kontaktes og hvilken skjemaer som skal utfylles er det viktigste å ha med. • Fjerne første setning av avsnittet skjemaer er viktig.. • Forventer flere skjemaer under punktene • Ønsker å få skjemaer så fort en trykker på knappen. • Bytte overskrift? "Skjema for personopplysninger", kanskje mer selvforklarende? • Slå til klikk her og skjema for ROS og andre lignende knapper

	• Mindre tekst i “Felles behandlingsgrunnlag” - Burde ha Ekstern lenke til les mer • Teksten i ROS analyse er helt ok, ikke mer tekst. Likte “Les mer” hyperlink. • Vil helst ikke lete etter knapper eller linker. • Mer intuitivt enn kvalitetssystemet
Annet	• Utfordre om nyttigheten av Kvalitetssystemet angående plassering av filer

Brukertest 3

Prototype

Sider	Notater
Innafor Demo	• Ville ha søkt for å komme seg til personvern/GDPR • Stikkord for søk er GDPR • Mange kunne tenke seg at man trenger hjelp fra IT / IKT • Ender opp med å velge personvern • Ønsker mer spesifikk ordbruk enn “Personvern”
Meny	• Hvis han skulle anskaffet nytt prosjekt, hadde de vært skeptisk til veileder. Hvis det hadde stått “Skal du kjøpe IT system?” for eksempel hadde det vært bedre for oppgaven brukeren skal utføre. • Avhenger om hvor mye bruker kan fra før i forhold til veileder • Tanker rundt hva personvern får opp av valg under personvern • Personvern har også noe utenfor informasjonssikkerhet • Tanker rundt veilederen. Skriftlig informasjon • Usikker hvilken skjemaer er oversikt over skjemaer(kan være alle slags typer for eksempel reiseregning)
Forsiden	• Bildet var fint • Har behov for å se hva som skjer lenger nede, teksten i mellom overskrift og kontaktpersoner faller litt bort. • Ønsker å få opp hva de ulike gruppene hjelper med aller først. • Tekst mengden er grei • Vil ha IKT-sikkerhetsgruppen over informasjonssikkerhetsutvalget • En kontaktkilde til IKT-sikkerhetsgruppen • Informasjonssikkerhetsutvalget hjelper systemansvarlige kun i de ulike områdene. • Helt greit med kun E-post som kontaktinformasjon når det kommer til IKT-sikkerhetsgruppe • Spesifiser kontaktprosessen, først informasjonssikkerhetsutvalget deretter IKT-sikkerhetsgruppen

	• Ser begrunnelse at informasjonssikkerhetutvalget er over IKT-sikkerhetsgruppe ingen grunn til å endre. • Legger merke til at det er dobbelt med lenke for oversikt over Skjema med knappen nede og i under menyen.
Veilederen	• Forventer at det skal komme en video hvis en bruker skal trykke knappen "start nå" • Tittelen "Veileder for personvern..." blir gjentatt for mange ganger • Skjønner begge alternativene til spørsmål 1 • Vil spesifisere i hvilken avdeling kontaktperson tilhører • Vil ikke ha så mange klikk • Hadde håpet at kontaktperson kom opp da valget på hvilken rolle bruker valgte. • Skjønte ikke at de måtte klikk på linken (linken var ikke tydelig nok) trodde at hvis brukeren klikte neste ville skjemautfylling komme. • Burde stått mer informasjon rundt dokumentet brukeren skal utfylle • Ligger mye informasjon foran skjemaene • Det er prosedyre rundt ROS, ville heller sendt brukeren til prosedyren? • Burde være informasjon om når dataen skal slettes. • Informasjon om hvor lenge skjemaene skal oppbevares skal ligge i behandlingsprotokollen. • Ser ikke poeng med å sende til epost der det er en veileder? • Hvorfor er det takk for svar, når det er en veileder.
Oversikt	• Forventer et prosesskart på denne siden fra start til slutt.(hvorfor er dette her?) • I veileder kommer man til skjema. Mens i skjema kommer man til veilederen • Synes at bruker skal komme til forsiden når en trykker på knappene for de ulike skjemaene. • Skjønner ikke at både veileder gir deg skjema og at det finnes en side med oversikt over skjema • Synes det er unødvendig med både veileder og oversikt over skjemaer • Synes det er kjempebra med eksempel på skjema side. • Mye med les mer og du kommer til lovdata • Føler at man burde sendes direkte til forsiden på kvalitetssystemet ABC istedenfor direkte inn i dokument. Føler at grunnen til kvalitetssystemet mangler, mister betydning. • Berettiget interesse er en under greie for felles behandlingsgrunnlag • Mangler Databehandler avtale • Obligatoriske skjemaer er DPIA Initialvurdering, ROS, full DPIA og Databehandleravtale

