Qrawler
Report

Sanction report injector

The development process of a web application to populate and publish screening reports on international sanctions.

By

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TABLE OF CONTENTS

1 EXECUTEIVE SUMMARY

The sanction report project by Qrawler aims to develop a web application to tackle the need of modern, better and automatized tools for screening reports about international sanctions. The application is planned to be done in two steps where the first aims to develop a web application to feed a trading structure, automatically contrast the fed companies towards all the available sanction lists, and publish sanction reports. The second step is to use the design of the interface to define trading structures for monitoring, inform when some entity in the structure becomes sanctioned, and publish sanction reports.

This report focuses on the first part of the development process and its development comprises a pilot study and three iterations of the design. The pilot study embraces two interviews, one with the company's search engine optimizer (SEO), and the other with the teach-lead. The pilot study led to the first iteration which starts with the analysis of the pilot study's results and the design of a wireframe prototype. This first prototype was tested against a person in charge of doing sanction reports. The second iteration starts with the analysis of the results from the wireframes test and the design of the interactive prototype with another person in charge of doing sanction reports. And the third iteration starts and ends with the analysis of the interactive prototype's test results.

The results of the design process, shown in chapter 5, is a web application that eases the process of doing a sanction report by having an intuitive interface with maximized usability, allowing collaboration to populate the report, automatizing the population of the report from Qrawler's company's database, automatizing the screening of entities against all available sanctions lists, automatizing the reports layout.

The principal problem of this design process was the number of participants. For this reason, even if the design seems usable and intuitive in the results of both usability test, the scarce number of participants make it applicable only to their companies and working circumstances. Therefore, these results cannot be generalized without testing the application with more participants. The lack of participants also affected the design process making impossible the use of design techniques based on generalizations of users and use situations, like personas or scenarios.

2 INTRODUCTION

In a modern and globalized world governments and organizations are engaged in maintaining peace throughout any borders. The way these entities prevent conflicts or respond to particular crisis is by applying restrictive measures against other organizations or governments. These restrictions are commonly called sanctions. There are many reasons to apply a sanction, which can be for instance related to, terrorism, nuclear proliferation activities, human rights violations, annexation of foreign territory, deliberate destabilization of a sovereign country, cyber-attacks, etc. Furthermore, sanction measures consist on the blocking of diplomatic relationships between a sanctioning organization and a sanctioned organization. More precisely, sanctions towards an organization could imply arms embargoes, restriction on admission to listed persons, freezing of assets to listed persons or entities and/or economic sanctions. This last type of sanction implies restrictions in specific sectors of economy like the import/export of specific goods, supplying of specific services, investments, etc. (The European commission, 2022a; 2022b).

In order to apply the previous named sanctions, companies and organizations are required to either have dedicated personal to do this kind of screenings or delegate the duty to someone else, which often are either a seller or a compliance officer. Additionally, the scope of the screening does not only involve the company they are directly doing business with, but all companies in between them, which involves transport companies, dealers, distributors, banks, agents, etc. Furthermore, as new sanction lists are published and the old ones increase in size, old screenings could be outdated at any time. This already great amount of work becomes tougher because of the precarious logistics related to that specific area.

To tackle the need of modern and better screening solutions, Qrawler, a company focused on delivering logistics related to person and organization screening, is developing a web application to make screening easy and simple. The application is planned to be done in two steps where the first aims to develop a web application to feed a trading structure, automatically contrast the fed companies towards all the available sanction lists, and publish sanction reports. The second step is to use the design of the interface to feed trading structures to be monitored, inform when some entity in the structure becomes sanctioned, and publish sanction reports.

Since this research regards only the first part of the project, it is focused on answering the following question:

How can a usable web application for publishing screenings on international sanctions be developed?

This project is limited to prototyping as our focus is on the interaction design process.

3 BACKGROUND

As the research question aims to reach a usable product, our definition of usability is a product that fulfills its purpose effectively, efficiently, safely, with maximized outcomes, and intuitively (Sharp, Rogers and Preece, 2011; Sundström, 2005).

