

Report – The science museum

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Introduction

This report will tell in detail how I went through the process and the different stages in particular of creating a mobile responsive website for the fictional “Community Science Museum”.

The project is completed using competence acquired during the first semester of my Front-end Development studies. These skills consist of those within design, web and communications technology, HTML, CSS and project methodology.

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Interpretation

To get an insight to my thought process I will firstly explain my initial interpretation of the assignment at hand. Furthermore the reader will in detail be guided through the steps in which I undertook the project as per my perceptions. Finally I will sum up a few thoughts and how I experienced the first semester project of my studies in Front-end Development.

For this project the object is to present a responsive website consisting of at least 4-6 pages for a local interactive science museum. The website is to attract primary and middle school children as well as families with young children. I understand it as though it should be both educational and playful, to provoke curiosity as well as being informative.

Planning

Analysis and research

As stated in the schedule document, I started by going over the assignment and making notes to fully understand the product I was expected to present. I also went thoroughly through all the provided content to get an overview, which also was helpful in creating the Gantt chart. Here are a few of my findings during my analysis of the assignment:

- The target audience is school children (age 7-15) and families with young children
- The desired product is an informative and appealing website, encouraging viewers to come visit the museum
- Should be responsive

From this I moved on to the actual project planning and making the Gantt chart. More on this can be found in the schedule document.

I continued to reflect a bit on how to hit the target audience, what to include, what message I wanted to convey and so forth, before moving on to doing research on the competition.

To understand how similar businesses have gone about making their websites, I did a Google search as per usual, searching for terms as the following:

- Science museum
- Science center
- Interactive science
- Kids+science
- Kids+learning

One of the first things that occurred to me when browsing through similar websites was how very formal and informative the ambience typically was. These websites were mostly made to be informative and seemed a bit dull for this purpose, and that was something I quickly realized would be wrong for mine. Although the client is a museum, and thus possibly expected to convey a somewhat formal mood, I obviously it to appeal to the target audience, which in this case is young children and their families.

Other websites on the other hand seemed too much and too complex, with poor usage of CSS, really with quite bad design and in general poor user experience. Several had chaotic layouts and designs, gritty JPG images and icons, and some clearly was not made with any consideration to an appropriate color palette. So this was something I definitely wanted to steer clear of. In the midst of all this clutter I did stumble across a few websites I was able to draw inspiration from, which I will elaborate on under the Inspiration section.

It was important to me to make the website in such a manner that would keep the target audience interested and intrigued as well as being informative. With this in mind I made a mental note on that the product should be appropriately colorful, in addition to a decorative font for my headings, and then keep the rest of the content neat and clean as though to balance it all.

Inspiration

In addition to look through similar websites for inspiration, I made a Pinterest board for the occasion. I set this up to collect whatever I might find during the project, and to make it easier to show off a board rather than adding the images to this report.

