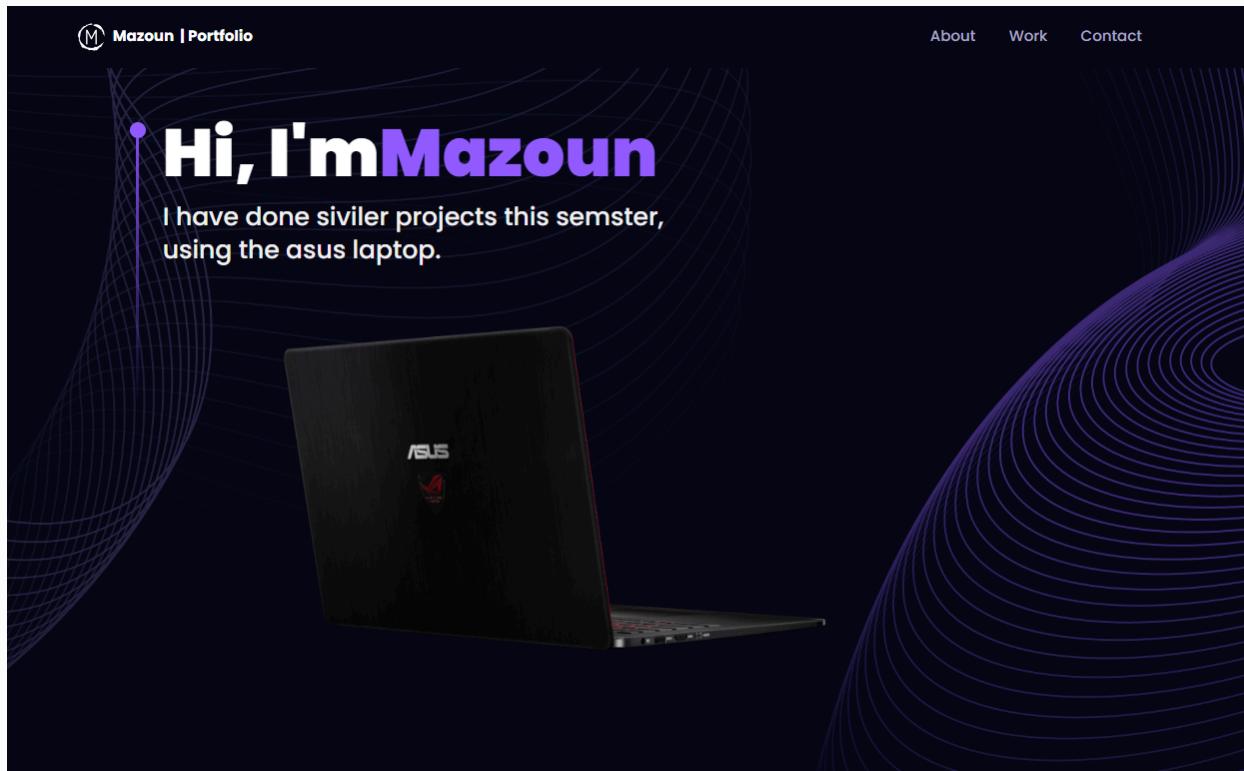


RESEARCH REPORT PORTFOLIO



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Version: 5

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Version control

V	Date	Change
1.1	19/09/2023	Created the layout, filled out the project definition, created the research questions, and filled out the risk assessment.
1.1	24/09/2023	Answered Two research questions
1.2	29/09/2023	Changed the research questions; there are 5 questions.
1.3	13/10/2023	Answered two more research questions.
2.1	04/11/2023	Created new research questions based on the design thinking method; there are 12 questions.
2.2	09/11/2023	Updated the project definition section and aligned the previous answers to the new sub-questions.
2.3	10/12/2023	Deleted three sub questions, sliced the Content Strategies sub question into two, answered sub question 4.
3.1	14/12/2023	Deleted one sub question, answered 2 sub questions, added the reasons for choosing the methods and method setup (which was by the name of Collected information) for 4 of the sub questions, enhanced some of the conclusions.
3.1	15/12/2023	Continued to add and update the method selection, method setup and resining with some adjustments in the results and the conclusions. Fixed the APA references style.
4.1	06/01/2024	Rewrote the way of working, arrange the research questions into categorize, rewrote some of the conclusions and added two research question, one about the requirements and the other one about the structure.
4.1	07/01/2024	Continued answering sub question 10
4.2	10/01/2024	Fixed the method setup based on the feedback for the first 5 questions
4.2	11/01/2024	Fix the method setup, rephrased sub-question 6, enhanced the results, completed the last sub-question, and concluded the main question.
5	12 -19 /01/2024	Restructured the document, transformed the 11 questions to 3 and deleted some other question, and finished the document.