	• Felles behandlingsgrunnlag er egentlig en del over oversikt over behandling av personopplysninger – DPIA initialvurdering • Ser ikke behov for kommentarer på bunnen av siden. Hvem skal svare/se på dette? • Hensikt er for mye for lesere, vil heller ha hvorfor skal vi ha oversikt over personvern •

Brukertest 4

Prototype

Sider	Notater
Innafor Demo	• Håper det er lagt i kvalitetsystemet • Ønsker en link direkte inn til hvor de skal utføre prosessen de leter etter • Antar at veilederen ligger i personvern
Meny	• Fremgår ikke at teksten inngår i informasjonssikkerhet • Idealt at heile teksten vises under veileder
Forsiden	• Burde komme rett inn i kvalitetssystemet og bli møtt av en slag forside i kvalitetssystemet • Unaturling at veilederen ligger utforbi Kvalitetsystemet • Forvirrende om tittelen er klikkbar eller ikke • Forventer en link til informasjonssikkerhetsutvalget (kanskje vi kan linke tilbake til tabellen med informasjonssikkerhetsutvalget i kvalitetssystemet) • Vil ha veilederen knappen øverst i siden • Unaturlig å få vist informasjonssikkerhetsutvalget først. • Greit at informasjonssikkerhetsutvalget kommer før IKT-sikkerhetsgruppen • Ser at veileder for personvern.. Er bare for prosjekt, men personvern og informasjonssikkerhet går inn forbi mye mer og vil forvente å finne informasjon om dette og • Ville tenkt at oversikt over skjema ville vært i veilederen • Var ikke en selvfølge at en skulle finne ROS-analyse under "Oversikt over skjemaer". • Ikke logisk at en skal trykke på skjemaene for å gjøre den daglige innen personvern og informasjonssikkerhet, vet ikke helt hva det menes med skjemaene, • Savner hvor en skal gå for å se informasjon om skjemaene • "Oppdatering av skjemaer" - kanskje et navn som sier mer hva som forventes av "daglige rutiner"
Veilederen	• Hadde lurt om de hadde klikket feil for om dette har noe med prosjekt å gjøre. • Litt usikkert hvorfor man kommer inn på denne siden. • Forventet å trykke seg rett inn i et prosesskart (noe vi ikke får gjort pga forms)

	• Skjønner ikke hva teksten skal si, skal brukeren begynne å fylle ut skjemaene, er det alt som skal gjøre i et prosjekt med personvern og informasjonssikkerhet • Når i prosjektet skal en gjør dette med skjemaene? • Utydelig hva hensikten med veilederen er. • "Når skal man fylle skjemaene"- finne ut av dette? • Helt unødvendig å finn din kontaktperson, det burde allerede vite det • Det heter område ikke avdeling • Hva er hensikten med kontaktperson • Informasjonssikkerhetsutvalget skal ikke hjelpe til i hvert prosjekt i sitt område • Vanskelig å skjønne hva spørsmål nummer 3 skal innebære • Kommunen bruker tydeligvis ikke ROS-skjema XD • Ligger en veileder for utfylling av ROS-skjema • Tidspunkt for utfyllingen • "lite verdi" • Har lyst til å vite hvilke tidspunkt en skal gjøre hva, hvis en er i planleggingsfasen er det usikkert om en skal fylle ut skjema. • Vite tidspunkt, konseptfase, hvilken fase må jeg fylle ut skjema, må jeg sende det inn, hva skal jeg med det • Generelt mer informasjon hva en skal med skjemaene • Skjønner ikke hensikten med å svare på hvor lenge et prosjekt skal vare, ettersom et prosjekt kan vare i lang tid. (Sånn at personen som får de formsa sletter de også) • E-post boks – greit nok. • "Hva er hensikten med denne prosessen?" • Hadde skapt en del forvirring i hvilke prosjekt som egner seg for denne veilederen. • Prosjekt-> system! Bytte ord? • Må ligge i Kvalitetsystemet! • Skal ikke skrives ut papirer og skal ikke bli gitt til kontaktperson for oppbevaring
Oversikt	• Grei størrelse på teksten, grei å lese • Sier ingenting om hvilken skjema en skal trykke på først • Grei forklaring. • Fint å ha link. • Eksempel er bra å ha med • Når og hvor • Bra siden man må "slippe å scrolle"