- <https://pinterest.com/thereselybo/semester-project/>

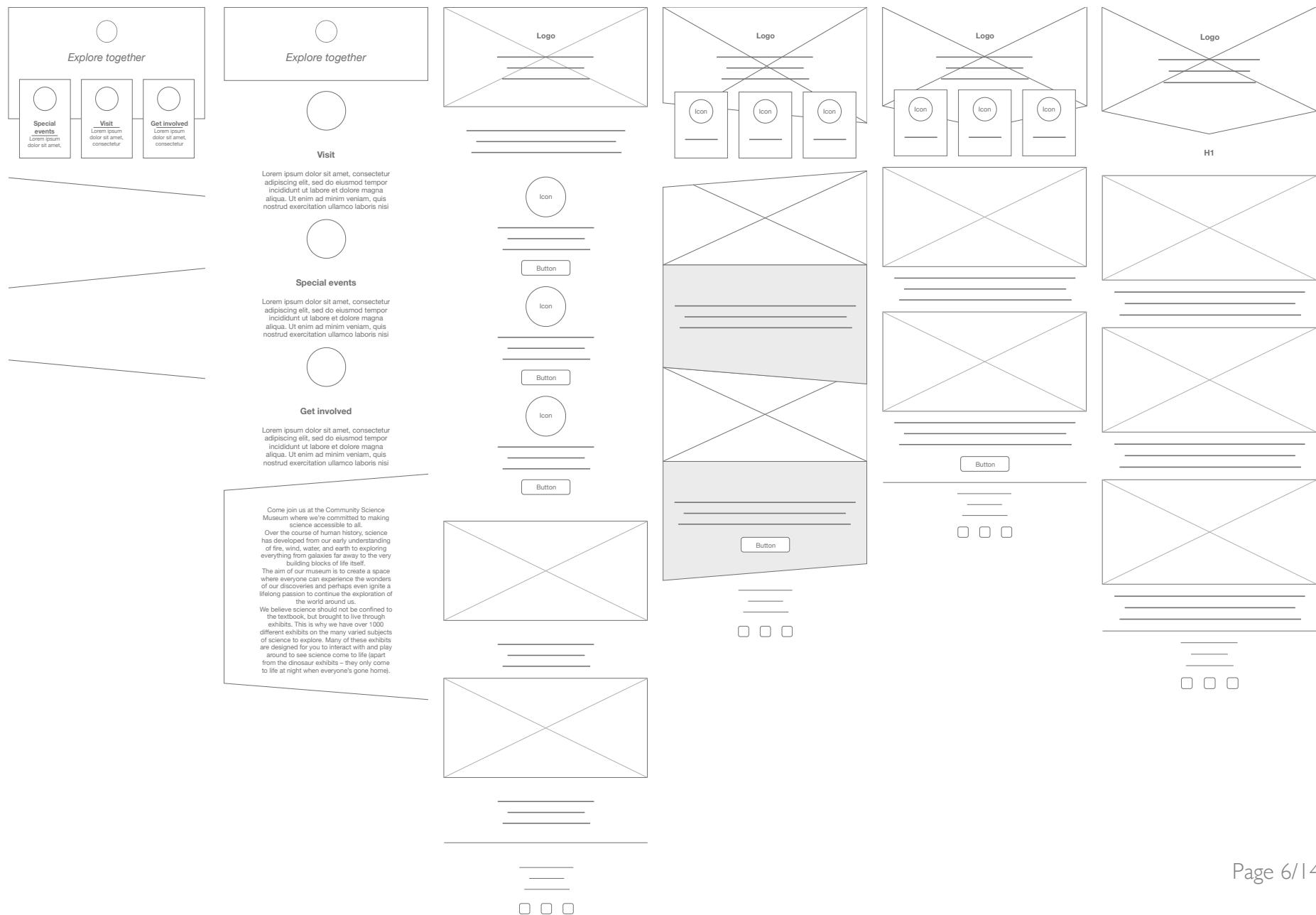
Here are some websites which provided both more and less inspiration for my project:

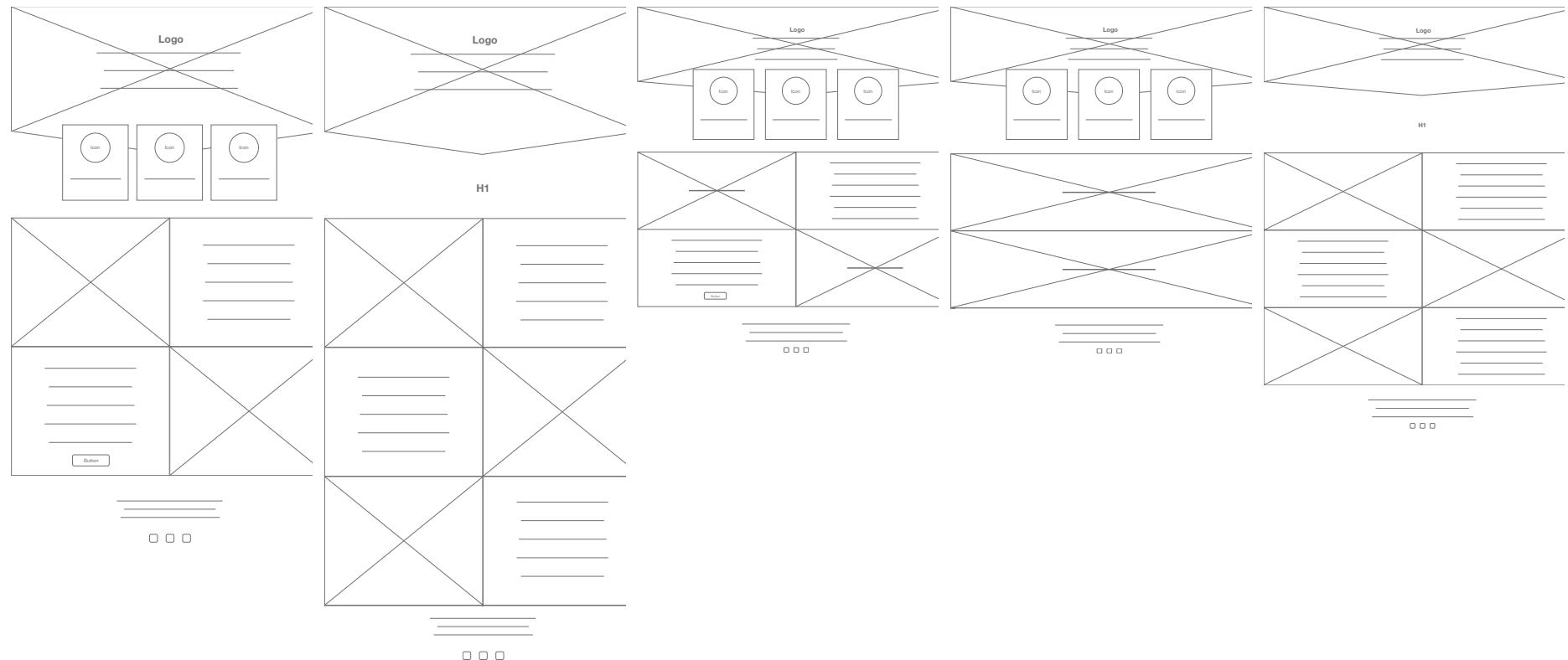
- <https://phet.colorado.edu>
- <https://scienceinteractive.com>
- <https://childsci.org>
- <https://learningliftoff.com>
- <https://stemstore.io>
- <https://tekniskmuseum.no>
- <https://funlearningforkids.com>
- <https://e-learningforkids.org>
- <https://kidslearningtube.com>

