READING GUIDE
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ADVANCED MEDIA DESIGN

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The assignment

Our assignment is to design a dashboard that makes it appealing for healthcare workers to fill in the surveys as provided by the Joint Efforts project and to give them more information regarding how their data is being used to improve their working conditions.

Context

During this semester, our group will be working on the Joint Efforts (Samen aan Z) project for the Lectorate Interaction Design of Fontys University of Applied Sciences. This project is an ongoing project with healthcare in the Netherlands and in Belgium.

The Healthcare industry has been suffering from a rising staff shortage for the past few years. Job openings aren't being filled and in the short term there is a need for replacement in the current health and care sectors, because one in three Flemish people are 50 years of age. In North-Brabant 36% of Dutch people are 55 years of age and in Zeeland that number is 43%

In order to tackle these issues and get insight from the source (the healthcare professionals) our partner companies created a set of surveys to gather insightful data that could help find the right solutions and create the right working environment for them to keep growing.

The Joint Efforts project is a collaboration between several companies and research institutions. There have already been some things presented to the stakeholders of the project, for instance the dashboard for the researchers.

Goal of the project

The goal of Joint Efforts is to gather as much useful data as possible from surveys, so that researchers can research the data and potentially find solutions to the low healthcare worker retention. By researching with the surveys, the project aims to create a work environment that doesn't stress out the healthcare workers and keeps them motivated an interested in their work while they get the chance to learn and develop themselves. The Joint Effort projects want to connect several organisations to divide the workload between different organisations and thus increase the impact and possibilities of the project, as tried before by organisations during the COVID-19 pandemic.

The goal of the lectorate project is to develop and design a dashboard where healthcare workers can see their data, how it's being used and why they should fill in the surveys.

Description of the process (&results)

Project plan

To start off the project, we made a project plan after talking with several stakeholders of the project. This project plan defines our research questions and what we would like to accomplish during the semester.

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Research questions

Main research question:

How can we make the existing program more appealing and engaging to healthcare workers?

1. Sub-question: What are the issues of the current surveys?

2. Sub-question: How do we communicate the importance of the survey to the healthcare workers

in the dashboard?

3. Sub-question: What are ways that we can make the program more appealing to fill in?

4. Sub-question: What are ways that we can make the program more engaging to fill in?

5. Sub-question: How can we make an appealing dashboard in terms of design for the healthcare

workers?

6. How can we increase the chance that healthcare workers will continue to fill in the surveys?

Team agreement

The Team agreement is the agreement we all made as a team so that we know what we can expect from each other.

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Personas and user journeys

For the research question 'What are ways that we can make the program more engaging to fill in?' Tessa & I worked on several personas to visualize several (possible) groups of healthcare workers. Our idea for the personas is to continue updating them through the semester based on data we collect. The first versions are meant as fictional healthcare workers, each with different goals and interests. Based on these personas we can try to find possible issues and solutions for our eventual application, as well as simulate how these different fictional people could use and experience the end product.

The personas are connected to the research question ' What are ways that we can make the program more engaging to fill in?', as we are researching how the user engages with our dashboard in various stages, and to find possible negative experiences that can impact the engagement of the user.

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Group Ideation

We got the advice from a coach to do more activities as a group to promote teamwork and group bonding. As such, we did a group ideation session where we would think of ideas to fix our main research question (How can we make the existing program more appealing and

engaging to healthcare workers?). We did this by standing at a whiteboard with the whole team and we would pass down a whiteboard marker so that everyone could add ideas to the board.

We eventually developed the mobile and desktop application from this ideation session, and we tested the QR codes as an idea.

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QR Code Test

To answer the research question 'How can we increase the chance that healthcare workers will continue to fill in the surveys?', we (Robin & Tessa) wanted to test the effectiveness of using QR codes as a way to direct people to a survey, to see if we could use QR codes in our final product as an easy way of going to the surveys that healthcare workers have to fill in. We placed several QR codes throughout the TQ building, each with different location identifiers so that we could see where the QR code was scanned. A dynamic QR code system that we used would count the amount of scans for as, giving us a clear idea of this number. After the scan a user could fill in a survey.

Our test found that QR codes don't get scanned as often as we would like. In addition, the surveys got filled in by very few people compared to the number of scans. As such, we chose to look at other ways to get healthcare workers to fill in the surveys more.

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Ideation and Paper Prototype

During the Advanced Media project, we (Tessa and Robin) did several ideation sessions. During these sessions, we came up with several different ideas to make the surveys more engaging and appealing, after Tine told us that the data that the project had collected thus far was incomplete after too many of their test users did not complete the interventions (and thus didn't fill in all of the surveys that the project needed).

