



# Technical Report

Semester Project 1

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# 1. Report – Semester Project 1

## 1.1. Introduction

For this assignment, I have made a responsive website for the Community Science Museum. The target audience for this interactive museum is primary and middle school children (ages 7-15) and families with young children. The brief states:

*"The museum wants an informative, appealing website to attract middle school pupils and their parents. The site should appeal to youngsters without pandering; it should take for granted that the audience is curious and intelligent. The website should be informative and engaging, encouraging viewers to visit the museum. The website should be responsive and easy to use on various devices."* (<https://content.noroff.dev/semester-project-1/brief.html>)

These parameters were taken into consideration when developing the design for the desktop and mobile-view websites. The website I have created for this project is prototyped in Figma and programmed using HTML and CSS in Visual Studio Code. In this report, I will talk about my workflow and how I completed this task.

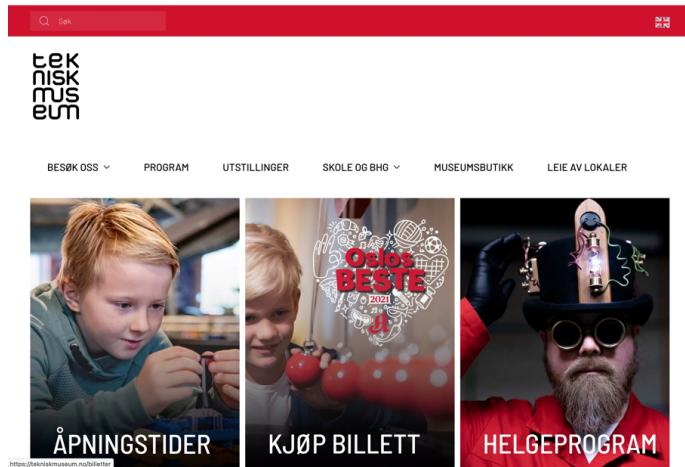
## 1.2. Research

The first thing I did when receiving the task was to look at other museum websites on my computer and phone to get inspiration for the look as well as see how they structure and present the information. The museum sites I thought were most inspiring were Paradox Museum, Teknisk Museum, and Munch Museet.

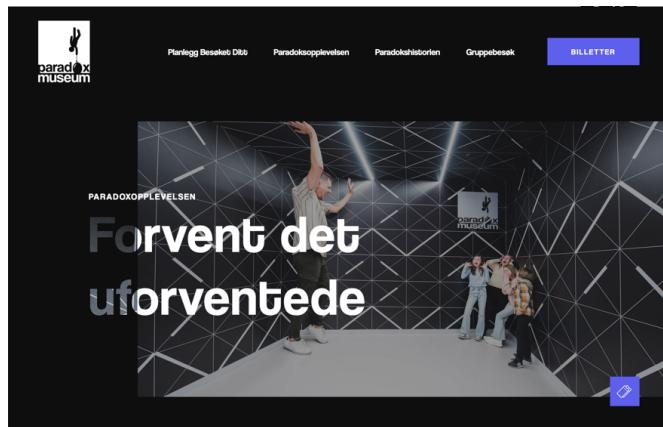


[www.munchmuseet.no](https://www.munchmuseet.no/koop-billetteringangsplassen)





[www.tekniskmuseum.no](http://www.tekniskmuseum.no/billetter)



[www.paradoxmuseumoslo.com](http://www.paradoxmuseumoslo.com)

The main points I noticed looking at these websites were:

- The design is simple and minimalistic
- They use simple and clear sans-serif fonts, often as uppercase
- Use of strong color contrasts, often black, white, and a vibrant primary color
- A lot of imagery on the sites showing off the exhibitions
- More images than text on each site
- Only menu bar on top, not on any of the sides

These are elements I will use in my own design as well.



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The next thing I did was to create a couple of personas out of my target audience to get to know and better understand the museum's audience. This would later help me choose what images, colors, and fonts to use.