As the product needs to be designed around a previous existing activity with existing users, it is crucial to consider the unique goals, limits and capabilities of this specific user group. For that reason, this project embraces the User Centered Systems Design (UCSD), which means involving the users in the design process (Sharp, Rogers and Preece, 2011; Wilson, 2010).

In the present project, users are directly involved in the design process through interviews and tests, but they are also involved indirectly by applying user tested general guidelines often called design principles. These guidelines are used to maximize usability in specific parts or components of the interface (Cooper, Reimann, Corin, 2007). For instance, before submitting a formulary, the system must show an editable overview of all the information the user is about to submit (Sundström, 2005).

4 METHODOLOGY

The design of the application starts with putting together a graphic profile in order to design the application interface. Then, regarding that we do not have a ground design, it is necessary to make a pilot study. After the pilot study, the design process continues with three iterations, the first one starts with the analysis of the information obtained from the pilot study, the design of a wireframes prototype and it ends with a usability test. The second iteration starts with the analysis of the data gathered in the first usability test, it continues with the design of an interactive prototype, and ends with another usability test. Then the third iteration contains only the analysis of the interactive prototype usability test.

4.1 Graphic profile

The graphic profile of the application is based on Qrawler's graphic profile which have #092840, which is a dark blue color, as their primary color, and #9AA6B1, which is a blue-grayish color, as a secondary color. By means of contrast the #D9D9D9, a light gray color, and the #FFFFFF, a pure white color, were added.

The profile has no gradients to keep the design very serious, it has no pictures as it is not necessary and it has icons to highlight specific features of the interface.

The color combinations are mainly a dark color against a lighter one, or vice versa, to achieve sharp contrasts and to make the interface accessible for persons with different color perception.

The typography of the application follows the graphic profile of the company with the Mulish font, replacing temporally the original Muli font, in 12, 23 and 32 points.

4.2 Pilot Study

In order to identify the user needs, content and basic functions for the application a pilot study was conducted. The pilot study consisted of two interviews and an analysis of a screening report.

4.2.1 Interviews

Two two-hours interviews were conducted, the first one was done with participant one, the search engine optimizer of the company, and the second one with participant two, the tech-lead of the company. The choice of the participants was done because participant one is in charge of the screenings and will be a future user of the application, and participant two because he created the concept and have a clear idea about the range and limits of the application.

In the interviews, the researcher took the role of the interviewer which, by the way, didn't know the interviewees. they were done remotely through a video meeting application in which the audio and video were recorded with a screen recorder on the interviewer's computer. The aim of the interview was to capture a description of the task of doing sanction reports but as there were open interviews there were no predefined questions or themes. Both interviews followed the flow of the themes the participant brought or the follow-up questions that the interviewer wanted to dig more in.

4.2.2 Report analysis

The screening report analysis was done in an unstructured fashion, identifying the content that the application should have, information patterns and data types from the report.

4.3 Iteration 1

The first iteration embraces an analysis of the pilot study, the design of a wireframe prototype and a usability test.

After the interviews and the report analysis, both information outcomes were triangulated with each other. This way the first requirements were identified and the first prototype was created. This first prototype was a wireframes prototype done by hand with pen and paper in order to erase and redraw easily.

The wireframes prototype was then analyzed in order to plan a usability test. The analysis was done in an unstructured fashion to spot aspects of the interface that could be more usable. These aspects were then translated into tasks that were used at the test.

The first usability test (attachment A) was done remotely though a video meeting application in which the audio and video were recorded with a screen recorder on the interviewer's computer. Participant three, a voluntary that work doing screening reports, was chosen to take the user role in the test because of his expertise and availability.

The test started with a briefing in which ethic measures were explained, like his right to finish the test whenever he feels to. It was also explained that the test is on the applications interface and not on his knowledge or abilities. Likewise, the participant was told to apply the think out loud protocol, which means that he was encouraged to explain his thoughts as he was navigating around on the application.