We're going to test these concepts with a paper prototype that we've made. This paper prototype contains several screens, so that the user can go through the entire concept application. Some of these screens have several variations, so that we can test which screens are preferred by the users and us.

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Expert Interview Tine

To get more information regarding our project, and to answer the research question 'What are the issues of the current surveys?', we planned an expert interview with Tine Averens. She is a researcher and lecturer at the University of Antwerp, and she works on the surveys for the healthcare workers that the project is going to implement into an application. She sent us the surveys beforehand, but we still had some important questions for her both regarding the surveys as well as the problems she has experienced during the first trials with the surveys that she has run.

The goal of the project became much clearer to us after this interview. We now have an idea of what has been achieved previously and how the project would like to move forward and focus on. Additionally, we now understand what our role is in the project and what is expected of us. We have much more freedom than originally thought, and this creates new opportunities to find and develop ways to engage users. Now that we have access to the

survey and we have our questions answered, we finally have a clear idea of what this project is about and how we can move forward.
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Interview Mark Klerkx

Co reflection & pitch

Mark Klerkx is the person that runs the Samen aan Z project within the Lectorate Interaction Design. As such, we got asked to show our progress to him so that he has an idea on what we are creating.

During this presentation, we took make through our process as a group. We told him who we've had contact with, what ideas we had for the project, and what we plan on doing moving forward. He was very happy with the work that we've done, but also gave some good feedback to us that is useful for our future work. For example, he told us that it may be beneficial to focus on nurses as our main target audience, as those experience the most stress at work and may benefit the most from this project.

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Test paper prototype

We're going to do two test with the paper prototype: one paper prototype test and one A/B test.

In the paper prototype test, we let the user experience our concept application in full freedom. They can use the application as if it was a real application. After this, we ask them a few questions regarding the application to see how they experienced it and what they think about it. The main focus of this part of the test is to see what the user thinks about our reward systems. There are three versions of the reward system that we've going to test.

With the A/B test we are going to compare different design iterations to find out which the user prefers, to find out which designs we can use best in our final design. This test focuses on the different designs for the progress tracker.

I did the test with one test person, after which we switched from the paper prototype test to the final prototype test. We did get some good insights on our product from this one test, but it needs more validation in a later phase.

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C4 Model Samen aan Z

We made a C4 model for the Samen aan Z project so that we would have a clear understanding of what our app will look like and how all the components connect to each other. With this C4 model we started development on both a desktop and a mobile application.

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SurveyJS research

For the development of our mobile application, Tessa and Robin needed more information on SurveyJS: a library that makes it possible to create surveys. The SurveyJS library is already being used by the development team of the Samen aan Z project, and by using the same library we can make the integration of our app with their app easier. At the same time, we

can make this a test to see how well the SurveyJS library works on mobile, as that hasn't been tested yet by the main development team.

This deliverable is an answer to the research question 'What are ways that we can make the program more appealing to fill in?

', as it looks at the features of SurveyJS and the possible improvements that we can make to the design of the surveys.

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Design Document

Tessa and I made a design document to show the development process of our applications, the criteria we set up beforehand, and to explain the choices that we made during development. The document also refers to any images that we have used in the application, and shows inspiration for certain features. The application is hosted on Netlify (https://samenaanz.netlify.app/) and the code is stored on Github (https://github.com/Lightsilversnow/reward) .

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Test mobile app

For the research questions 'What are ways that we can make the program more engaging to fill in?' and 'What are ways that we can make the program more appealing to fill in?', Tessa and I made a test plan to test our mobile web app with. The plan is two tests in one: a field trial and an A/B test. We tested the app with the contacts that I had gathered during the semester. We tested with people from three different heathcare institutions, for a total of six users.

This test showed that the rewards system in it's current for doesn't resonate with users. The users would much prefer physical rewards, a notification system, or adding the surveys to their weekly schedule. The app was easy to use and learn, and filling in the surveys was no problem for them. The smileys really made in impact in the survey screen, and our advice will be to keep those in the application if possible.

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Advice Document

Tessa, Matias and I made an advice document to give to our stakeholders and the next team within Fontys to work on this project. We gave a summary of all of our findings, with some tips on how to handle things (differently). This way they can have a head start on the project, and continue our work.

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Communication Document

I made a communication document to show my communication skill and experience during this semester. The document contains a summary of all the people and organizations that I had contact with, and it shows some e-mails that I've typed during the semester.

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Answers to the research question

How can we make the existing program more appealing and engaging to healthcare workers?