## PERSONA 1

**MARTHA HANSON**

**Age:** 39  
**Family:** Married, 2 kids  
**Occupation:** Teacher  
**Car:** Toyota Auris  
**Likes:** Spending time with the family on week-ends. Likes visiting cities and museums. Loves to cook as well as knitting and gardening.  
**Dislikes:** Extreme sports



## PERSONA 2

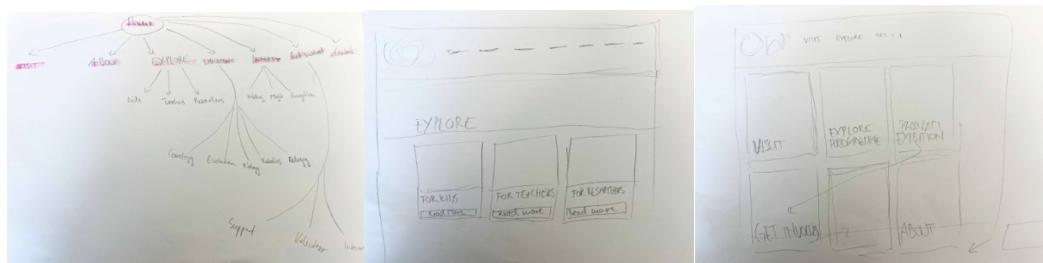
**WILLIAM FAY**

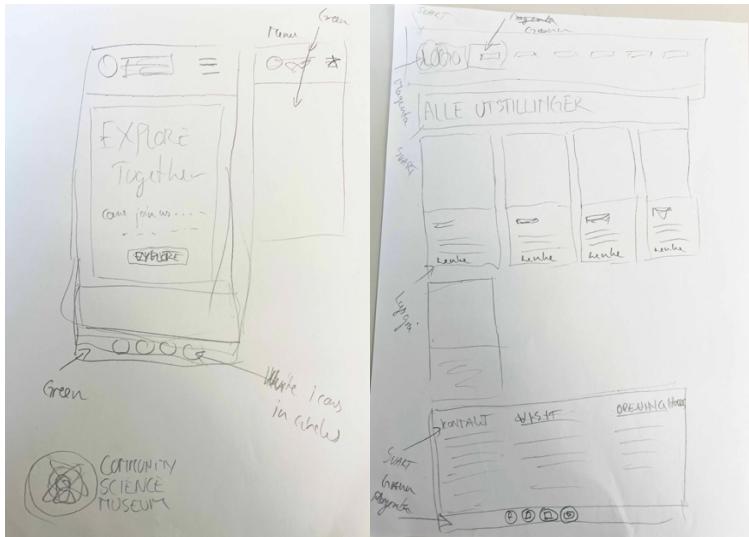
**Age:** 9  
**Family:** Mom, dad and big sister  
**Favourite food:** Tacos and pizza  
**Favourite color:** Blue and green  
**Likes:** Football, technology and gaming  
**Dislikes:** Broccoli, Barbie and being bored

### *Personas*

### 1.3. Ideation

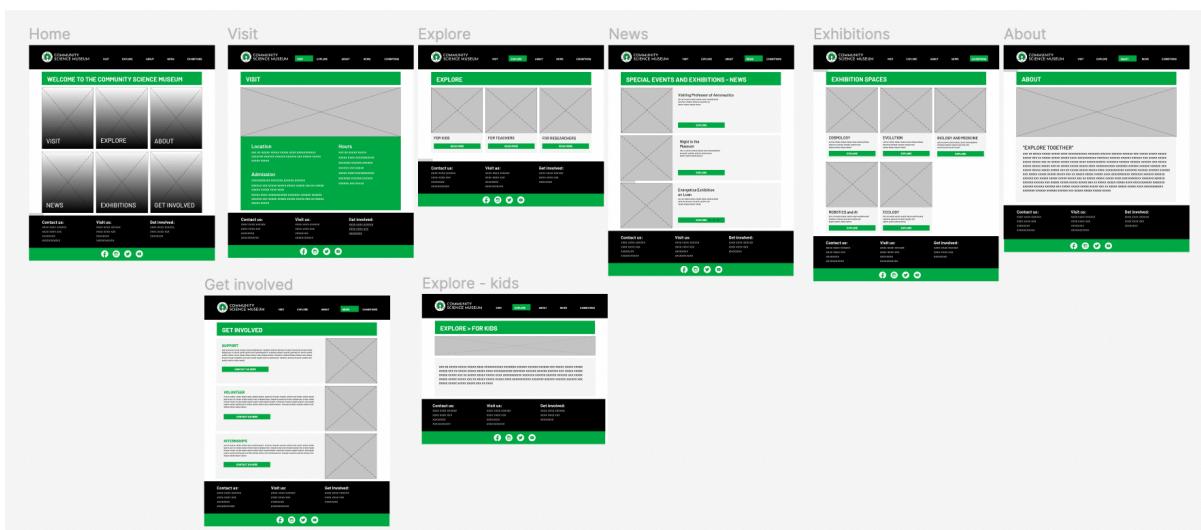
After completing my research, I made low-fidelity wireframes by hand. I played around with different design solutions for all the different pages in the site architecture for both the mobile phone and the desktop version. The goal was to keep a visual red thread between the two versions.