4.4 Iteration 2

The second iteration started with the analysis of the first usability test, it continues with the design of the second prototype and it ends with the second usability test.

The test led to several requirements which were applied on the design of the second prototype. This prototype was an interactive version done in the prototyping platform Figma.

The design of the interactive prototype was analyzed in order to spot new aspects of the application with potential to be improved. These aspects were then translated into tasks for the second usability test.

The second usability test (attachment B) was done face to face at the company's headquarters and it was recorded with a screen recorder, microphone, and a webcam pointing to the participant's face. The person chosen to take the user role in the test was participant four, another person who works doing screening reports, because participant three was already acquainted with the design.

This second test went more in depth in the interface and had more tasks and more questions. For this reason, it took around two hours. As in the previous test, it started with a briefing in which ethic measures like his right to finish the test whenever he feels to were explained. It was also explained fact that the test is on the applications interface and not on his knowledge or abilities. Likewise, the participant was told to apply the think out loud protocol, which implies that he was encouraged to explain his thoughts as he was navigating around on the application.

4.5 Iteration 3

The third iteration imply only the analysis of the results from the second usability test. The design requirements identified in this iteration will be applied on the final version of the application. For this reason, there is no design addressed in this iteration.

5 RESULTS

This section accounts for the results of the graphic profile, the pilot study and the iterations named in the method section.

5.1 Graphic profile

The graphic profile of the interface is shown in images 1, 2 and 3.

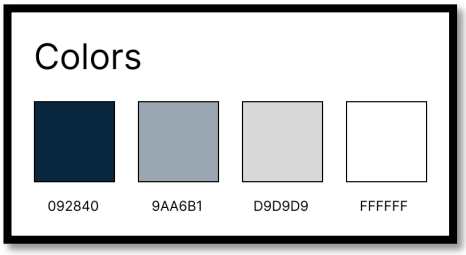

Image 1 An image of the color palette used in the interface design.

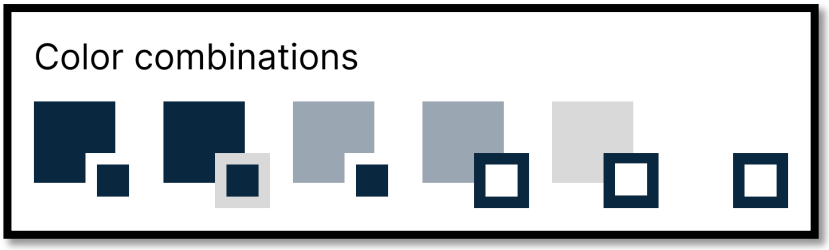

Image 2 An image of the color combinations used in the interface design.

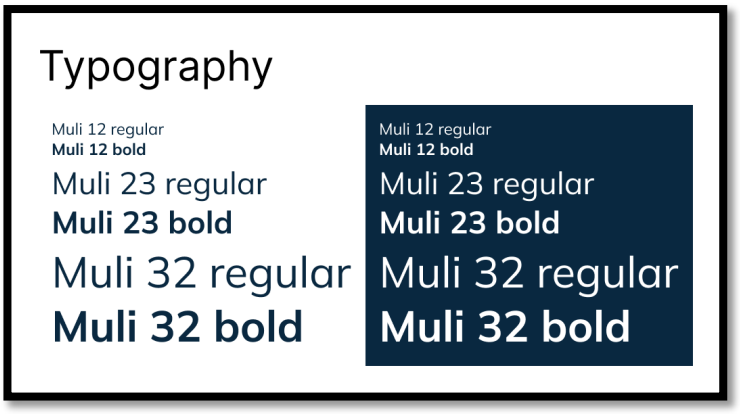

Image 3 An image of the typography used in the interface design.

5.2 Pilot Study

The pilot study resulted in a description about the actual task of doing sanction reports highlighting issues that can be addressed in the application design.

