Lappeenrannan teknillinen yliopisto
School of engineering science

Software Development Skills Front-End, Online course

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LEARNING DIARY, FRONT-END MODULE

LEARNING DIARY

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I enrolled on the software development skills: front-end course since I had studied software development as my minor and wanted to further my knowledge in front-end and web development as well as design, and so the course information seemed to match my interests perfectly. I also found it was possible to integrate into my personal study plan, making it a compelling choice to specialize my study plan towards front-end development.

14.5.2024

I chose Visual Studio Code as my code editor. I was already well versed in Visual Studio Code as it had been my editor of choice in all previous programming courses as well as some personal projects. I used a couple of formatting and code-coloring addons I was used to using before, basing the rest of my addons on the course tutorials on YouTube published by Traversy Media. Installing Node.js and Git proved simple and rather straightforward, and I was quickly ready to start progressing through the course modules.

I completed the first task on the same day. While the programming part proved rather simple, I struggled with understanding Git as I had never tried using it before. My first commit did not work as expected, filling the console with different modules. I soon realized my ".gitignore" file was in the wrong folder and transferring it over to the base folder quickly resolved the issue. Overall, the first task was highly informative and useful in understanding what the different tools are used for and how they integrate, as well as setting up the environment to continue working on the tasks. I am still unsure if I can continue building the upcoming tasks on top of this first task as separate commits, but I guess I will find that out when I continue to follow tasks.

16.5.

I started working on the second task. I found the tutorial on scss incredibly helpful and quickly managed to pick up the basics of fonts, icons and spacing option shown on the second task tutorial. I soon encountered an issue where changes to the font size in my scss file did not affect the live server, when other changes had taken correct effect. I was unable to solve this issue during this session.

23.5.

I continued to work on the second task. I started by thoroughly looking through the tutorials and my code to identify the issue I had encountered on my previous session. I ended up finally identifying a minor naming mistake in my fonts which caused the font size changes to affect a different font than intended. While I managed to solve this issue, I soon ended up encountering another issue where my new changes were not affecting the live server website and I did not manage to find any solution during the rest of the session.

24.5.

I returned to the second task by troubleshooting the previous issue. I found scss had stopped running, which prevented me from updating new changes. I was able to continue with the second task. Now that everything was finally running efficiently, I found the second task highly interesting and learned a lot. I have made user interfaces on a previous course using Dart, and on the first impression I find scss to be somewhat familiar, yet I feel it utilizes less premade components and layouts making it somewhat more confusing yet more flexible in comparison. I found importing material such as fonts, symbols and images especially simple and interesting as well as simple for me to split the program into importable files.

28.5.

I made a git commit for the previous step and begun working on the third task. While this task went without any major issues or hiccups, I found this task to be the most confusing yet, as I feel I’m still after completing the task somewhat unfamiliar with what functions

should be used for what in javascript related to scss. While this is the case, I believe that this task gave me a good understanding of how to integrate javascript to create changing elements in scss by modifying their status, even if I don't quite grasp what to use where. I completed the third task during this one session and made the commit to git.

In the afternoon I also completed the fourth task. The first half of the fourth task I found rather simple as a continuation of the previous task. Shaping the menu required a lot of skills from the previous tasks, making it useful for cementing earlier knowledge into fresh memory in terms of spacing, font options and positioning. The animations for menu elements were interesting to implement and I found the delayed iteration through the animations intriguing. The second half of the task consisted of making the responsive design for different screen sizes. While at first, I struggled with understanding the logic for how to differentiate the design between different screen (viewport) sizes, I ended up figuring this out while following the tutorial. I made both commits to git.

29.5.

I completed the fifth task. Fifth task included creating another page that can be navigated to via the menu. The grid system shown in the tutorial was highly intuitive and easy to implement. Implementing a responsive version using the same grid system proved also simple, yet I'm still not sure why some of the same elements had to be repeated multiple times in the wider grid, whereas the smaller grid only included a single copy of the same element, while displaying all the content. Regardless, implementing this responsive design proved useful in cementing the creation of responsive elements and layouts into fresh memory. During this task also a responsive color scheme was implemented to maintain readability in light and dark backgrounds. This gave me an idea to create a dark mode switch for my final project that uses this feature to allow the user to switch between light and dark color schemes. I also felt like this task gave me a better understanding of the contrast and color choices for light and dark backgrounds.

12.6.

I completed the sixth task. While the task itself included a lot of repetition, it served as a good reminder of previous tasks as I had to focus on other work during the past two weeks. In terms of new content, the task taught me implementation of responsive grid columns as well as more complex button hover effects like size change and width change in addition to color highlighting. Creating the responsive versions for different screen widths also gave me ideas on how to implement responsive design on the final project.

Between the fifth and sixth tasks I started getting into UI design on my free time also and found myself browsing UI projects on Behance as well as looking at CSS and UI design tutorials on YouTube out of curiosity, which left me with a lot of ideas to experiment with for my final project for this course.

13.6.