The main research question wasn't answered definitively because we didn't conduct enough tests and made enough iterations for a definitive answer. We did find ways to make the

application more appealing and engaging, and we also tested a lot of ideas that didn't work, as noted down in the documents we made.

What are the issues of the current surveys?

The issues of the current surveys is that users don't continue to fill them in for the entire length of the project run. They stop filling them in after a few weeks, making the data inconclusive. The reasons for this are as follows: the monthly and biannual surveys are too long, the results aren't communicated back to the users, and the users have to add filling in the surveys to their schedule themselves.

What are ways that we can make the program more appealing to fill in?

We can make the program more appealing by

- Adding smileys to the surveys.
- Putting the questions on different pages.
- Making the app focused on the surveys, and not contain much information other than things related to the surveys.

What are ways that we can make the program more engaging to fill in?

We can make the program more engaging by

- Explaining to users how the surveys have helped improve their work environment.
- Giving users a physical reward after they've filled in a certain amount of surveys.
- Filling in the surveys at the same time with the entire department or team.

How can we make an appealing dashboard in terms of design for the healthcare workers?

I already answered this question in the research question 'What are ways that we can make the program more appealing to fill in?'. This question was originally created because we weren't sure if we were going to develop a mobile or desktop application, but is now redundant.

How can we increase the chance that healthcare workers will continue to fill in the surveys?

We can increase the chance that healthcare workers will continue to fill in the surveys by:

- Making sure that the surveys get added to their work schedule.
- Letting the users fill in the surveys together with the rest of their department.
- Giving the users clear and frequent updates on what is being done with the results of the surveys.
- Giving the users the option to get notifications to remind them to fill in the surveys.

Individual project

Project plan

Before I started researching for my portfolio, I made a project plan. In this project plan you can find what my goal was with this project, the research questions and methods that I planned on using, and the schedule for the first few weeks of working on the project.

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Research questions

Main research question:

How can I make a portfolio for my Advanced Media semester?

Sub questions:

- How can I make the portfolio easy to navigate?
- What should I focus on when presenting my work?
- What are the requirements for the portfolio based on my research and requirements from school?

- How do I make the portfolio personal?
- What programming languages and tools can I use to build my portfolio?

Research on good and bad practices

To start off my research I looked at portfolios developed by other people. I analyzed how they worked, what things are at which places, and what I liked and disliked about them. Afterwards I made a list of things I noticed and could use on my own website.

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Research on animation libraries

I continued by researching animation libraries, as I wanted to add some animations to my website. I found three different libraries, each with pros and cons, and chose to work with Animate.css because it's easy to use and has a lot of features.

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Design Pattern Research

I researched design patterns to use on my portfolio. I wanted to use these patterns to make my website easier to navigate.

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C4 Model

Bardt advised me to make a C4 model of my website to make sure that I had clear what components my site consist of. I first looked at instructions for making a C4 model and some examples, and than made my first ever C4 model for my portfolio. The model helped me with understanding the setup of my website, and to verify if I had everything in the portfolio that needs to be in there.

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Design Document

I made a design document for my own portfolio, where I explain the process that I took for developing the website as well as explain my design choices.

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Test portfolio

I made a testplan for my portfolio that contains an usibility test and an A/B test. I tested using this plan to see if my portfolio works as I intended.
The users have no problem navigating the portfolio, but there are some improvements that I can still implement.

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Answers of the research questions

Main question: How can I make a portfolio for my Advanced Media semester?

I can make a portfolio by using HTML and CSS, and by researching several ideas for my website beforehand. Later I implement these researched ideas.

How can I make the portfolio easy to navigate?

By adding a clear and easy to use menu with which a user can move to the most important pages in the portfolio (Home, Projects and Learning Outcomes). I use proven design patterns as a basis for the navigation of my site.

What should I focus on when presenting my work?

I should focus on explaining the process of my work by starting with an introduction, followed by the process, and closed off by the conclusion and the research questions.

What are the requirements for the portfolio based on my research and requirements from school?

- The website has to work in the two most popular browsers (Chrome and Firefox). Edge uses the Chromium engine, so if the website works in Chrome it also work in Edge. I will still verify this to be sure.
- The website has to work well on desktop computers. The website will not be optimized for mobile.
- All pages have to be easy to find by the user by adding a comprehensive top menu and breadcrumbs.
- The website uses black/white combinations as theme. Some variation is allowed: the black doesn't have to be completely black and the white doesn't have to be completely white. Colors we be used sparsely.
- Make the learning outcomes connect to the deliverables that are relevant for a specific outcome (via a hyperlink), and make the deliverables connect to the learning outcomes (via text).
- Have an overview of all the deliverables for a project on a single page, so that the user has an overview of all deliverables for that specific project.