The production of a sanction report can vary significantly from company to company. It can be done inside a certain company or delegated to an extern one. It starts with the order of the report by a seller or a compliance officer which send basic information about a trading structure to the person in charge of making the screening. An issue in this part of the screening is that the information provided by the person ordering the screening could be incomplete, wrongly written or in another alphabet than Latin. Then the person or company in charge of doing the actual screening needs first to gather public information about each declared company to confirm that the information provided is legitimate or identify missing parts in the structure. An issue in this part of the screening is that there are sometimes companies with similar names that could easily be confused. Then this person needs to identify each owner, board member and manager of each company and verify their identities. An issue in this part of the screening is that there could be namesakes, persons with several identities or persons somehow hiding their identities. The next step is to contrast every company and every person in the report against every available sanction list. An issue here is that new sanction lists could be published and the old ones could grow and include more persons and companies.

The way that the information is gathered starts with public information in the internet. Then, the search range embraces the deep web and finally specific pages at the dark web.

The gathered information is put together in a template within a text editor, and published in pdf format. The report is then ready to be delivered to the higher levels of the company in order to make a decision. An issue in this part of the process is that the template can accidentally be modified causing inconsistencies in between different reports.

5.3 Iteration 1

The pilot study led to the following requirements:

- The application will support the user with writing in other than the Latin alphabet.
- The application will support the user with identifying sanctioned organizations or persons in those organizations.
- The application will support the user with identifying parent companies to the screened organizations.
- The application will support the user with finding owners to the screened organizations.
- The application will support the user with finding the board of directors and managers to the screened companies.
- The application will support the user with identifying screened persons with multiple names,
- The application will support the user with differentiating the screened persons from others with the same name.

- The application will support the user with finding complementary information about a company.
- The application will support the user with finding variations in the identity of the screened persons or companies.
- The application will support the user with the visualization of a trading structure.
- The application will support the user with saving and retrieving the work in progress.
- The application will support the user with publishing the reports.
- The application will support the user with visualizing the final view of the screening report.

Based on the identified user needs, content and basic functions for the application, together with some design principles in Sundström (2007) the first wireframes (Image 4,5 & 6) were designed. This design reflects the need to:

- have a keyboard with other sign systems available if needed.
- have a table with information about a company which can be filled in either automatically if the system finds the referred company or manually if the system doesn't find it.
- have an in-depth summary of owners, managers and board directors.
- have a space to declare all the alternative names a screened person could have.
- have a diagram editor to visualize the trading structure.
- have a save and open function.
- have an overview state.

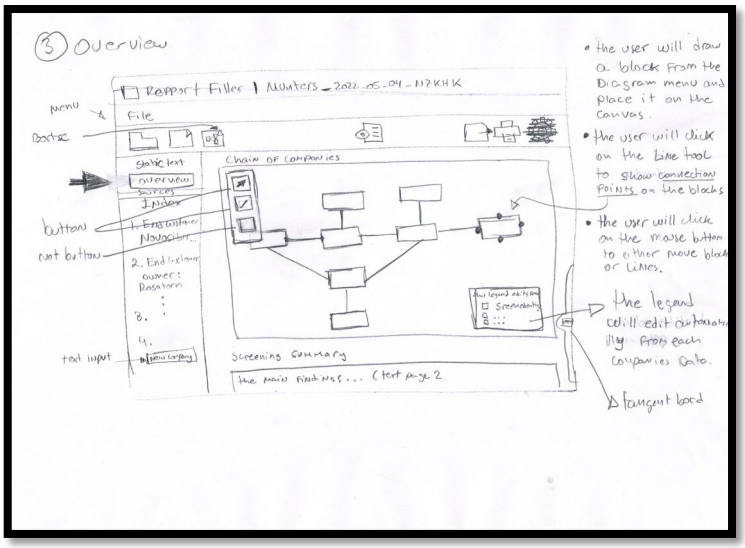

Image 4 A wireframe design of the application interface on the overview state.