Project Definition

1.1 Project Subject

The portfolio is a website that I made to showcase the projects and tasks I have done, the workshops I attended, and courses I participated in during semester 7 (advanced media). The initial idea is that this website is made for my assessment and for hiring employers to view my skills, but it is also a chance to upgrade my knowledge in the programming field.

1.2 Project goal

- Create an engaging and user-friendly portfolio website.
- Showcase my learning outcomes and skills gained during the semester.
- Learn React through few short courses
- Achieve a fine balance in content presentation for both teachers and hiring agents.

1.3 Expected result

A modern, user-friendly portfolio website completed projects, attended workshops, and courses. It will offer a visually appealing, straightforward display of my skills and achievements.

1.4 Way of working

I have rewritten this paper due to the wrong structure. I will be using the CMD methods to address and answer the research questions that are going to answer my main question. I will also use the Design Thinking method in different phases of the project and will show the use of it later on the portfolio website.

1.5 Main Research questions

How can I as a programmer design a modern and user-friendly portfolio website that effectively incorporates the latest web design trends of 2023 while ensuring a smooth user experience and achieving the desired website goals?

To answer the main question, I have created the following sub questions.

1. What are the latest web **design trends of 2023?**
2. How to ensure that the website is **user-friendly**?
 - 2.1. What insights can be drawn from feedback collected and analysed from three selected websites that have different navigation structure?
 - 2.2. How can the website be tested in which, what is the best testing method?
3. What should be the layout and structure of the website? How can information be organized for easy navigation?
 - 3.1. What should be the design of the website?
 - 3.2. How can I further improve how I visualize the structure of the portfolio?

The Results

1. What are the latest web design trends of 2023?

Method selection

For the research on the latest web design trends of 2023, three primary methods were chosen:

- A. Library: Literature Study
- B. Library: Trend Analysis
- C. Library: Design Pattern Search.

1.1 From the Literature Study

Why

I asked this question to collect information of the design trends of 2023. I chose this method to find an overview of anticipated trends based on by design experts, articles, and reports.

How

Literature Study: I used search keywords such as "website design trends 2023," "website design trends 2023 medium," and "top website design trends 2023" to learn more about the trends in website design for 2023. The article "The 29 Dominating Web Design Trends for 2023" was written by Karla Hesterberg and released on March 07, 2023. Karla is the Director of Content Marketing at HubSpot, who contributes experience in data analysis and marketing content. In the article, she references the websites that exemplify the design trends she talked about.

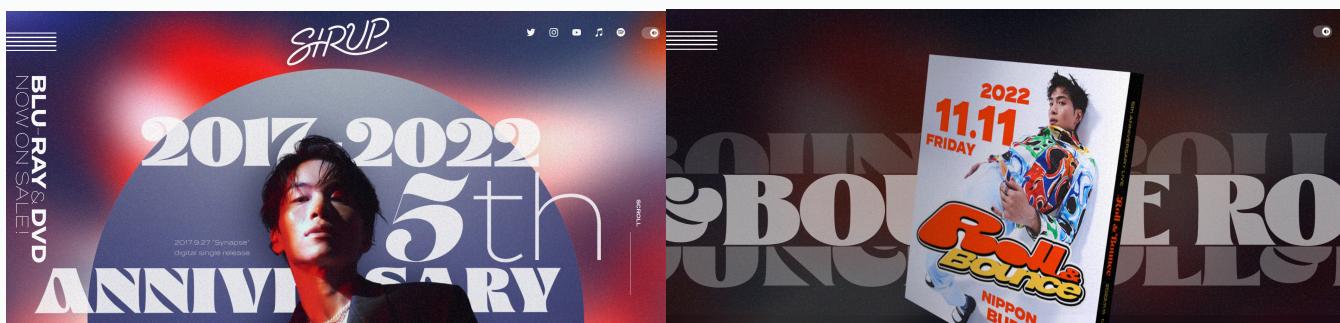
What?