Sketches

For this assignment I decided to experiment with Adobe XD and make wireframes instead of drawing the sketches out on paper, as to take the opportunity to learn something new. Moving forward I used Illustrator to make complete mockups. The following pages contain parts of the result.

FEUI – Semester project





FEU1 – Semester project

The mobile version of the website features a top navigation bar with three icons: a calendar for 'Special events', a house for 'Visit', and a person for 'Get involved'. Below this is a main banner with the text 'EXPLORE TOGETHER' and a large image of a child wearing a VR headset. A call-to-action button 'Come join us at the Community Science Museum where we're committed to making science accessible to all.' is followed by a paragraph about the museum's mission to make science accessible through various exhibits. There are also sections for 'EXPLORATION', 'EXHIBITIONS', and 'RESEARCHERS'.

This section features a large image of a scientist in a lab coat working on a complex machine. Below the image is a heading 'EXPLORE' and a paragraph of placeholder text (Lorem ipsum). A red 'READ MORE' button is present. To the right, there is a section titled 'FOR KIDS' with an image of a child in a VR headset, followed by a paragraph about the Young Stars club.

This section shows a large image of a woolly mammoth skeleton. Below it is a heading 'EXHIBITIONS' and a paragraph of placeholder text. A red 'READ MORE' button is present. To the right, there is a section titled 'FOR TEACHERS' with an image of a teacher standing in front of a classroom, followed by a paragraph about the museum's work with schools.

This section features a close-up image of a researcher looking through a microscope. Below it is a heading 'RESEARCHERS' and a paragraph of placeholder text. A red 'READ MORE' button is present. To the right, there is a section titled 'COSMOLOGY' with an image of celestial bodies in space.

This section shows a large image of a Woolly Mammoth skeleton. Below it is a heading 'EXHIBITION SPACES' and a paragraph of placeholder text. To the right, there is a section titled 'EVOLUTION' with an image of several skeletons, followed by a paragraph about the origins of life on Earth.

This section shows a large image of skeletons. Below it is a heading 'BIOLOGY AND MEDICINE' and a paragraph of placeholder text. To the right, there is a section titled 'ROBOTICS AND AI' with an image of a robotic head, followed by a paragraph about the information revolution.

This section shows a large image of a brain. Below it is a heading 'ECOLOGY' and a paragraph of placeholder text. To the right, there is a section titled 'COSMOLOGY' with an image of celestial bodies in space.

The contact information is listed as follows:
Contact us
+47 123 45 678
mail@sciencemuseum.no
Tøyengata 53, 0578 Oslo

The footer contains social media icons and a copyright notice: © 2023 Sciencemuseum.no. All rights reserved.