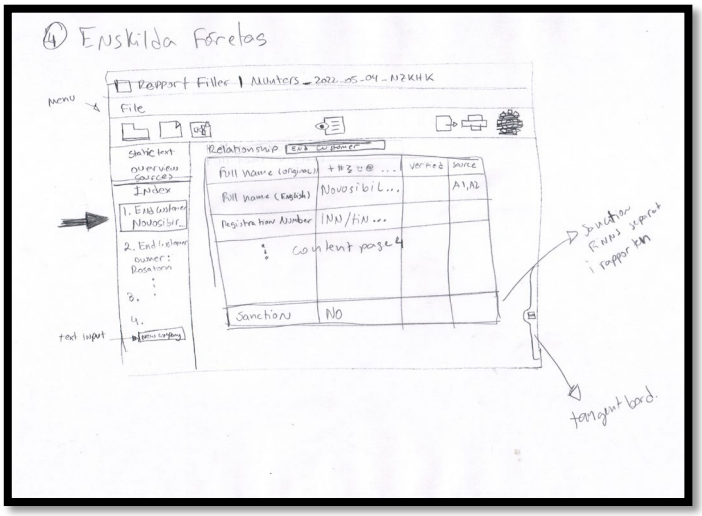

Image 5 A wireframe design of the application interface showing the information about a company.

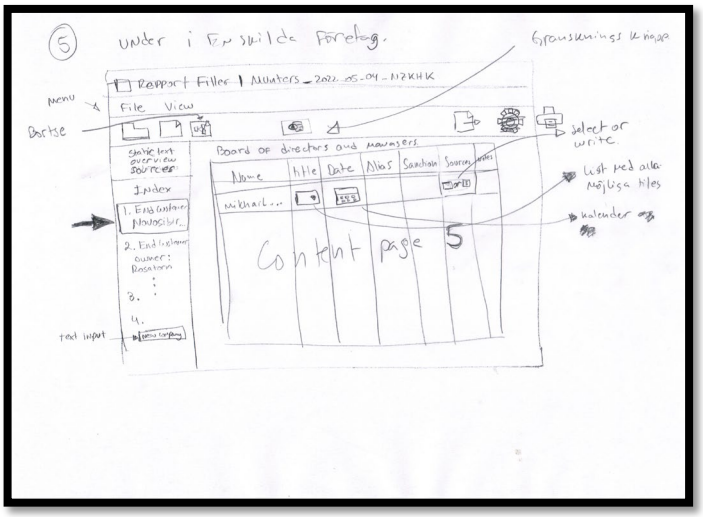

Image 6 A wireframe design of the application interface showing the information about a company.

5.4 Iteration 2

The first usability test led to the following requirements:

- The application will support the user to open recently opened or created cases.
- The application will support the user to give the reports a manual ID.
- The application will support the user to differentiate the published and the unpublished reports.
- The application will support the user to organize the screening summary.
- The application will support the user to start a case.
- The application will support the collaborative gathering of information about the trading structure.
- The application will help the user minimize the trading structure diagram.
- The application will help the user understand if the screening company is a supplier or a customer.
- The application will help the user see if there is another person working on the same case.
- The application will help the user manage incoming information from other collaborators.
- The application will support the user to fill in different ID numbers for persons and companies.
- The application will support the user to feed both natural and juridical persons.
- The application will support the user to dig deeper in all the companies that own more than 10% of the company's shares.
- The application will support the user to dig deeper in selected companies that own less than 10% of the company's shares.
- The application will help the user make a difference between the public and the screened information.
- The application will help the user to erase groups of information related to each other (ex. a whole row in a chart).
- The application will help the user differentiate between the main, transport and the money transfer structures.
- The application will help the user correct false positives in the identification of sanctioned persons and companies.
- The application will help the users to remind other information providers about the information they need to send.
- The application will help the information providers visualize all the information they are going to send before they send it.
- The application will give the user the opportunity to send a personal message together with an information request.
- The application will give information providers the opportunity to feed owners of a company.
- The application will give the user the opportunity to accept or reject information coming from an information provider.