There are many web design trends in 2023. I have presented some of the trends I like from looking into an article written by Karla Hesterberg by the name of “What are the most important web design trends for 2023?”. The trends are:

- Pastel Colours
 - According to Hesterberg (2023), in a recent article discussing web design trends. Pastels are bright, warm, and powerful reprieve from the bleakness of the early 2020s. This portfolio created by Cédric Pereira reveals exactly how visually impactful pastel colors can be.



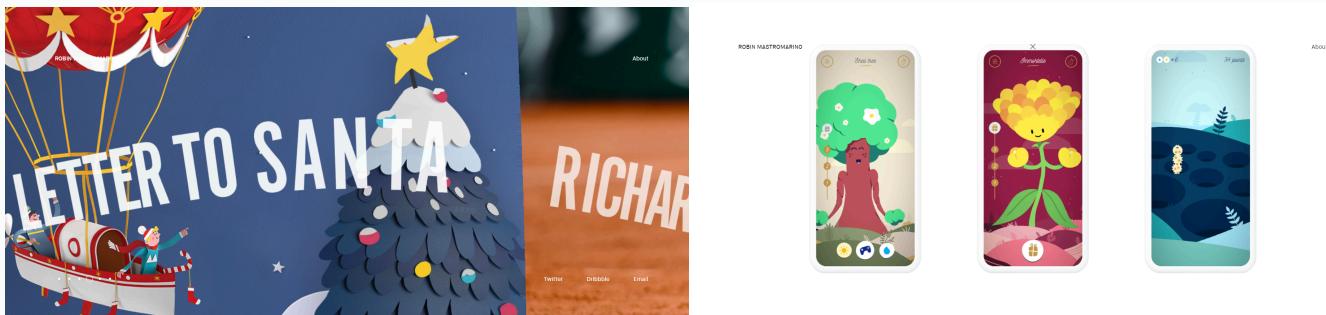
- What I like: The colours, the animation, the hover effects, and the style of the website.
- Layering
 - Layering images, colours, shapes, animations, and other elements add depth and texture to a site that doesn't have a lot of text (Hesterberg, 2023). Below is a stylish example from the singer-songwriter SIRUP.



- What I like: The layout, the ability to turn music on or off, the vibe of the website, the colours, the font, the whole design of it.
- What I dislike: I would say the way the CDs were presented, I don't know the artist, therefore the way they showed them wasn't very helpful for me.

- Drag Interaction

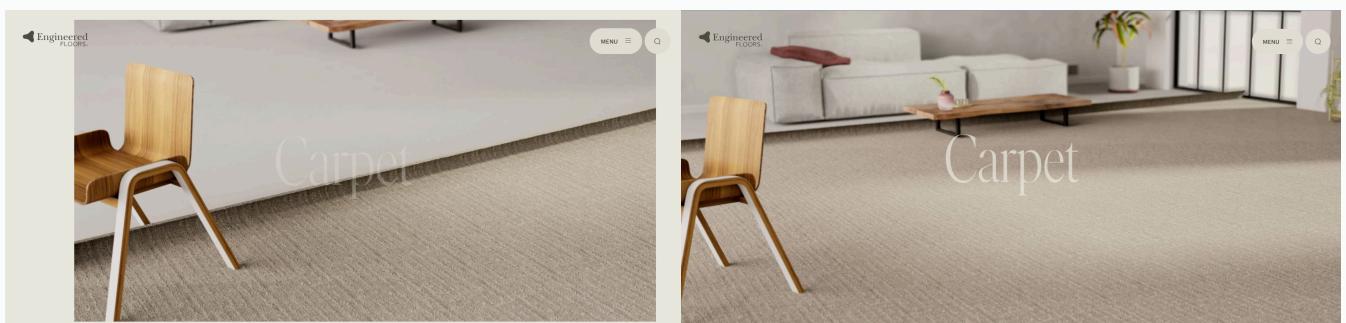
- Drag interactions are designed to mimic an actual, physical action. They essentially allow visitors to pick up and move objects on the screen. This type of gesture interaction is gaining momentum with more websites.
- Take Robin Mastromarino's portfolio site as an example. In addition to clicking on the controls of the homepage slider, you can drag and drop the different slides to browse his featured projects (Hesterberg, 2023). The page transitions and animations are based on drag speed to give users a sense of control over these effects.



