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Project Exam 1

Anders Styve

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## Summary

This report covers the written part of Project Exam 1 at Noroff’s Frontend-development class.

The purpose of the exam was to create a blog site from scratch, putting together all the skills learnt over the first year of studies. The blog is created with HTML, CSS and JavaScript, but with the main content hosted on a headless WordPress site. Using the WordPress REST API, the content of the blog (posts, comments) gets fetched and displayed live on the finished website.

In the first section of the report, all things regarding the design of the blog get discussed. Included are brief explanations of what my thoughts were during the design process, especially what parts of it went well and what parts I found challenging. Finally, I reflect upon what I would do differently or change the next time engaging in a project like this.

Similarly, the next section of the report covers the technical part of the exam. This section also discusses the parts of the assignment that went well and the parts where I found myself struggling to put the pieces together. This section covers most of the actual programming of the blog and all its related contents and finishes with some thoughts on the things I would do differently another time.

The last section covers the steps taken throughout creating the website regarding the site’s accessibility. This section covers the work done to follow the WCAG-guidelines, as well as search engine optimization. This section is structured like the others, with a part covering what went well, a part reflecting on the more complex matters, and the final part discussing what changes could be made on a future project like this.

Link to final website: https://objective-brown-e68010.netlify.app/

## Intro

This report will be divided into three sections, each covering a specific subject relating to the exam submission. The three different sections are: “design”, “technical”, and “WCAG guidelines, content management and SEO”. In each of those three sections, I will elaborate and discuss what I thought went well on the project, what did not go so well, and what I would have done differently next time.

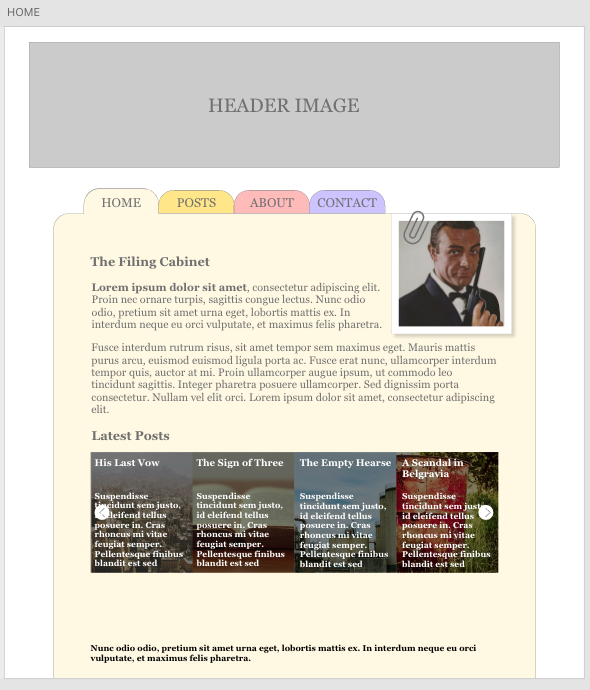
## Design

In this section of the report I will explain my thoughts and processes behind the design of the website. This includes both the initial layout created before the actual programming of the site, and the design choices that were taken throughout the process of developing the site.

***What went well on the project***

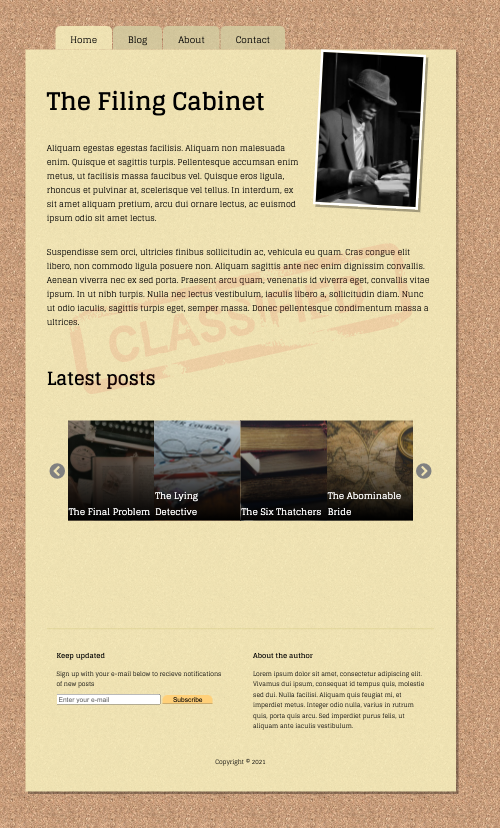
The inspiration for this blog website initially came from older cold war-themed movies and video games or classic movies or shows involving investigation or detective units. I wanted to create a blog that looked and felt like an old filing archive consisting of several blog posts, each covering an unsolved mystery.