Appendix 20- Prototype- Changes

Prototype

Changes

Home page
1. Change name from “veileder” to “guide”, “help”, “Personvern og Informasjonssikkerhet”, “Hvordan bevare personvern og informasjonssikkerhet”, “Prosess for person…” 2. Ingress må forklare hva man skal bruke dette til (finn skjemaer, be om hjelp) 3. Flytte knapper opp i 2 kolonner 4. Inkludere knapp/hyperlink til kvalitetssystemet sin forside i ingress 5. Bytte plass på beskrivelse og bilde for hver gruppe 6. Tydeligere beskrivelse som skiller ansvarsområde for gruppene 7. Legge til sikkerhetsgruppa sin e-post
Overview
1. Fjerne del om kameraovervåking i felles behandlingsgrunnlag 2. Hvilke er obligatorisk, markere dem i tittel (DPIA – obligatorisk*) og ordet skjema 3. Legge til databehandler avtale 4. Gjøre les mer knapper mer spesifikk (“les mer om dette hos Lovdata”) 5. Fjern første setning i ingress, ansvarlig for skjema i stedet for 6. Ender navn på knapp i ingress 7. Knapp/link tilbake til forsiden 8. Gjøre overskrift til knappene om til selve knappen 9.
Form
1. Prosjekt--> sak/system? 2. Avdeling--> Område 3. Hvorfor får jeg en kontaktperson? Beskriv 4. Hva skal jeg med denne (skjema) linken? 5. Fjern siste spørsmål/eventuelt påminnelse om oppdatering? (ROS SKJEMA)

Home page:

2. Denne siden er konstruert for deg som skal ivareta personvern og informasjonssikkerhet i relasjon til kommunens prosjekter, systemer eller andre aktuelle situasjoner. Her får du en forenklet oversikt over hva en slik prosess innebærer. Dette inkluderer å vite hva slags skjemaer som må fylles ut, hvorfor og hvordan de skal fylles ut og oppbevares, hvem som kan hjelpe deg og hvor du kan finne mer informasjon om dette feltet.
(Dette er som sagt en forenklet versjon av prosesskartet som er tilgjengelig i “Kvalitetssystemet”)

Veileder knapp??

Har du aldri har gått igjennom en slik prosess tidligere eller bare ønsker å friske opp minnet? Ta vår veileder for å kartlegge hva du trenger å gjøre og hvilke skjemaer som må utfylles.

Skjema knapp??
Vet du allerede hvilke skjemaer du skal fylle ut eller oppdatere? Her finner du en oversikt over skjemaene med hensikt, eksempel og lenke til hvor de ligger i Kvalitetssystemet.

6. Informasjonssikkerhetsutvalget er en gruppe sammensatt av én person fra hvert område, som har overordnet ansvar for saker innenfor informasjonssikkerhet og personvern i kommunen. Om du trenger hjelp, er det den ansvarlige fra ditt område du skal kontakte først. Kreves det videre hjelp kan Sikkerhetsgruppa kontaktes (se nedenfor).

Forms
Denne veilederen lar deg svare på ett spørsmål av gangen for å kartlegge hvilke skjemaer du trenger å fylle ut. Når veilederen viser deg hvilket skjema du skal fylle ut, vil du få tilgang til en link. Denne linken åpner en ny fane til hvor det oppdaterte skjemaet ligger i Kvalitetssystemet.
Klikk på linken, last ned filen i en mappe på din datamaskin sammen med de andre skjemaene som skal fylles ut. På slutten av veilederen blir du dirigert til "Overskift over skjemaer" hvor du kan få en dypere forståelse for hva og hvordan disse skal fylles ut.