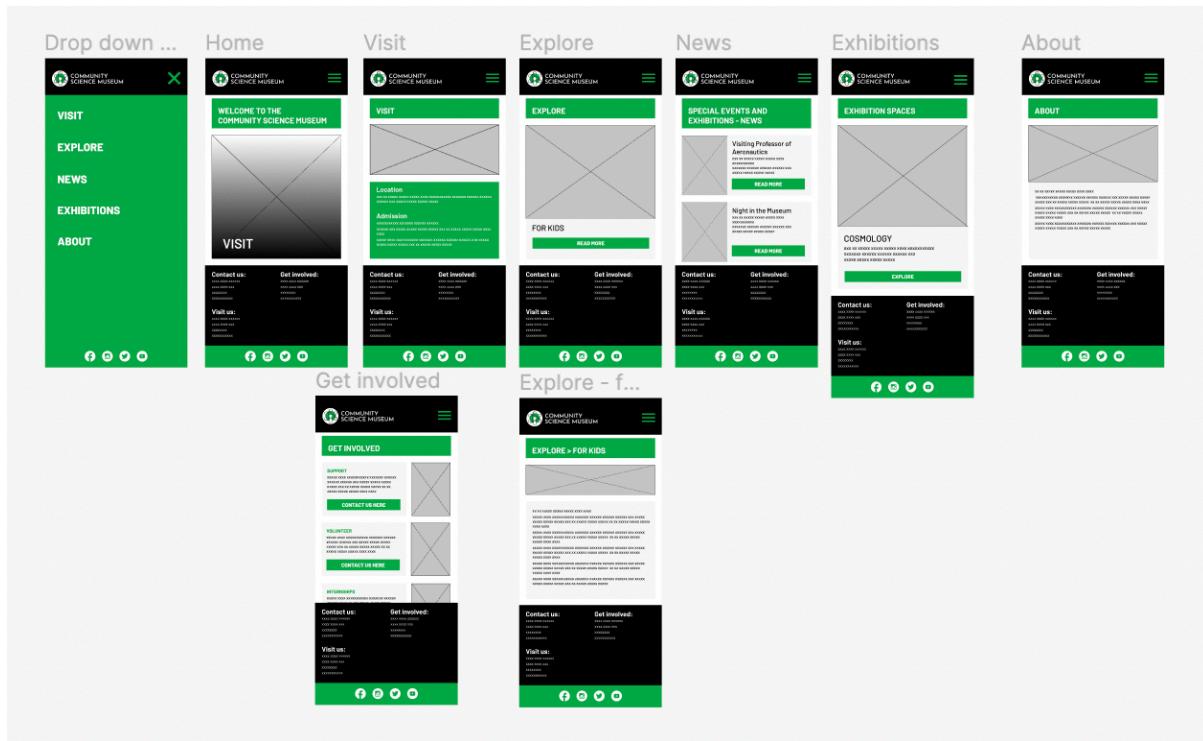




*Selection of low-fidelity wireframes*

When I had a few different ideas on how to solve the design, I went into Figma and started creating the mid-fidelity wireframes. I made two versions of the user flow, one for the desktop version and one for the mobile view. I chose to do the designs for iPhone 13 Pro Max and MacBook Pro 16". I used Barlow as the typeface and only the colors grey, black, white and green for the mid-fidelity wireframes. The reason for this was to get an idea on how to layout the pages purely thinking of the usability, without putting too many design ideas into it.





