

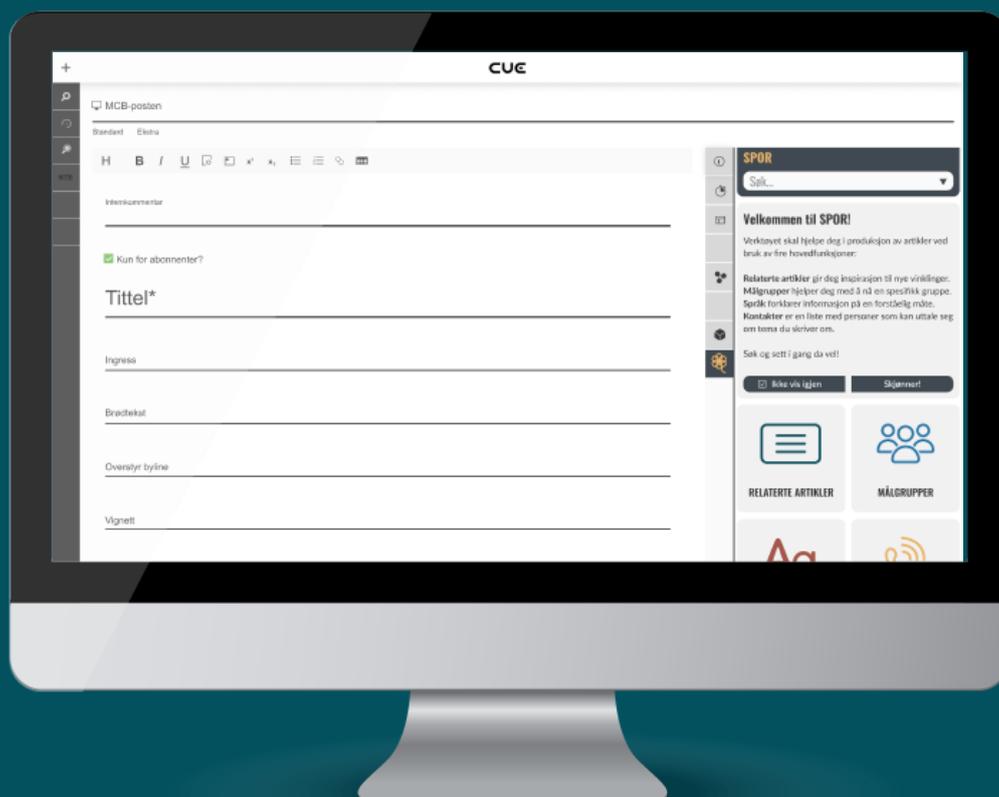
# SPOR

A PLUG-IN DESIGNED FOR AMEDIA JOURNALISTS  
IN COLLABORATION WITH QUEST

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# INTRODUCTION

The press is often considered as the fourth estate and is central to freedom of expression through its role as a mediator of information. **The digitization makes journalists face major new challenges.** Journalists are working under constant time pressure with huge financial pressure as well as the deadlines being fluid (Journalisten, 2014). As well as being efficient it's important for journalists to be sure that the information they distribute is not false or biased. It has never been easier to distribute and share information. The amount of information we can access with only one click makes it difficult to differentiate reliable information from fake news, especially when it comes to science information.

Working as a journalist requires writing about various subjects including science information where you have no prior knowledge. **The importance of good tools is therefore critical.** We have made a prototype called "Spor", which is a Norwegian development of the already existing tool Quest. The goal is to make the process of writing a science-based article easier and quicker, as well as easy access to reliable sources and content. It is developed to fit the Norwegian journalists' needs.

This report will take you through our bachelor project in MIX250. The main goal of the project is to design, develop and evaluate a functional prototype of Spor. We will start by explaining the background of this project. Then we will go through the whole design process with iterations and user testing. In the end, we will present the final results and our final thoughts and lessons learned through the project.