- What I like: The overall look of the website and the drag effects.
- What I dislike: At the end of a page, if I scroll a bit more, it gets me back to the titles. I sometimes don't want to view the titles again but want to see the end of a page.

- Scrolling Effects

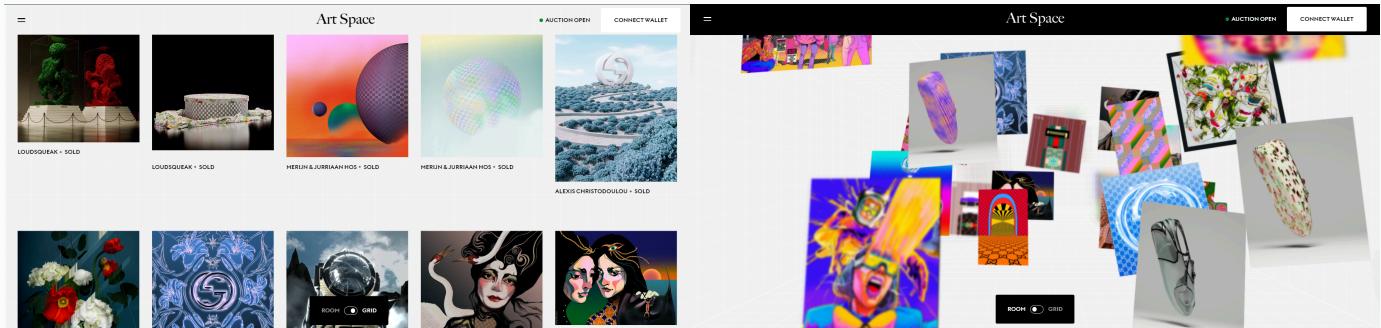
- Scrolling effects—animations triggered by scroll action create more dynamic web experiences, which is why they're arguably one of the most popular trending web design elements this year, according to Hesterberg (2023). These are increasingly used on interactive websites to intrigue readers to keep scrolling, signify a break in content, and create a three-dimensional experience.



- What I like: The animation, the way the carpet moved when navigating through the website, the colours and the used typography (font).
- What I dislike: I did not dislike anything in particular.

- Scrapbook Aesthetic

- Today's scrapbook aesthetic is an updated, buzzy version. In some cases, like this Gucci website, it's interactive (Hesterberg, 2023).



- What I like: The way of viewing the website element with the room aspect, and the vibe of the images.

What I dislike: I think I don't like that I can't code this yet.

- Gamified Design

- Gamified design is everywhere in 2023, making it one of the most prevalent website design trends this year. Gamification is an excellent idea because it adds an element of human emotion for visitors (Hesterberg, 2023).



- What I like: Mostly everything, the vibe, the ability to move with the keyboard, all the animations and different ways of presenting information on the portfolio.
- What I dislike: The website is too long to navigate through, viewing the contact for example requires me to go through everything on the websites including the waiting for the air balloon to go up.

So What?

According to the literature study, the current web design trends of 2023 involve a preference for pastel colours in order to develop visually attractive and appealing websites. The technique of layering images and objects is employed to create a sense of depth, while drag interactions provide users greater flexibility. Animations and designs triggered by scrolling attract users, while the scrapbook aesthetic, provides content in a distinctive manner. These themes collectively demonstrate an emphasis on user involvement, interactivity, and aesthetics. What I like the most is the pastel colours.

1.2 From the Trend Analysis

Why

I asked this question to collect information of the design trends of 2023 from different resources. I chose this method to actively observe and analyse websites, portfolios, and case studies to check out what's really being used and preferred among designers.