Based on the identified requirements for the application, an interactive prototype was designed (Images 4-9). This design reflects, among other things, the need to:

- Help the user open recently opened and recently created cases by adding a dashboard right after the login screen (image 7).

- Help the user start a project by adding a wizard to describe the main structure of the trading (Image 8).
- Help the user structure the summary by adding short summaries in each company details page (Image 9).
- Help the user organize the trading structure by dividing the main, transport and money transfer structures (Image 10).
- Help the user ask for information to other persons by sending information requests (Image 11).
- Help the user manage mismatches by adding a dedicated interface to solve them (Image 12).

Image 7 A screenshot of the prototype at the dash board state.

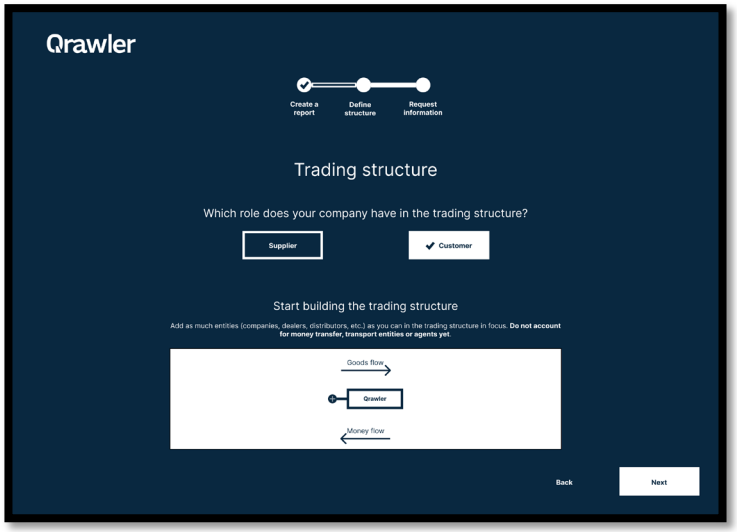

Image 8 A screenshot of the prototype at the new project wizard.

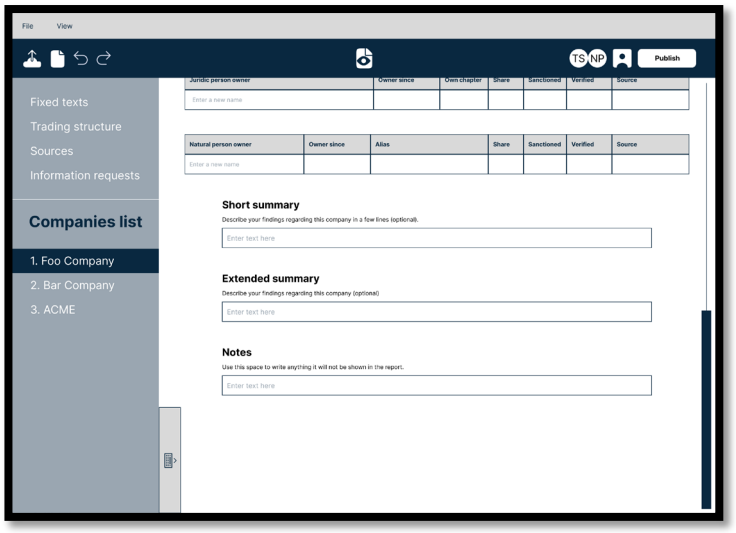

Image 9 A screenshot of the prototype at the company details state.