## BACKGROUND

Together with the City University of London we have collaborated on a project called Quest. Quest is a digital tool for journalists with the aim of uncovering new and useful angles in journalistic work. Their aim is to develop tools and guidelines for improving effectiveness in dialogue between science and wider publics (Quest, n.d.).

The challenge we have tried to solve is: **How can we further develop a complex international tool into a plug-in for Norwegian journalists?**

The Quest team wanted Amedia to be a potential customer. If we integrate Spor into Amedia's publishing tool it would be a great advantage for their journalists. We have therefore designed the product as a **plug-in**, an add-on for a program that adds functionality (Sterne, n.d.).



## OUR SOLUTION

Let's present Spor - the journalistic helper. We have made a plug-in that will help with everything from finding different science-based content, reaching target groups, language and possible sources. We will start by explaining some of the main functions of the prototype.

## THE MAIN FUNCTIONS



**Related articles:** The goal is to give both information and help to discover new angles about their already chosen topic. In addition it will make it easier for journalists to get acquainted with a theme they know little about in advance.



**Target groups:** This is made to help journalists reach a specific group. These are sorted by age and gender, and are specific for the topic. The function will present some general information about the target group and some tips to better reach the relevant audience.



**Language:** The function consists of three different categories; synonyms, metaphors and expressions. It will help journalists to enrich their language. The thought behind the synonyms is to prevent repetition. Both the metaphors and expressions have explanations to make sure that the journalists use them the right way.



**Contacts:** This is made to help find sources of information and people who can make a statement regarding the chosen topic. It is possible to sort into areas of expertise, gender and region so the user can choose if they want a local angle or not.

Spor makes you able to search for a topic within science information. The different categories should provide specific information regarding the chosen topic. Several of the features have filtering options to make the search even more specific. In this way, you get help on how to both write your article, direct it to different target groups and who you can contact for information. In order to retrieve the most important information at a later point, all the elements can be pinned.

To explore the prototype further, please click the buttons below:

[FINAL PROTOTYPE](#)

[DEMO OF PROTOTYPE](#)

## PROCESS

### Qualitative interviews

In the beginning of this project we conducted six qualitative interviews. The purpose was to get insight in the field from a journalistic view. We interviewed four journalists who are working or have worked in Amedia owned newspapers and people from the two companies involved. In a world without covid-19, it would be beneficial to do some fieldwork in addition to these interviews to get a deeper insight and triangulation of data.

	<b>AGE</b>	<b>PROFESSION</b>	<b>GENDER</b>
<b>CANDIDATE 1</b>	50 YRS	CHIEF PRODUCT OFFICER	MALE
<b>CANDIDATE 2</b>	25 YRS	JOURNALIST IN SANDNESPOST	FEMALE
<b>CANDIDATE 3</b>	25 YRS	JOURNALIST	MALE
<b>CANDIDATE 4</b>	21 YRS	JOURNALIST IN NRK ROGALAND	FEMALE
<b>CANDIDATE 5</b>	40 YRS	EMPLOYEE AT AMEDIA	FEMALE
<b>CANDIDATE 6</b>	25 YRS	JOURNALIST IN SOLABLADET	MALE

Table 1: Overview of informants from the interviews

## FINDINGS

The main findings from the qualitative interviews were:

- 1 Journalists worries about **losing distinctiveness** in their writing. The majority of the informants expressed that they would not feel ownership to their articles, if a program is going to change their way of writing.
- 2 Journalists have **hectic workdays**. Some were worried that it would take too much time using the plug-in, and that the process of writing an article would take even more time than it would without.
- 3 Journalists have concerns regarding **source diversity**. This applied especially to the contact function. The informants were worried that by having a source list would prevent diversity, which is important in good journalism.
- 4 **Scepticism regarding new technology**. It is often hard to convince journalists to use new tools, especially the older generation. They like the way they have always worked, and want to continue the same way.