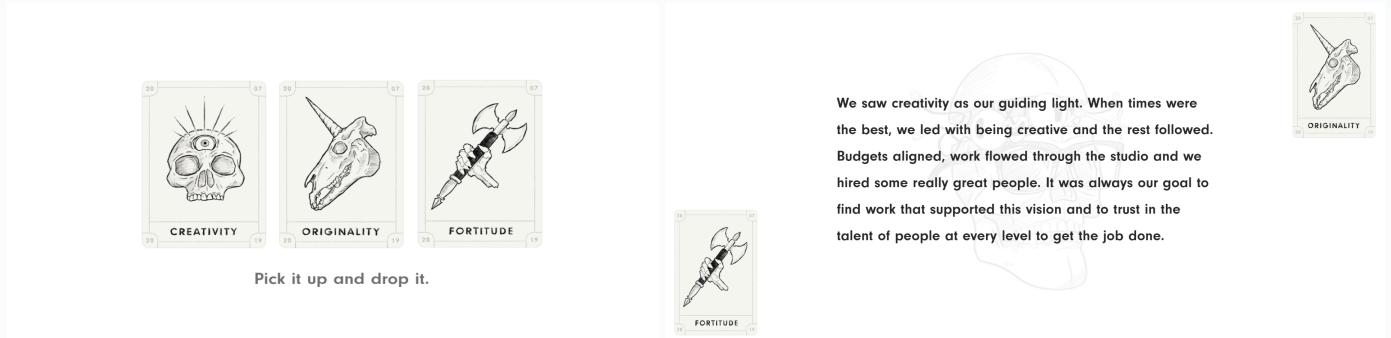
How

Trend Analysis: for this method, I watched two youtube videos by Gary Simon, which were published on May 17, 2022, and July 7, 2023. The first video is called "Top 7 Websites of Spring/Summer 2023," while the second video is titled "8 Developer Portfolios that Potentially Score 10/10." The videos provided an insight on current web design trends, observed via an analysis of consumer behaviour. Gary showed a summary of the websites trends emphasising significant design aspects, functionality, and new approaches demonstrated in the featured websites and portfolios.

What?

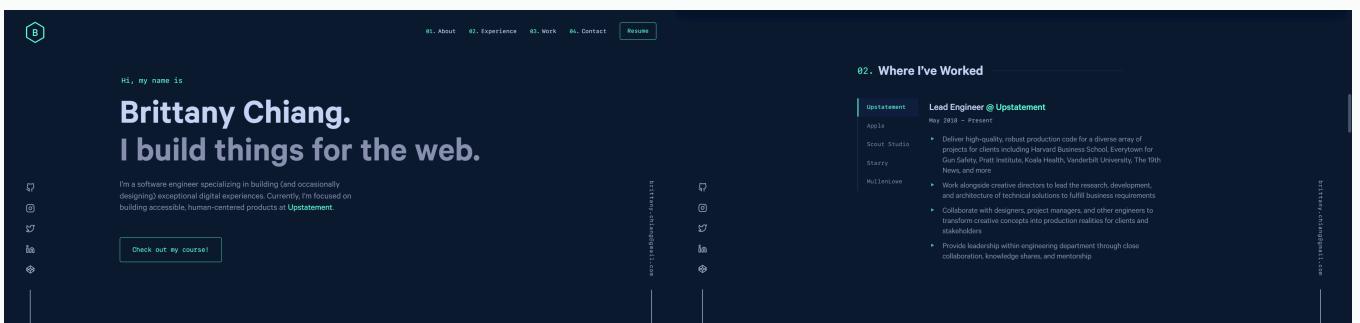
Following the literate research, this is the second research about the design trends. This time the resource is from youtube video, from an expert. the two YouTube videos were from the same person, Gary Simon. The first video was by the name of “Top 7 Websites of Spring/Summer 2023 ” and the second was by the name “8 Developer Portfolios that MIGHT be 10/10’s?! ” and was published in 2023. The trends are:

- Ultra Minimalism
 - Taking classic minimalism to the extreme, some designers and agencies defy conventions of what a website needs to look like, displaying just the bare necessities. This trend of web design, known as “ultra-minimalism,” can be great for the user experience and load times (Gary Simon, 17 May 2022, 10:05).