Hvilket område jobber du under?
Dette personen som kan hjelpe deg! For å gjøre jobben til Informasjonssikkerhetsutvalget litt lettere, ønsker vi at du prøver å sette deg inn i konseptene og starte på utfyllingen på egenhånd før du ber om hjelp. På denne måten får du muligheten til å avdekke hva du konkret trenger hjelp med.

Skjemalink
Denne linken åpner en ny fane som gir tilgang til skjemaet i Kvalitetssystemet. Trykk på den og last ned filen på din egen maskin. Du kan gjøre det før du fortsetter veilederen, eller åpne alle fanene og laste ned filene etterpå.
Du kan enten åpne en link, laste ned filen med en gang, lukke fanen og fortsette veilederen. Eller kun åpne fanene underveis og vente med å laste ned alle skjemaene til veilederen er fullført.
Husk å laste ned og samle alle skjemaene i samme mappe på din egen datamaskin. Videre kan de flyttes til Teams, One Drive eller Sharepoint for lettere oppbevaring.

ROS-skjema skal helst oppdateres med jevne mellomrom.
Ønsker du en påminnelse når dette bør gjøres?
Ja?--> Fyll ut ønsket tidspunkt:
Nei takk, jeg har selv kontroll

Da har du fått oversikt over hvilke skjemaer du trenger å fylle ut, hvor du laster ned disse (om du ikke har gjort dette underveis) og hvem som kan hjelpe deg med utfylling. Du kan nå starte med utfyllingen, trykk her for å komme til "oversikt over skjemaer" i Innafor.

Appendix 21 – Group Contract

Gruppekontrakt- Gruppe 11

1. Kontaktinformasjon

Kenny Le, kennykl@uia.no, tlf: 482 95 698
Kevin Maksevicius, kevinasm@uia.no, tlf: 998 84 803
Håvard Sommer Rosenlund, haavardsr@uia.no, tlf: 48415115
Magna Sofie Neuberg, magnan18@uia.no, tlf: 41493955
Osamah Al-maliki, osamahha@uia.no, tlf: 46276313

2. Gruppekontrakt

a) Teamets formål er å samarbeide om oppgaver rundt faget IS-304- Bacheloroppgave for informasjonssystemer for 5. semester gjennom vårsemesteret. Vi skal samarbeide og kommunisere på en effektiv og saklig måte etter punktene i følgende kontrakt.
b) Teamets hovedprodukt er gruppeinnleveringene i fagene IS-304. Vi har som målsetting å oppnå svært gode karakterer (A-B), og å legge et godt grunnlag for selvstendige karakterer.
c) Alle deltakere skal delta like mye, og gjennom de ulike modulene ha varierte oppgaver for å opprettholde motivasjon og engasjement. Nær slutten av en oppgave/sprint, går vi igjennom hvem som har gjort hvilke deler for å sjekke om alle har deltatt. Det forventes at hvert teammedlem møter opp i de avtalte gruppetimene, så fremt man ikke har en saklig grunn til fravær. Saklig grunn for fravær regnes som sykdom, legetimer, begravelser eller andre lignende årsaker.
d) Gruppa vil opprettholde en flat struktur gjennom arbeidet for å forhindre at det faller mer arbeid på enkelte gruppemedlemmer. Ved jevn fordeling av arbeid, fører dette til at et eller flere medlemmer slipper å bli belastet for flere oppgaver enn resten av gruppa. I tillegg skal alle være involvert i alt gruppen foretar seg, hvilket også indikerer en flat struktur.