“If you have a small database of sources, it will be statements from the same people over and over again”  
Candidate 7

“A program changing your language and your content may be a problem”  
Candidate 2

## SPRINT

The findings were very valuable when we were going forward in the process and running a design sprint. Google Ventures Design Sprint is a five-day process for answering questions by designing, prototyping and testing ideas on a target group (Knapp et al., 2016, p. 9).

Because of covid restrictions we had to conduct the sprint in an alternative way than it is originally meant to. We decided to conduct the sprint in four days with a timeline of three hours per day. The sprint had to be digital because of the regulations and participants from different areas. We therefore made a digital sprint board in Miro, an online worktool for digital collaborations.

When you are running a sprint it is important to have a decider, who preferably should be from the company to ensure their interests. Our contact in Quest was offered the role, but he declined it due to emotional attachments to the existing project. He appointed the role to another person involved, a journalist with great knowledge both of Quest and journalism.

We will now take you through our sprint and show some of the most valuable parts and exercises for our progress and finished product.

### DAY 1: ALIGNMENT WORKSHOP

Defining the challenge:

- High level map
- How might we
- Two year goal

### DAY 2: SOLUTION WORKSHOP

Defining the solution:

- Crazy 8s
- Solution sketch

### DAY 3: DECISION WORKSHOP

Finalize solutions:

- Voting
- Storyboarding

## Day 1: Alignment workshop

The goal with the first workshop was to explore what challenges we should try to solve. Before starting the workshop we sorted and presented the main findings from the interviews. By doing this we had more time to focus on the rest of the exercises. We also made a high level map to get an overview of the current Quest prototype as a user interacts with it. The workshop started off with making several “How might we”-questions (hmw’s) to define possible challenges. The top voted hmw’s and two year goal is shown in figure 1 and 2.

### HOW MIGHT WE...

...minimize the amount of options and buttons, but still include the most important functions?

...provide the journalists with enough freedom to feel ownership to their work, but still make them use the plug-in to enrich their articles?

...present the functions so that it also has a value for small local newspapers?

Figure 1: top three voted hmw's.

### TWO YEAR GOAL

In two years “Spor” has become a standard tool in the field of journalism and competes with Google when it comes to sources when writing a science article.

Figure 2: top voted two year goal.

### Day 2: Solution workshop

The goal of the workshop was to come up with different solutions to the challenges we explored in the previous workshop. We had different sketching exercises like crazy 8s (figure 3) and solution sketches (figure 4) to use in the next workshop.

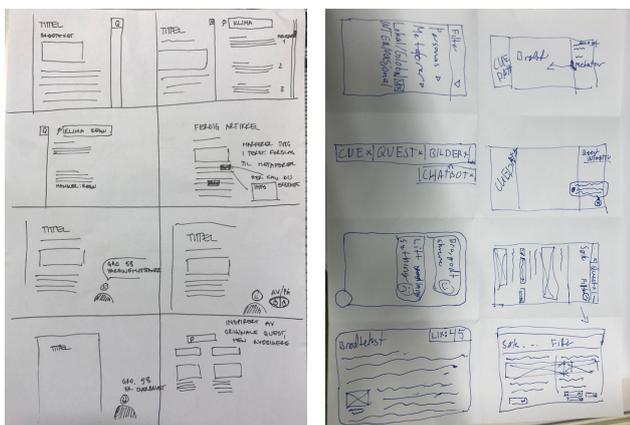


Figure 3: some of the crazy 8s.

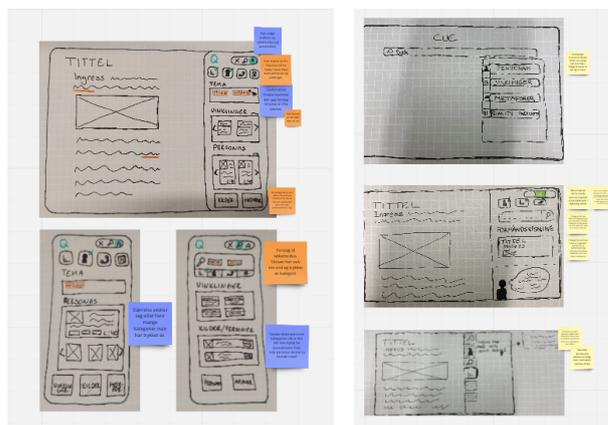


Figure 4: some of the solution sketches.