- What I like: The Ultra-minimalism vibe. The way the website positively impacted my experience and feeling about it.
- What I dislike: The website is very small, it barrel holds information about who did it and for what. I wish there were more pages, so I can feed my eyes with its beaut.
- Link: <https://www.legworkstudio.com/>

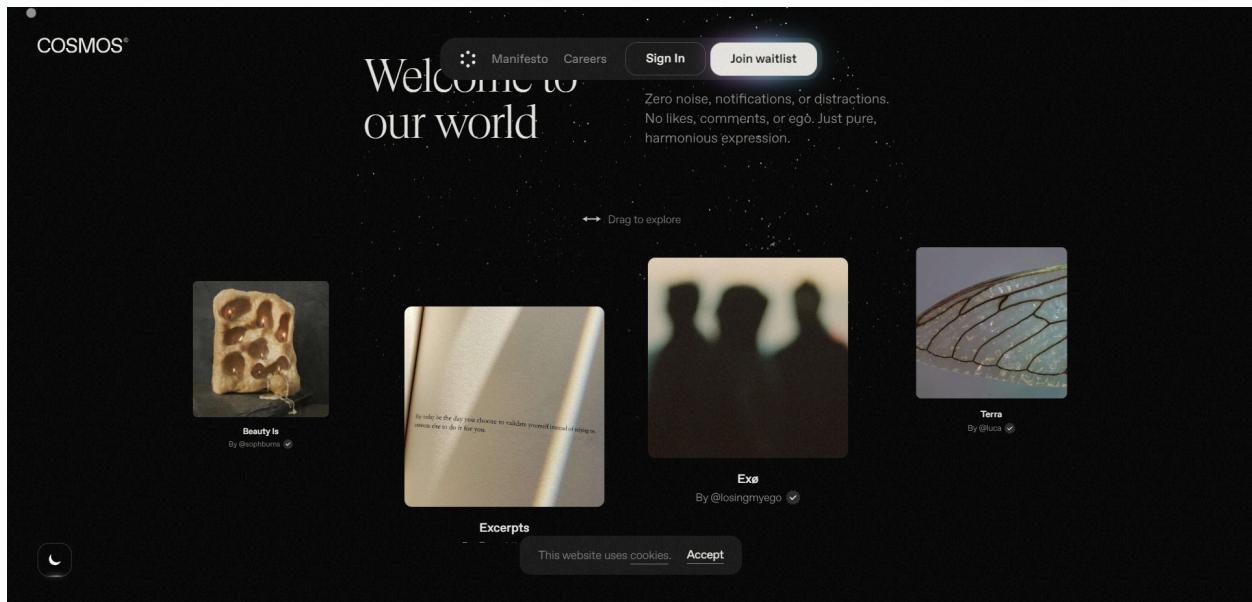
- Minimalism
 - The site from Brittany Chiang is centred around a CV and little information in a very simple style with a dark colour scheme (Gary Simon, 17 May 2022, 2:00).



- What I like: The grid style, the minimalism vibe, how she fits everything on one page, and the way she presented the work experience.
- What I dislike: I would say nothing wad disliked by me.
- Link: <https://v4.brittanychiang.com/>

- Broken Grids

- A broken grid layout is a web page layout that defies some standard of a traditional grid layout. This could mean adjusting column width and/or row size, overlapping and stacking elements, animations, or other techniques beyond what a grid system dictates (Gary Simon, 2023, July 7, 10:18). Which make it so cool.



- What I like: The style, the colours, the vice of the website, and the selected images.
- What I dislike: I would say nothing was disliked by me.
- Website link: <https://www.cosmos.so/>

So What?

After watching the two videos, I was able to conclude that the ultra-minimalism emphasises clarity and quicker loading speeds, as seen by the website of Legwork Studio. The portfolio of Brittany Chiang illustrates minimalism, employing dark colour schemes and simple layouts to achieve a visually pleasing and simple approach. Cosmos showcases broken grid layouts, that break traditional design rules by enabling innovative modifications and overlaps. I liked most Brittany Chiang website.