The image displays three mobile phone screens side-by-side, each showing a different section of the Science Museum's website. The top of each screen features a header with a logo consisting of a stylized atom symbol and the text 'EXPLORE TOGETHER'.

SPECIAL EVENTS AND EXHIBITIONS

Visiting Professor of Aeronautics
It is our pleasure to announce that Prof Sheila Widnall from the Massachusetts Institute of Technology will be delivering 3 lectures on the development of aeronautics and where the future lies in this exciting 'space'.

Night in the Museum
Get your family together for an exciting night in the museum as you sleep over beside dinosaurs and science displays. Bring your own sleeping bag and get ready to rough it as we go exploring the wonders of science.

Energetica Exhibition on Loan
On loan from the NEMO Science Museum in Amsterdam, the Energetica exhibition is coming to the Community Science Museum. It's a series of installations that allow visitors to experience the power of the elements as we harness them. From solar energy powering lighting, to 'Wind Island' that shows how turbines are able to use and control wind to create power.

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NEWS

VISIT

LOCATION
The museum is located at Tøyengata 53, 0578 Oslo.

ADMISSION
The entrance is free for all.

HOURS
Monday: Closed
Tuesday: 10:00 – 16:00
Wednesday: 10:00 – 16:00
Thursday: 10:00 – 16:00
Friday: 10:00 – 19:00
Saturday: 9:00 – 16:00
Sunday: 9:00 – 13:00

ACCESSIBILITY
The museum has wheelchair accessibility ramps. It also has audio guides and braille display signs for the visually impaired.

FOOD AND DRINK
There is a café attached to the museum where you can get light lunches, soft drinks, coffee, snacks and more.

SHOP
Our shop offers a range of memorabilia from the museum as well as great gifts and activity packs that allow you to continue to explore science even after you've left the museum.

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GET INVOLVED

SUPPORT

There are various ways you can support the museum. Donations are very welcome and are an important way we keep this museum open and accessible to the whole community.

You can also support us by donating items of interest to the museum's collections. If you have some item or collection that you think others would enjoy, please let us know by contacting our Collections Department and they will be able to assist you.

VOLUNTEER

A number of people volunteer their time and effort to keep the displays in good order and ready for visitors to come and enjoy. Volunteering has its perks including getting to see behind the scenes of a working museum, access to staff-only lectures, and a monthly lunch where all staff and volunteers come together to discuss ideas for future exhibits and strategies for the museum.

You can help volunteer in a number of different spheres. Please contact us if you'd like to find out more about how you can get involved.

INTERNSHIPS

Are you interested in working in a museum? Do you enjoy the fun and excitement of sharing the wonders of nature with people? Well you could be just the right person to enjoy an internship at the museum.

You'll be learning from a number of different academics and people who are passionate about science and sharing it with the wider community.

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Work process

Style

From quite an early stage I had a bit of a vision as to how I saw the end result. I wanted it to be playful to engage the younger audience, and to make this happen, I envisioned a bright color scheme and a fun font for part of the logo, and perhaps also for some of the headings.

Now, the client is still a museum, which is – as previously mentioned – typically associated with adjectives such as formal, informative, sharp and clean. I did want to balance this out, especially given that part of the audience is also adults. With that in mind I would dial back the playfulness a bit by limiting the areas which might be colorful, and also limiting the amount of decorative typeface.

As a theme I aimed for something modern, slightly futuristic and fun, without losing focus on the informative. As to achieve this I planned on clean lines, a simple logo, possibly a futuristic decorative font – first and foremost for headings and the logo – and pops of color.

Typography

After browsing through what felt like endless fonts which were all fine, such as Kon Tiki Aloha JF, Fresno and HWT Mardell, I finally came across this really cool one called Made Evolve. It had a great balance between fun and formal, and I especially liked the fact that it had two different styles. One which was more decorative, playful and futuristic, and another simple, sans-serif one, and together they would make a harmonic combination. Perhaps both for the logo, headings and the body copy itself.

I was super excited about using the font, however I did not want to rush into the decision. I ended up looking around a bit more, but I could not find any others I liked as much and that would be more suitable. So after asking for permission to use it for this project and getting the creators' approval, I just went for it.

I did however settle on a separate font for the general body copy, both as not to overdo the playfulness and also because I found it a tad too geometric, and it reminded me of Gill sans, which would not be the best bet for web. As such, I went for Source Sans Pro, which I thought went well together with Made Evolve.