### Day 3: Decision workshop

In this workshop we decided what solutions we wanted to work with. We voted on the best solution sketches and used this to make a storyboard. The storyboard was the starting point to develop our first prototype for a user test (figure 5).

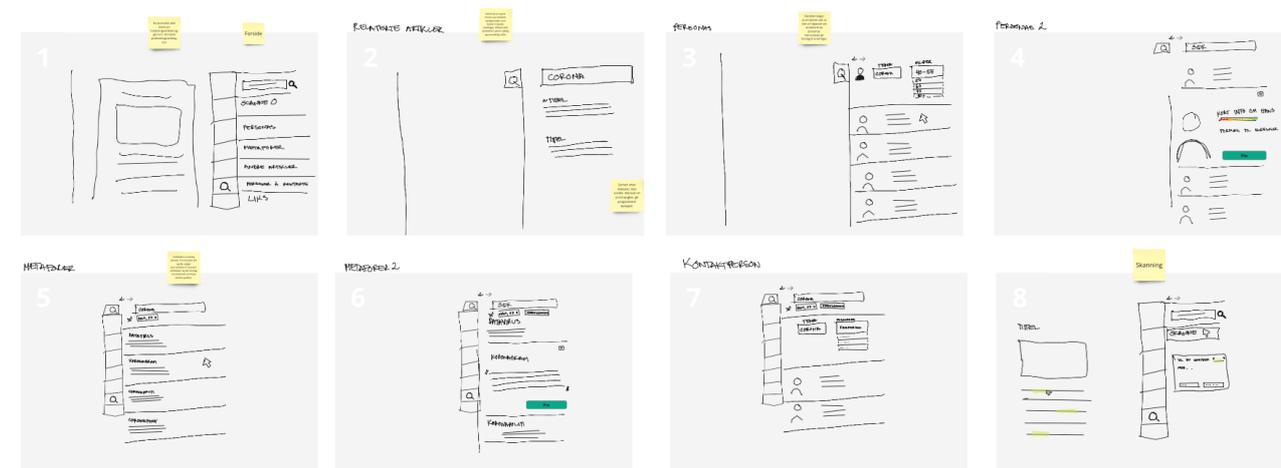


Figure 5: storyboard.

Click on the button to explore the first version of the prototype.



## User test 1 and feedback

The first prototype was more of a first draft. The goal was to find out if all of the functions were useful, and if the prototype was intuitive. This helped us to discover what was worth going forward with, and what we had to change (figure 6).



- Liked and understood the overall concept
- Positive regarding implementing a contact function



- Misunderstanding of the category "personas"
- Wanted to be able to pin everything
- People didn't understand the target group scale
- Wanted more narrow search option or narrower themes
- Wanted more language options. For example expressions

Figure 6: feedback from the first user test.

## Iteration sprint

Finally we had an iteration sprint where the goal was to work with the feedback from the user test and improve the prototype. Based on the feedback, we repeated the exercises from the previous workshops and ended up with a new storyboard (figure 7). Read more about the testing and feedback in the next chapter.