Based on those initial ideas and concepts, the first design layout for the blog ended up looking like the following image:



As shown in the initial design, I wanted the blog to consist of a home page containing a brief introduction, an image of the author, and a section showing the latest blog posts in an image carousel. The navigation bar is designed to look like the kind of navigation one could see from filing cabinets. This would also be the inspiration for the title of this fictional blog.

Some changes were made when transitioning the design from that initial layout to a functional website, but the initial concept stayed somewhat the same. The picture below shows the final version of the index page for the blog.



I decided to change the blog's background from plain white to a pattern that looks like a corkboard. This was done both because it was more aesthetically pleasing and because it gave the blog section a nice contrast against the background. The colour of the blog was also changed to a more yellow tone trying to mimic the natural life colour of old paper or documents. At last, the header image was removed, as it served no real purpose and only increased the length of the blog, making it longer to scroll through.

**What was difficult/didn’t go well on the project**

To further develop the idea of this archive or filing cabinet concept, I initially wanted the blogs posts to look like they had been written on an old typewriter. After trying multiple typewriter fonts, each with its own design and functionality, I, unfortunately, had to discard the idea. The main reason for this was that even though the typewriter fonts looked authentic, they were just not readable enough to be used in paragraph after paragraph on a blog like this.

Also, finding a correct corkboard background that had the right colour and rules of licensing and being repeatable multiple times without showing took some time and effort. Having had difficulties regarding the file size of images used as website backgrounds before, I also had to have that in mind when finding the perfect pattern.

**What would you do differently the next time**

Even though I did research and collected inspiration from various other blogs and websites, a thing I would do differently another time is taking enough time to design different initial drafts and layouts. Especially on a project with a relatively long time frame as this. When first designing the layout for this blog, I was so focused and excited about my initial design concepts that I may not have spent sufficient time exploring other ideas. Even though one could have initial favourite designs or layouts, using time trying to create something entirely different could be time well spent as one could stumble upon ideas or solutions that could be implemented into the initial design.

## Technical

This section of the report includes all the technical parts behind the creation of the blog. This includes the programming of the website, and the transition from an initial design to a fully functional blog with all necessary features.

**What went well on the project**

This assignment’s scope was to create a website that uses WordPress as a kind of database to store all its content. By using API calls, this content would then be displayed on the website. Not only should the website be able to make a call to the WordPress database to fetch and display information, but the website should also be able to send or post information directly to the database to be stored there.

After setting up the WordPress site and making it headless and connected with my website, I created several blog posts directly in WordPress. These posts consisted of a title, a body of text, and an image. An API call to the WordPress database was made to display these posts on the blog, which returned a set number of posts and displayed them accordingly on the site. The first issue was to initially only show ten posts and then having a button underneath, that when clicked, showed more posts underneath the initial 10. This was solved by utilizing the WordPress REST API’s built-in “per\_page” argument, where the default value is 10. So when the initial API call is made, by default, only ten results will be shown.

By binding a function that makes a call with the “per\_page = 2” argument to the “Load More” button, the returned posts will be every post from number 11 to 20. These posts will then be displayed underneath the initial 10. By solving it this way, one also secures that the newest blog posts will be displayed at the top of the site, as a new post will automatically be number 1 of the ten first shown posts.

To implement search functionality to the site, I used another built-in argument called “search”. This was implemented into the site and connected to the displayed search input field. A new API call with the argument is sent when a search query is entered, and results are shown accordingly.

One of the main challenges involved in this assignment was creating a comment section on each blog post that allowed users to view, write and submit comments directly to a specific blog post. This was solved was by creating a function that gathers the values of the input elements that the user would fill in. After these values are validated, a fetch request with a “POST” (rather than “GET”) method is sent to the API, and, if successful, a body containing the string values of the input is posted to the WordPress database on the correct blog post ID.