3. Teamets regel for oppførsel

a) Det forventes at deltakerne møter presist (innen 10 minutter etter møtestart) til alle avtalte gruppearbeid som ikke er satt opp av UiA. Ingen gruppemedlemmer har anledning til å være fraværende i gruppearbeid uten saklig grunn. Det forventes at man gir beskjed så snart man vet at man vil være forsinket, og fravær godkjennes dersom man har en god grunn (se 2c). Dersom man ikke gir beskjed, og ikke har en gyldig grunn, vil man motta en advarsel.
b) Alle deltakere skal delta aktivt og med entusiasme. Det skal bidras til gruppen, og medlemmene skal være åpne for andres ideer og bidra med konstruktiv kritikk.
c) Avgjørelser skal tas demokratisk.
d) Gruppen oppmuntrer til kreativitet og engasjement. Det er ikke ønskelig med usaklige kommentarer, og forbudt med nedsettende kommentarer om andre medlemmer eller deres arbeid. Usaklige kommentarer er kommentarer som har liten nytte av å bli sagt og bidrar negativt til diskusjoner eller oppgaver. Brudd på dette fører til advarsel.
e) Deltakerne vil ha ulike roller gjennom oppgavene, og dette vil fordeles på gruppens avtalte gruppearbeid.
f) Det gis muntlige tilbakemeldinger på medlemmenes oppførsel og arbeid. Ved konkrete tekster og arbeid med oppgavene, kan det også gis tilbakemelding gjennom kommentar-funksjonen i Google documents.

g) Teamet skal passe på at alles meninger kommer frem i diskusjoner. Ved spørsmål eller under diskusjon skal alle medlemmer få tid til å gi et svar eller å si sin mening. Ved å gjøre dette vil alle bli hørt. Vi skal tiltale hverandre med respekt og vise hensyn.
h) På hvert gruppemøte skal det så gjennomgås hva som er gjort, samt hva man planlegger å gjøre videre for å fullføre sin del av oppgaven.
i) Mobbing/erting av gruppemedlemmer er uakseptabelt og fører til utvisning av gruppen.

4. Ved unntak fra teamregler

a) Ved saklig grunn til fravær (legetimer, tannlegetimer, sykdom o.l.) skal dette kommuniseres til gruppa i forkant, så tidlig som mulig.
b) Ved uenigheter i gruppen skal det tas opp i plenum, slik at alle kan diskutere på en saklig måte. Dersom enkeltpersoner opplever problemer eller ubehageligheter kan det alternativt tas gjennom læringsassistent eller foreleser.
c) Gruppen må respektere eventuelle valg om å forlate gruppen.
d) Dersom gruppemedlemmene ikke overholder sine plikter og frister ifølge ovennevnte punkter, vil dette tas opp i plenum, og ved gjentakelser vil utvisning vurderes av gruppens medlemmer.
e) Ved brudd på mer enn 3 forskjellige plikter og frister, eller etter 3 advarsler, fører det til at gruppemedlemmet ekskluderes fra gruppen.

5. Teamets arbeidsspesifikasjoner

a) Kommunikasjon i gruppen foregår gjennom felles Messenger-gruppe, eventuelt over Discord.
b) Dokumenter o.l. deles gjennom Google Docs.
c) Etter 50 minutt med arbeid, tar gruppen en 10 minutters pause.
d) Ved avtalt gruppearbeid, skal det minst arbeides helt til alle på gruppen har blitt enige om at det har blitt gjort god fremdrift på oppgaver, og en plan skal være fastsatt for videre møter/arbeid.

Magna Sofie Neuberg

Kevin Maksevicius

Kenny Le

Osamah Al-maliki

Håvard Sommer Rosenlund

Appendix 22 – Meeting Checklist Summary Template

UKE 0
Sprint 0

WEEKDAY

Dato: 00.00.23
Tidspunkt: 08:00-15:00
Sted: Kristiansand Kommune – ROM?

Medlemmer møtt:
Håvard, Kenny, Kevin, Osamah og Magna

Start	Fullført	Notater
Dagens agenda		
Sjekke mail		
Backlog		
Møte (m/andre)		
Booke grupperom		
Annet		

Hovedfokus: Tema og oppgaver

Slutt	Fullført	Notater
Dagen etter		
Sjekke mail		
Backlog		
Daily standup		
Møtereferat		
Annet		

Tillegg og praktisk:

Spørsmål og fokus til neste gang:

Appendix 23- Video of prototype

Demo of the Main Page:
https://www.youtube.com/watch?time_continue=7&v=K1W0xawUNUQ&embeds_referring_euri=https%3A%2F%2Fdiscord.com%2F&source_ve_path=MTM5MTE3LDM2ODQyLDI4NjY2&feature=emb_logo&themeRefresh=1

Demo of the Overview:
https://www.youtube.com/watch?v=KHpw2HAWovM

Demo of the Information Guide:
https://www.youtube.com/watch?v=jaK05VA3l1k