*Mid-fidelity wireframes*

## 1.4. Images, fonts and colours

With my research and inspiration in mind, I started off by choosing colors. I wanted to go for a simple white, black, and grey look paired with a bright and fun color that would be appropriate for kids. I chose to go for the bright green color from the logo as the fourth color. The rest of the colors would be added by using colorful imagery on each page. The logo was only a symbol, but I also wanted the museum's name together with the symbol as a part of the logo, so I had to pick out a font that would pair up well with the symbol. My choice fell on the font Josefin Sans because of its geometrical shapes which I think suited the theme of the museum. I chose to use a simpler font for the rest of the text on the site. The choice fell on Barlow because it is simple, clean looking, and easy to read for the target audience in both uppercase and lowercase. It also comes in many different versions which is handy to use when making an information hierarchy.





*CSM logo with added text*

#### 1.4. UI elements

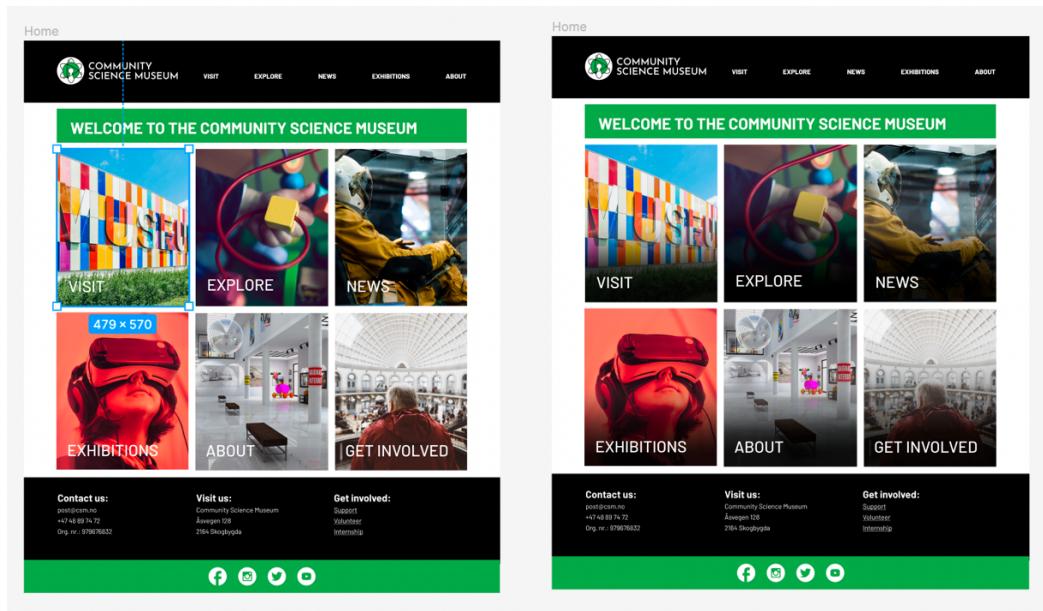
The icons I chose to use for the website are imported from Iconify. I went for simple, filled-in icons in white. I also designed the CTA buttons in the same green color as the brand logo for the light backgrounds, and white for the darker backgrounds to make them stand out on the page.

#### 1.5. Layout

For the layout, I was inspired by the pages I looked at in my research and built my desktop design around a three-column grid with a top menu bar. For the mobile version, I went for one column and a drop-down hamburger menu to make the pages less cluttered so the information will be clear and easy to read.

#### 1.6. Prototyping and user testing:

After designing all the pages, I started to prototype the site. When I thought I had made all the connections working, I got my husband to user test it. The one thing that had to be improved was the readability of the exhibitions page. The text on top of them was too hard to read, so I had to take the images into Photoshop to edit them. I added a dark gradient at the bottom of all the images to make the text pop and increase the readability.



Before

After

## 1.7. HTML and CSS

When I started programming this site, I started off making eight html files for all the different pages in my prototype/site architecture. I chose to make eight pages because then every link in the menu bar had a page to go to, and one extra page to see how it would link from one of the menu pages to an under page. Quite a few of the CTA buttons are going to link to pages that are not yet constructed. In these cases, I have chosen to link them to its current page for now.

I then gave each page a unique meta description and title. The feedback I got on my last html project from my tutor was that each page also needs a unique h1, so the next step was to add this to every page.

After all the pages and the stylesheet were made and the image files were uploaded, I started to work on the header of the page. The header contains a logo and a menu bar. On mobile view, the menu bar turns into a hamburger menu. The menu bar has a hover animation and a green box marking what page you are currently on. The reason for adding this is to make the site more user-friendly, interactive, and easy for kids to navigate around. The navigation of the site is clear because the menu bar changes color, the headings are



clear and easy to read, and the CTA buttons stand out from the rest of the design which makes the user understand they are clickable.