How do I make the portfolio personal?

I add an about me page with some personal information and a photo, and I add a video player to the top bar.

What programming languages and tools can I use to build my portfolio?

I will use HTML, CSS and Javascript. I can add animations with Animate.css.

Reflection

During this semester I did the communication between our group and external people and organizations. I also was the reserve group leader. I made the choice to not be the main group leader this semester as I wanted to give someone who wanted to practice more with being group leader a chance to do this, but because of my leadership experience I did get appointed as the reserve and I would help the group leader as much as possible.

At the start of the project it became clear to me that the situation of this project was comparable to my project last semester. The lectorate recently joined the project and was still figuring out what was expected of them and who within the project had what kind of role and information. This meant that we as a group had to find the relevant people in the project ourselves and plan meetings with them to find out what they know and in what situations talking to them was relevant. As the person that handles communication, most of this burden was on me, as well as on the group leader (Tessa). We eventually fixed this problem both by talking to different stakeholders and being sent to other stakeholders by them, as well as by using the Samen aan Z website to find people that may be useful to talk to about a specific topic. After talking to all the relevant stakeholders, it became clear what the project is about.

The group work didn't quite go as I'd have liked. At the start, only Tessa and I worked on the group project and updated everyone on our work. The second main issue we faced was that people's attendance wasn't great, with some people being unavailable for weeks without notice. To fix this we tried several things, including making a group contract. While the contract did improve the work ethic a little bit, it still wasn't good enough by a long shot. Because of this, Tessa and I asked our coach to step in, and she sent everyone an e-mail with a clear warning about the group process, and set some new rules for the group. After this warning, two of our group members showed great improvement. However, two didn't. We eventually got permission to kick them out of the group in the middle of December. This meant that we were left with four people. I think there should have been taken action on this problem much earlier, so that we as a group had an idea of what we were up to. Having to keep pushing Dylan and Sarah for months took way too much time and energy, and in a next semester I will no longer tolerate this. This energy could've been put into the project, and so next time I will try to take more action on this myself instead of waiting on the coaches to come up with a solution. I would have suggested a solution instead. I believe it would have made the group much more productive and fun if action was taken early and decisively.

During our test at Catharina it came to our attention that one of the nurses expected our test to be something else. I quote 'I thought the test would be about retention in healthcare.' Tessa and I were both a bit confused about what she meant, as the test was about retention in healthcare. I later suggested that it may have something to do with the way our question got passed along in the hospital, as there was about two months between us contacting the hospital and our appointments. We also changed part of the test because of the long time it took to plan a conversation with workers, and added the mobile test as the first part of the test (but kept the interview as the second part of the test). This may also have scared the nurse(s), as they may not have expected to have to do a field test. Next time I will make sure that the information about the test is clear beforehand by sending each test person a briefing in their e-mail, and I will update the test persons with any new additions to the test so I can be sure that the problem is caused by me.

Evidence (table)

Appendix: Evidence

Learning outcome	Proof
User interaction (analysis and advice) You analyse the user, the interaction, and the user experience, also taking state of the art interactive technologies into account. You select a suitable design process to be able to advise on UX interventions based on a validated UX design.	Tine Expert interview Group ideation Personas and user journeys QR code test Ideation and paper prototype Design Document Samen aan Z Design Document Personal Project Design Pattern Research
User interaction (execution & validation) You execute and evaluate the user experience of an interactive product. You document the development process for the stakeholders.	Design Document Samen aan Z Design Document Personal Project Ideation and paper prototype Test paper prototype Test Mobile App Advice Document Test Portfolio
Software development You create & design software with existing components or libraries using predetermined quality criteria and version control.	Design Document Samen aan Z Design Document Personal Project GIT Samen aan Z GIT Personal Project SurveyJS Research C4 Model Samen aan Z C4 Model Personal Project Animation Library Research
Future oriented organisation You carry out a problem analysis and on that basis, you determine the definitive problem and elaborate on this in a project plan.	Project Plan Samen aan Z Project Plan Personal Project Tine Expert interview
Investigative problem solving You formulate sub-questions pertaining to the primary question and answer these using relevant research methods. You use the conclusions of the sub-questions to justify (design) choices.	Project Plan Samen aan Z Project Plan Personal Project Reading Guide Design Document Samen aan Z Design Document Personal Project
Personal leadership You methodically reflect on your professional identity and personal development.	Reading Guide Advice Document Test Mobile App Team Agreement
Goal-oriented interaction You communicate with different stakeholders and team members	Tine Expert interview Mark Klerkx interview Communication document Team Agreement

about the ICT assignment, taking into account an international context.	Advice Document International week