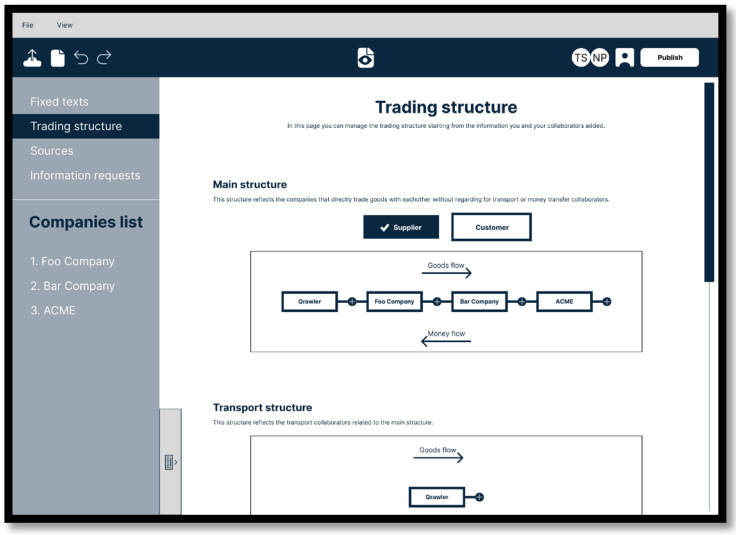

Image 10 A screenshot of the prototype at the trading structure state.

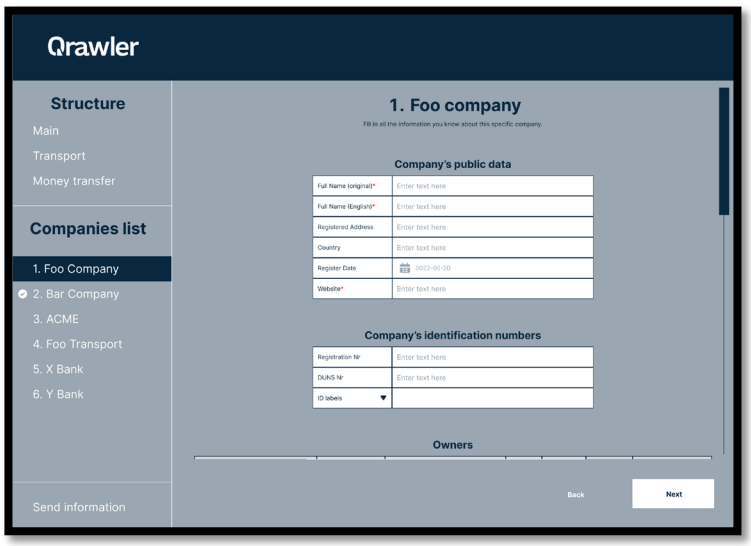

Image 11 A screenshot of the prototype at the information providing system.

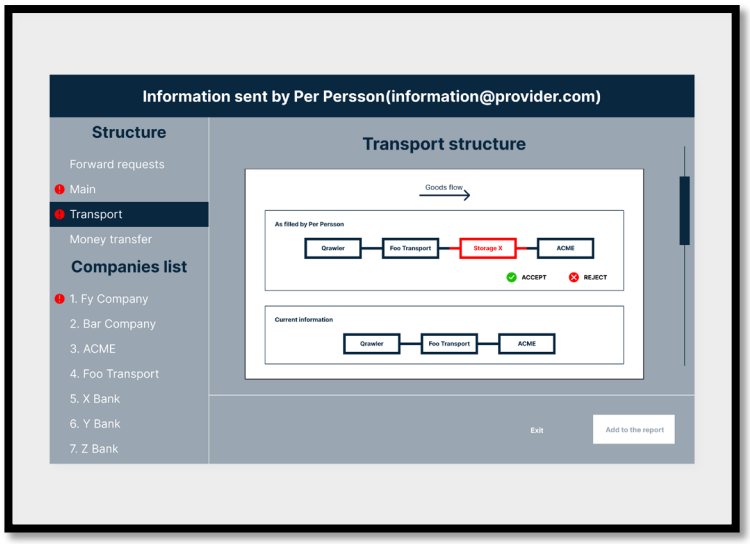

Image 12 A screenshot of the prototype at the incoming information manager.