I started work on task 7. I ran into some issues in the beginning as I was unable to push my project into git. I managed to resolve this by deviating from the tutorial by creating a separate branch ‘main’ and pushing there instead of the master branch as in the tutorial. To further my knowledge, I decided to read instructions and manuals on Git as well as search for tutorials to understand Git properly. I believe this, together with the week’s lecture gave me a much deeper understanding into the way Git functions.

Deploying the website via Github pages went smoothly. I

20.6. – 24.7.

Project: *Pallas – Hetta hiking route info page*

I wanted to create a project that would deviate from the original portfolio website enough for me to experiment with assorted styles and techniques. While at first I struggled with coming up with a creative website idea, I soon realized I wanted to work on something to do with my interests in the outdoors, hiking or skiing. At first my idea was to use the coursework as a basis for my project, filling the page with new elements and content based

on my ideas. I also wanted to implement 3d elements using Three.js for an immersive landing page. My plan quickly changed though, as I attempted to make Three.js work and eventually gave up on the idea due to the extensive implementation issues as well as the lack of time. I also decided on creating a separate new Git repository for my project instead of branching from the course tasks as I figured my project would turn out to be too different to be worth using the existing elements. I only ended up using the basic file structure from the original projects to make implementing navigation simpler.

My landing page shifted from my original three.js fueled 3d -idea to a parallax implementation. I got the idea for this implementation from the website of Firewatch, a video game created by Campo Santo. (https://www.firewatchgame.com/) This website utilizes a minimalist, yet vibrant layered background of a sunset and wilderness, where different layers form a parallax website that moves with the scroll to create a 3d -style scrolling effect. I used affinity designer to create multiple layers based on a real location along the Pallas-Hetta hiking route. I then implemented a parallax effect on these layers to create different, independently scrolling layers for the site background. Most important thing I realized during the implementation was how the I found the following tutorial highly useful in understanding parallax as well as the correct formula for scaling layers to restore their correct scale after translating them further away for the parallax effect: https://www.youtube.com/watch?v=mxHoPYFsTuk.I also decided to implement cards onto the landing page to give the user a visual glimpse of the trail. I wanted to animate the cards as they come into view, and found the method how to accomplish this with: animation timeline: view(); with the help of this tutorial: https://www.youtube.com/watch?v=0TnO1GzKWPc&t=1s.

I wanted to implement a fast-to-use navbar instead of the menu like in the course tasks. I also wanted to implement a responsive design that would implement a menu for small devices such as mobile phones. I used the following tutorial to help me find a modern and responsive design for the top navbar with a mobile friendly design: https://www.youtube.com/watch?v=U8smiWQ8Seg

I wanted to implement a discovery page that would display pictures as well as information on various locations along the Pallas-Hetta trail. I wanted to implement this information via a grid with visually interesting cards. At first I experimented with implementing cards with combined images and text, however I wanted a more minimal solution and discovered the following tutorial which I used to implement a on-hover information display with a slide-in animation: https://www.youtube.com/watch?v=3RvQJX1_fKQ

I also wanted to implement a map of the route. At first this map was going to be a picture, but i quickly started exploring options of embedding an existing, proper map service for my website. I started by implementing google maps via the following tutorial: https://www.youtube.com/watch?v=hjnpQi2omHk&t=320s I soon realized google maps was a bad fit for displaying information far away from mapped roads and felt like a bubblegum patch solution for a map display. I switched from google maps to a more detailed map from Paikkatietoikkuna, a free to implement mapping information solution from the Finnish land survey. I used their guide for implementation.

During the execution of the project, I focused on using and practicing Git as much as possible. I decided to practice its use by working on the project both on my desktop at home as well as on my laptop during breaks at work, in cafes or libraries. I forced myself to learn what git add, commit, push and pull as well as fetch actually did. I also ran into an issue where I had worked on different, overlapping features on the machines so I had to learn to do an override from upstream on my laptop with conflicting and outdated files with the help of git reset –hard and pull commands. This thread on Stack Overflow was a great resource in diagnosing and solving the issue : https://stackoverflow.com/questions/13781388/git-discard-all-changes-and-pull-from-upstream

While I am happy with how my project turned out, I feel like its execution could have been better. During July I had an unexpectedly busy situation with my work and did not manage to progress the project as expected. This caused a rush that prevented me from implementing the 3d elements using Three.js as well as more complex animations due to the lack of available time, especially since I already had to take an extension for the course

due to the situation. I already have a list of features I would like to implement when I find time for them even after the course. These features include: Animated cards to display trail locations below the landing screen (replacing the current text block), about page with a grid based implementation using large distance and information cards, A light-dark mode switch that switches the background between summer and winter for different modes, a more detailed layer system for the background. I also want to separate all JavaScript to the separate .js file from the scripts in the menu html section, however for some reason or another I did not manage to get the scripts to work there no matter how I implemented the .js file in my html.

Overall, despite the setbacks I am happy with how the page turned out, and I am looking forward to finding the time to continue working on it to bring my ideas to reality.