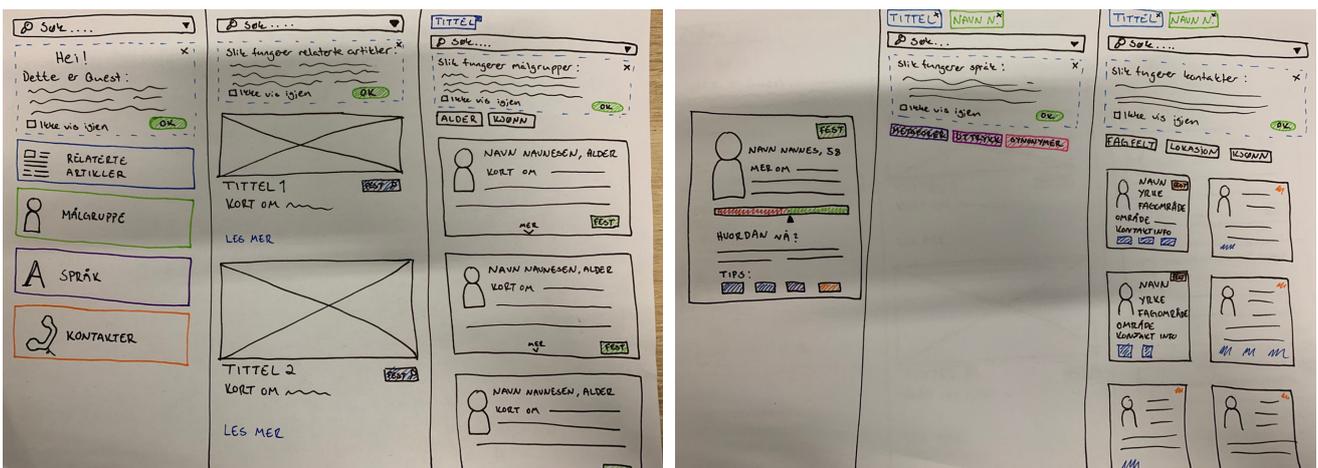


Figure 7: the new storyboard.

Click on the button to explore the second prototype.

PROTOTYPE SECOND VERSION

# USER TESTING AND FINDINGS

We tested the first two prototypes on ten journalists, five on each prototype.

	<b>AGE</b>	<b>PROFESSION</b>	<b>GENDER</b>
<b>CANDIDATE 7</b>	22 YRS	JOURNALIST IN TV2 SPORTEM	MALE
<b>CANDIDATE 8</b>	22 YRS	JOURNALIST STUDENT	MALE
<b>CANDIDATE 9</b>	22 YRS	JOURNALIST STUDENT	FEMALE
<b>CANDIDATE 10</b>	26 YRS	JOURNALIST IN BERGENSAVISEN	MALE
<b>CANDIDATE 11</b>	22 YRS	JOURNALIST STUDENT	FEMALE

Table 2: Overview of informants from user test 1

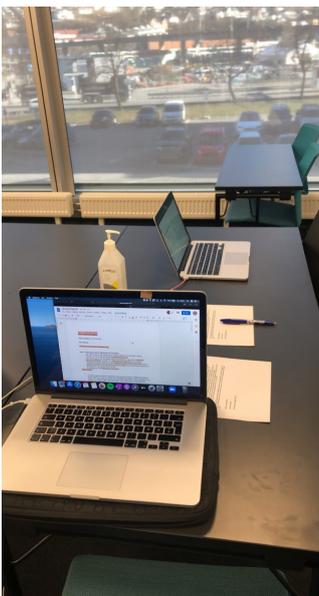
	<b>AGE</b>	<b>PROFESSION</b>	<b>GENDER</b>
<b>CANDIDATE 12</b>	23 YRS	JOURNALIST IN NRK	FEMALE
<b>CANDIDATE 13</b>	20 YRS	JOURNALIST STUDENT	MALE
<b>CANDIDATE 14</b>	21 YRS	JOURNALIST IN NRK ROGALAND	FEMALE
<b>CANDIDATE 15</b>	40 YRS	JOURNALIST IN TV2	MALE
<b>CANDIDATE 16</b>	22 YRS	JOURNALIST IN TV2	FEMALE

Table 3: Overview of informants from user test 2

We had seven physical tests and three digital (figure 8). Before the tests we made an interview guide for the moderator to follow (table 4). During the tests we had one moderator and one secretary present. All of the user tests were recorded and transcribed afterwards. The user tests were conducted in Useberry, which is a software that records and register how a user interact with a prototype (Useberry, n.d.). With this method we could go back afterwards to analyse the users moves and clicks while interacting with the prototype.