5.5 Iteration 3

The second usability test led to the following requirements:

- The application will give the user the opportunity to give a human readable name to the project.
- The application will show the name of the project on the screen.
- The application will help the user associate banks with the companies in the trading structure.
- The application will help the collaborators minimize the amount of information to fill in.
- The application will help the user avoid sending several information requests to the same person or company.
- The application will help the user avoid sharing information about their clients with anybody.

6 DISCUSSION

In this project the developing process started with a pilot study but a better start should have been to complement this information with the analysis of other screening tools. The reason it couldn't be possible was that we didn't have access to those tools.

Regarding the test users, even if they understood the interface intuitively and succeeded in all the tasks, the scarce number of participants was too low to draw the conclusion that the interface is generally usable or intuitive.

Related to the lack of participants is that company's structures and protocols to handle screenings vary from company to company, making this design probably applicable only to the companies that have similar structure and protocols to where our test subjects work.

Because of the lack of participants and the variation of the screening protocols and work situations it was also impossible to apply development techniques that require generalizations of the users and work situations like personas and scenarios to contrast our design with.

7 REFERENCES

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ATTACHMENTS

A. USABILITY TEST 1

Användbarhetstest 1

- Explain think out loud protocol.
- Explain ethic statements.

Task: Start a new project.
Question: In the company state, what can you do here?
Task: Feed the information about a company.
Task: Introduce a new member in the board of directors and add a source to it.
Question: How do you activate the inspection view?
Question: How do you publish your report?
Question: Is there something you would like to do?

B. USABILITY TEST 2

Användbarhetstest 2

Presentation:

- *Spela in.*
- *Vi testar gränssnittet inte dina kunskaper eller färdigheter.*
- *Vi ska göra uppgiften två gånger, en där du fokuserar på att se om du klarar uppgiften och en annan där du berättar vad du tänkte när du går igenom uppgiften.*
- *Du ska svara på frågor lite då och då.*

Main flow

Task 1

Vi säger att du jobbar för ett företag som exporterar fisk och du ska påbörja en utredning för att veta om du kan sälja dina produkter till företag X genom en dealer men du är inte säker på hur hela företagsstrukturen ser ut.

- *Skapa en ny rapport.*

Gör uppgiften igen och berätta vad du tänker på när du tar dig fram.

Task 2

Fråga

Vad förstår du av "Main structure", "transport structure" och "money transfer structure"?

Vi säger att du vet några transport och pengar hanterare företag mellan ditt företag och dealern.

- *Mata in dem i rapporten.*

Gör uppgiften igen och berätta vad du tänker på när du tar dig fram.

Task 3

Fråga

Vad förstår du när du läser "information requests"?

Vad tror du att du kan hitta där?

Gå till information requests

Vad kan du göra härifrån?

- *Lös en konflikt*

Gör uppgiften igen och berätta vad du tänker på när du tar dig fram.

Colaboration level 1

Vi säger att du är en complience manager eller en säljare i en dealerbolag. Du ska köpa fisk från en leverantör X och sälja den till en kund Y.

Task 1

I Main stadie

Vad kan du göra härifrån?

Om han inte beskriver det, Vad innebär "forward request" för dig?

- *Fyll i Main, transport och money transfer strukturerna.*

Gör uppgiften igen och berätta vad du tänker på när du tar dig fram.

Task 2

I Empty company

Vad kan du göra härifrån?

Om han inte beskriver det, Vad innebär "request information on this company" för dig?

Vilken information kan man be om?

- *Gör en infromation request.*

Gör uppgiften igen och berätta vad du tänker på när du tar dig fram.

Task 3

Var som helst

Vi säger att du är klar med ifyllnaden av alla företag. Vad gör du då?

Gör uppgiften igen och berätta vad du tänker på när du tar dig fram.