Another functionality added to the site is the opportunity for users to enter their e-mail in a newsletter subscription form or filling out a contact form to get in touch. These functionalities were both added by creating a fictional blog post for each of them. This fictional blog post would then use WordPress’s built-in categories to differ from the actual blog posts. By doing this, one could connect the input (e-mail) from, e.g. the newsletter form as a comment on a fictional blog post called newsletter. This way, the info is sent to and stored in the WordPress database. This was also done similarly for the contact form.

**What was difficult/didn’t go well on the project.**

Working with WordPress as a database did have some limitations and possibly demanded a little more effort to achieve the preferred outcome. This was especially the case when combining the correct endpoints and arguments when fetching data from the API.

A concrete example was figuring out how to fetch a specific blog post related image, which was not included in the standard URL when connecting to the API. A string containing “?\_embed” had to be included in the API URL to retrieve said images. This was just one example of a situation where retrieving the wanted data from WordPress was not as straightforward as preferred and demanded some time and effort in configuring the right paths for accessing the API.

**What would you do differently next time.**

One of the most significant drawbacks I have had through the programming of this website is that the way it is created now, it sends many API calls back and forth to the WordPress database. Every time a user clicks, searches or comments on a blog post, a new API call gets sent. Of course, most of the calls is needed to have the functionality that is wanted, but I do also believe that there could be ways to increase the efficiency and reduce the loading of the website by utilizing, e.g. local arrays, to a greater degree.

To explore this opportunity to make fewer API calls and instead of storing the received data into arrays to be sorted and filtered from is something I would look closer into the next time working on a project like this.

## WCAG Guidelines, content management and SEO

This section explains how I worked according to the WCAG guidelines during this assignment. In addition, the thoughts and decisions regarding content management and search engine optimization (SEO) will be discussed.

**What went well on the project**

One of the first objectives I had when starting to develop this site was managing the site’s contrast and colours. I initially wanted to create a site where the page elements would be as good as they needed to be to avoid any chance of confusion or miss-clicking from the users. To further optimize the readability and clarity of the site, I decided to use only two different fonts and limit the number of different font sizes.

A challenging feature to implement regarding contrast and readability was the title text overlay on the images in the “Latest posts” image carousel on the front page. Having text on top of images can often be an issue when it comes to the user being able to effortlessly reading the text. I solved this issue by having a gradient overlay on top of the images going from black with low opacity at the bottom to an almost transparent top. This made the bottom half of the images darker and increased the contrast to the white title text, enhancing the readability.

Other necessary implementations that were made was fetching and creating image alt texts directly from the WordPress API so that the alt texts always would be up to date and in line with the content of the images. Another correction that was made directly after assessing feedback and recordings from users through the services of Hotjar was that the titles of the blogs post were made into links, as many users tried to click them, rather than the button at the bottom to access the blog post.

**What was difficult/didn’t go well on the project**

One specific issue that kept coming back was how to properly size the images that were supposed to be rendered on the site. Downloading and displaying the images on the site is one of the most time-consuming processes, and high is highly influential when it comes to both the actual and the perceived speed of the website.

This was a challenge because the assignment specifically stated that the blog post image should be clickable and, when clicked, opened into a modal giving the user a bigger view of that image. This meant that the original image resolution had to be bigger than the resolution displayed on the site in case any user wanted to click the image to view it in a larger resolution.

**What would you do differently next time**

I have learned throughout the process of making this website that it is never too early to involve external users and invite them to have a look and an opinion regarding your site. I felt that it is easy to get stuck in own ideas of how a site should look and “feel” and forget about small details that others may discover within seconds of viewing your site. One particular example was the lack of a “back” button to navigate backwards from a specific blog post to the overview of the blog posts. This function did not cross my mind at all during the site’s creation but was immediately requested by two separate external users during their initial view of the site. This shows how easy it is to get stuck and “not see the forest for all the trees” when designing or programming sites intended for users to interact with.

Another feature that I most certainly would like to spend more time exploring next time is everything related to the total file size of the entire website. A good example is looking into the next-gen formats for saving and displaying images or pictures on a website. With the end-users demanding faster and more streamlined websites than ever before, I think looking into this would be an excellent long-term investment in front-end development.

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