Colors

For my color palette I played around with a few schemes which I had made for a previous assignment, for the mood “Happy Kids” as well as for “Skydiving”, as I also found them quite playful and harmonic, and might come together nicely on this website. Meanwhile I also browsed Pinterest for color inspiration, as may be seen on my previously linked board.

I considered using a palette with a few colors which in combination with white were not completely WCAG appropriate. However I had considered the issue, and decided to find a way to implement an appropriate contrast in other ways, such as using the colors for visual elements and combine correlating text to unify it. In case this would not come together as imagined, I made a backup palette which I believed would do the trick.

Eventually I landed on somewhat a combination of the two moods, with inspiration from other palettes as well, which I think conveyed the toned down playfulness I was aiming for.

Visual elements

To incorporate some color, I was thinking of making a couple of outlined icons in white on top of filled circles, each in its own color. I also decided to make a version in which only the outlines, including the border of the circle, were colored.

In the end I wound up with a more simple design, and made three white outlined icons on top of a fully colored boxes within my “sub-nav”. I feel as though this solved the issue of contrast as well, as I now only had the one color coordination to consider. To make it pop a bit, I later on added a separating line between the icons and text below, as well as scaling on hover, which I think really did the trick.

For the logo I initially considered just using one of the icons from the provided content in the assignment. However I quickly realized none of them would fit in with the style I had envisioned and already started creating, and so I ended up playing around with them instead. Having already decided on the font, I was able to narrow it down to the icon that suited the font the best, and from there try out a few compositions and color combinations. For the website itself I decided to go all white,

but I did make an extra colored version for areas in which white would not be applicable.

Somewhere along the road I stumbled upon a tool called Elementor Shape Divider, which inspired me to find a way to change the shape and appearance of my hero image for that extra *je ne sais quoi*. That's when I Googled my way into Erik Kennedy's "Creating Non-Rectangular Headers" as well as Bennett Feely's "CSS clip-path maker", which in turn taught me about using Clip Paths to make interesting shapes.

For my navigation, I decided to acquire knowledge of how to make a so-called hamburger menu. I want to point out that the source code for the hamburger menu was derived from an external source, although tweaked and styled by yours truly. I do realize this is something that would be made using JavaScript, I felt as though it was an important element in my design rather than a classic horizontal navigation bar, and I really wanted to implement it somehow. As such I decided to spend some time figuring out how to make it using CSS instead for this particular project.

Composition and layout

I started early in the planning process with visualizing how I wanted the complete layout to pan out, and in the making of the wireframes my ideas did actually come together quite nicely.

I made a few varieties of the layout and experimented a bit with shapes and compositions before I settled on what I believed to be the best alternative for this assignment. Both as for the conclusion of my analysis of the task at hand, and with regard to the limitations of using CSS as opposed to JavaScript.

I did make an effort to create a balance in the amount of white space, which is reflected for instance in the large hero image and images in general in contrast to the amount of body copy as well as the usage of margin and padding.

The hero image also slightly conveys the playfulness of the museum, making the website, and thus the museum, inviting for the youngsters. The zig-zag composition of the images and copy also points to this aspect, moving the gaze from side to side.

Overall I went for a quite repetitive look in regards to the large images, the zig-zag composition et cetera, but especially the event page stands out a bit. This because of the “news” articles, as I wanted them to actually feel like news articles as opposed to the rest of the site.

Conclusion

I am really a figure-it-out-as-I-go kind of gal, and it still feels a bit unusual to plan every step down to the tee. However I found making the Gantt chart very helpful for the progress of the project. I am very happy with how it turned out in terms of distribution of tasks and time, if we disregard the fact that I slightly underestimated the complexity of certain choices. I actually found myself finishing up the HTML in just one day, giving me a couple more days of experimenting with different solutions with CSS such as the hamburger menu and a pop-up contact form (an idea I eventually discarded). However, parts of my design turned out to be a bit more vast than I predicted, and so I ended up spending a lot of time here. That being said, this part of the project turned out to be the one I enjoyed the most, as I also learned a lot from it.

I was, moreover, reminded that things don't always go according to plan. Although making an effort to sticking to the plan often is key, sometimes one should just go with the flow and see what happens / comes out of it. One's initial idea might not turn out just as one envisioned, and that just might be alright. Perhaps the end result turns out better after experimenting. I for one believe that was the case for this project of mine.

Sources and references

- Lessons in courses from FEU1

Tools

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