The next step was adding content in HTML and styling it with fonts, colors, and background images in CSS. I imported Barlow from Google Fonts into the top of my stylesheet as an @import. This is something I learned from my last project which I thought worked well. I have used the DRY principle in my CSS file and have been going through and tidying it up on a regular basis throughout the project. I have given it a tidy structure and this time I don't think I am repeating myself in the media queries. I have kept all my styling of the site in the CSS document, so my HTML does not contain any inline styling. I put the opening hours into a tablet to make it look neat and tidy. I had to make Mr. Dipple help me with this, seeing as I have not yet learned how to make tables in this course. This time I knew that I had to start programming the mobile version first which made the whole process much easier. I added four media queries to the CSS to make the site responsive. The layout goes from three to two, to one column to make it work on both phones, tablets, and desktops.

When all the code was added to my HTML I used Prettier to format it in Visual Studio Code. The code should therefore be semantic. However, I find that Prettier does add some dashes that appear as mistakes in the code when I run it through the code validator.

## 1.8. Changes

I have made some design changes in my HTML that differs from the prototype:

1: I chose to have the menu bar on a line under the logo instead of next to it to have enough room to make the text big enough for everyone to read.

2: I decided to put "get involved" in the menu bar instead of in the footer. The reason for this is that I can now always show what page the user is on in the menu bar. I made this change after getting feedback from my fellow students after posting the site to Discord.

The website is tested on Safari, Firefox, and Google Chrome and the page works fine on all three browsers after a few, minor adjustments in the media queries. The responsiveness is



also checked on several different devices such as phones, tablets, and desktops. I have also made sure that all the images are less than 200kb so the loading time does not take too long. All the images are cropped to size in Photoshop, and they all have alt texts when they appear in an HTML file.

## 1.9. WCAG

I ran the website through the Wave tool to test the accessibility of the site. At first, it was a few mistakes that came up.

1: White text on the green backgrounds in the menu bar and some of the CTA buttons were not clear enough for everyone to read. I solved this by increasing the font size.

2: The white text on top of the images on the exhibitions page still did not have enough contrast for everyone to read. I solved this by giving the images an even darker gradient. It still comes up as a fault. But it is clear to me now that the white text is on a black background and easy for everyone to read on all devices, so I am keeping it as it is now.

3. The white paragraphs on the green background on the visit page were not clear for everyone to read. I solved this by making the text color black.

## 1.10. Bug-fixing

On my last project, I got the feedback that I should not use the <br> tag to do a line break in a text. I solved this by styling the paragraph tag <p> with a margin underneath it.

I also ran my code through the W3 validator. It made me delete all the “trailing slash on void elements” that Prettier had created.

The only mistake left from the validator that I did not fix is: “Section lacks heading”. The suggestion to solve this was to use a <div> instead of a <section>. But from Noroffs tutorials I am told to use <section> instead of <div>, so this is a bit confusing. I decided to keep the sections as they are.



## 1.11. Conclusion

To be able to design a user-friendly website for the Community Science Museum I have researched other museum sites, made two personas out of the given target audience, and formed a design based on what I think this group of people's preferences and user needs are. I have used ideation techniques such as low- and mid-fidelity wireframing, made a color palette based on the museums' logo and other similar pages, adjusted pictures in Adobe Photoshop, and picked out appropriate fonts, images, and icons for the website based on the findings in my research. I think the finished product works well in showcasing the museums' exhibitions. I also think it is easy to navigate and visually speaks to the target audience through its use of bright, contrasting colors and simple and clear typography. I have programmed a website using HTML and CSS that is semantic, follows the DRY principle, and is bug-free. It has been tested on several browsers and devices and is now responsive as well as accessible. If I was to do something different, I would add animation to the desktop version on the exhibitions page when you hover over the different category images to make it even more interactive. But all in all, I am satisfied with the job that I have done.



## 2. References

developer.mozilla.org  
figma.com  
googlefonts.com  
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paradoxmuseumoslo.com  
tekniskmuseum.no  
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unsplash.com  
validator.w3.org  
wave.webaim.org