	<b>TIME</b>	<b>CONTENT / QUESTIONS</b>
<b>INTRODUCTION</b>	8 min	Information about the project and participation. Signing consent scheme to participate and allowing recording and storing data.
<b>CONTEXT QUESTIONS</b>	5 min	Easy questions to get to know them better and make them relax.
<b>PROTOTYPE AND TASKS</b>	20 min	Share screen and go through the prototype. Think aloud and receive questions.
<b>FOLLOW-UP QUESTIONS</b>	10 min	Follow-up questions to things stated during the walkthrough. Ask about positive and negative aspects of the prototype.
<b>DEBRIEF AND CLOSING</b>	2 min	See if they have something they would like to add. Say thank you for participation.

Table 4: interview guide.



The goal with the user tests was to check if the plug-in met the users expectations, and to see what we could improve. Since we got positive feedback on the content and functionality in the previous test, we wanted to focus more on the design for the second version. The feedback from the second user tests is presented on the next page (figure 8).

Figure 8: test setup for physical user tests.



- Liked the different functions
- Easy to navigate and user friendly
- Happy with the different language options
- They easily managed to pin information
- Liked the info-boxes
- Contacts was the favorite function and they liked the opportunities to filtrate



- Didn't understand the target group scale
- Concerns about chaos if you pin too much
- Misunderstandings of buttons
- Wanted more functionality such as making it possible to search and to pin everything

Figure 9: feedback from the second user test.

“It was clean, clear and consistent”  
Candidate 13

“I didn't understand what the number indicates.  
Is it good or bad?”  
Candidate 16

Before going forward with the final changes on the prototype we had a meeting with head of UX at Stibo DX, the developers of Cue. He has worked closely with Amedia for almost six years and has therefore great knowledge about the company and journalists. We received a lot of valuable feedback that we have taken in consideration whilst working with the final prototype. He was positive to the concept, but had some concerns regarding the design. Based on his previous research he discovered that it is easy to get distracted if there is too much stealing attention from the actual work.

“Focus on the supportive role. Be careful not to steal the focus”  
Head of UX, Stibo DX

## FINAL PROTOTYPE

After conducting two rounds of user testing we were left with a lot of feedback. In the final version of Spor we made some changes to meet the users needs and to make it more user-friendly. We will now present the main changes.

We changed the buttons to every function to make it easier to understand that the whole element was a button (figure 10).



Figure 10: old vs. new buttons.

We changed the design of the small buttons shown in figure 11 so the design was consistent.



Figure 11: old vs. new buttons.

We removed the scale in the target group feature because there was a lot of misunderstandings. We also changed the picture to make it more clear that it is not real people (figure 12).



Figure 12: old vs. new target group

Head of UX at Stibo DX made us aware of our use of colors. They took too much of the attention away from the actual work. We therefore changed some of the colors to make it less distracting and fit better with Cue's design (figure 13).



Figure 13: old vs. new colors

We changed the name to "Spor", since it is adapted to the Norwegian market. This means trail or footprint, and the meaning behind it's that the plug-in should work as a trail to writing good science articles. It guides them to reliable sources of information and gives them the opportunity to pin elements to easily find the trail back to relevant information.

## DESIGN CHOICES



### **Color coding**

An important part of the design of the plug-in is the color-coding. We decided to color-code the different functions so it would be easier for journalists to know what kind of information they have pinned. Results from the second user test showed that all the participants understood and were positive to this feature.

### **Consistency**

In our design we have followed the principle of consistency by making sure the same action causes the same reaction (Norman, 2013), therefore all the buttons look the same. We have also been consistent by using the same fonts, colors, sizes and spacing. In addition we have tried to make our design blend well with the rest of Cue, while we still have spiced it up a bit to make the users more interested.

### **Affordance**

Since our plug-in consists of a lot of information it was important to think about good affordance in the design, which is the relationship between how something looks and how it's used (Interaction design foundation, n.d.). We have used both text and icons on the different buttons to make it easier to understand what will happen when you click it. Hover-states clarifies that an element is a button.

We decided to have information boxes in the start of the program, and in every category. This helped the user understand what the plug-in could do and why it would be beneficial to use when writing a science article. This is something we got confirmed in the user tests.



# CONSTRAINTS AND CHALLENGES

## COLLABORATION WITH AMEDIA

- Hard to get hold of journalists to gain insight.
- Amedia owns many newspapers, how could we make it useful for all?

## DESIGN CHALLENGES

- Many functions to implement in a very narrow workspace.
- It has to be easy to understand and use for a varied user group.

## PROTOTYPING IN FIGMA

- Lack of hover alternatives that we would like to implement to make some actions more clear.
- Impossible to add search functionality which constrains the prototype.

## OTHER CONCERNS

- Lack of data to make it more functional and finished.
- GDPR regarding the contact function.

Figure 14: challenges during the process.

## FURTHER DEVELOPMENT

Our task has been to adapt Quest into a plug-in, with focus on content and design. We have not tested the interaction between Cue and the plug-in. This is a weakness with the study. It would be beneficial to conduct user tests where journalists actually write an article with support of the plug-in. This would give deeper insights and knowledge about how well the tools work together.

In order to make the plug-in more responsive, exploring the opportunities of implementing AI would be interesting. The number on the target groups, that was removed, could be made as a dynamic scale with AI. This would give journalists real-time feedback on their writing. Adding a chatbot to increase the responsiveness of the plug-in could also be worth exploring.

We would also make it possible to do some self alterations. Each media house should have the opportunity to develop and add to the contact function themselves. We got this confirmed by the Head of UX at Stibo DX that this would help regarding the GDPR issues.

## LESSONS LEARNED

Collaborating with Quest has been a very valuable experience that we have learned a lot. In the beginning, we experienced how distance and different cultures could be challenging. After closer dialogue, we gained a greater understanding of Quest's intentions and what they wanted from us.

The project has been characterized by insight and collaboration with many different parties. With many opinions and thoughts from different parties involved, it has been difficult to sort out the most important feedback and decide what to go forward with. We believe that this experience will be very useful in our future working life.

We have had to familiarize ourselves with journalists, which is a new area of expertise for us. It has been very interesting to discover what their needs were and to learn which considerations they need to make in their workday.

We have gained valuable experience in running a design sprint on our own. For the first time we have worked with an abroad company. The combination of this and covid has left us with greater knowledge and experience with online collaboration.

## NOW WHAT?

Studies have shown that young and newly educated journalists are more open to applying new technology at work (City University of London, 2020). This is something that we also experienced through our interviews and user tests. On the positive note we found out in the user tests that the tool can have better utility value for younger journalists in the form of inspiration and reference work. We can therefore say with greater probability that the tool will be useful for the ones who actually are interested in using it. We hope these young early adopters will work as opinion leaders and bring interest to the tool for the older and more sceptical generation of journalists.

The prototype will be a valuable addition for the Quest team. We hope that they can use it to build the real Cue plug-in and that it can be used by Amedia newspapers all around the country. The tool has some good functions that have gotten very positive feedback in the user tests, but there is still room for improvements, and the real content that will be used has to be translated.

As an ending to our bachelors degree we all have written individual theses. We all have different themes and focus points in our written assignments, but in one way or another we have written about the possibilities for development and improvements of this project. We hope that the combination of the prototype, theses and the insight we have gained through this project will have a great value for Quest and the further development of the plug-in.

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