1.3 From the Design Pattern Search

Why

I asked this question to collect information of the design trends of 2023. I used the method to find common solutions and some design patterns.

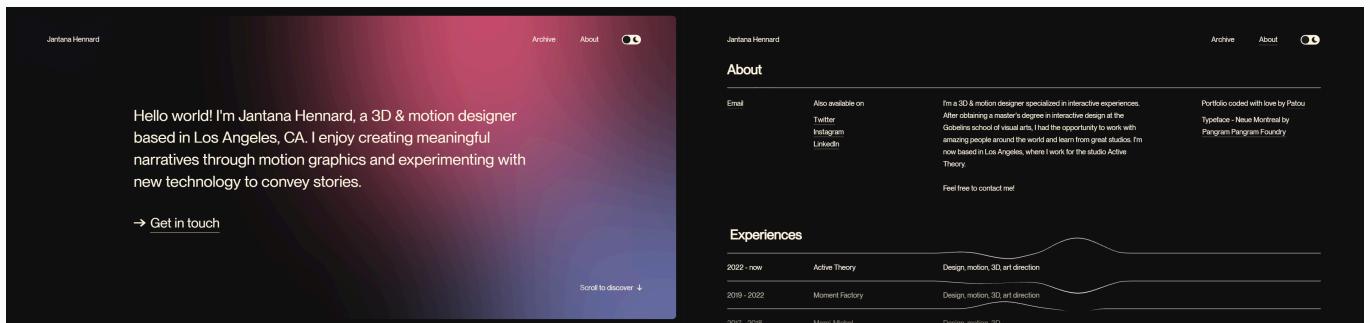
How

Design Pattern Search: I explored various websites for analysing design decisions, usability, and aesthetic choices. I made note of my personal preferences and noteworthy features observed in each trend.

What?

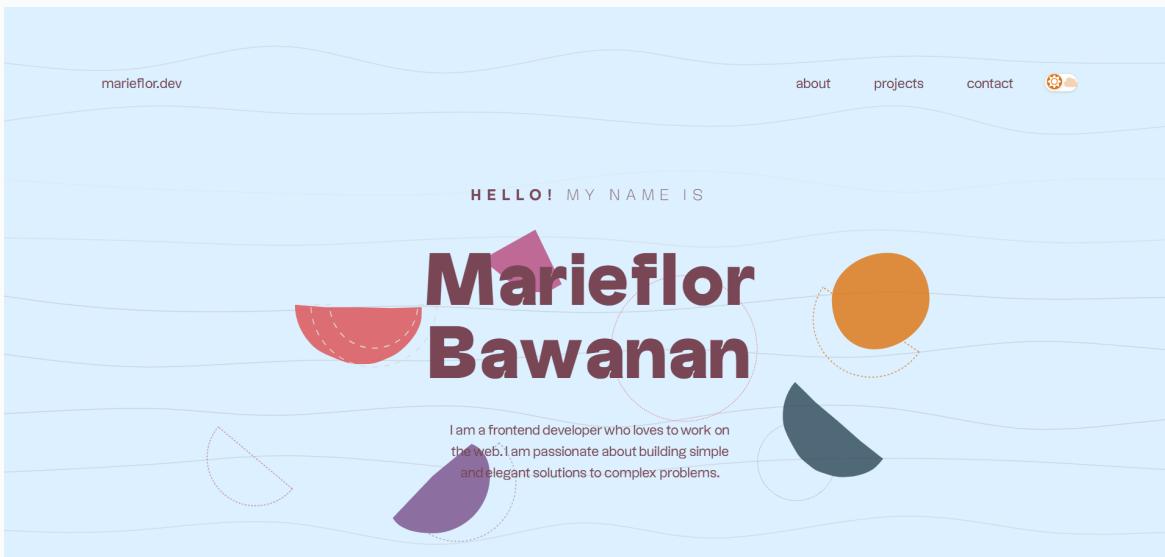
Going through the internet, I was able to find the trends below. Why did I say they are trends? Basically, when I was doing the literature research, I was able to identify some of them.

- Text animation
 - The site from Jantana Hennard is centred around a CV and little information in a very simple style with a dark colour scheme.



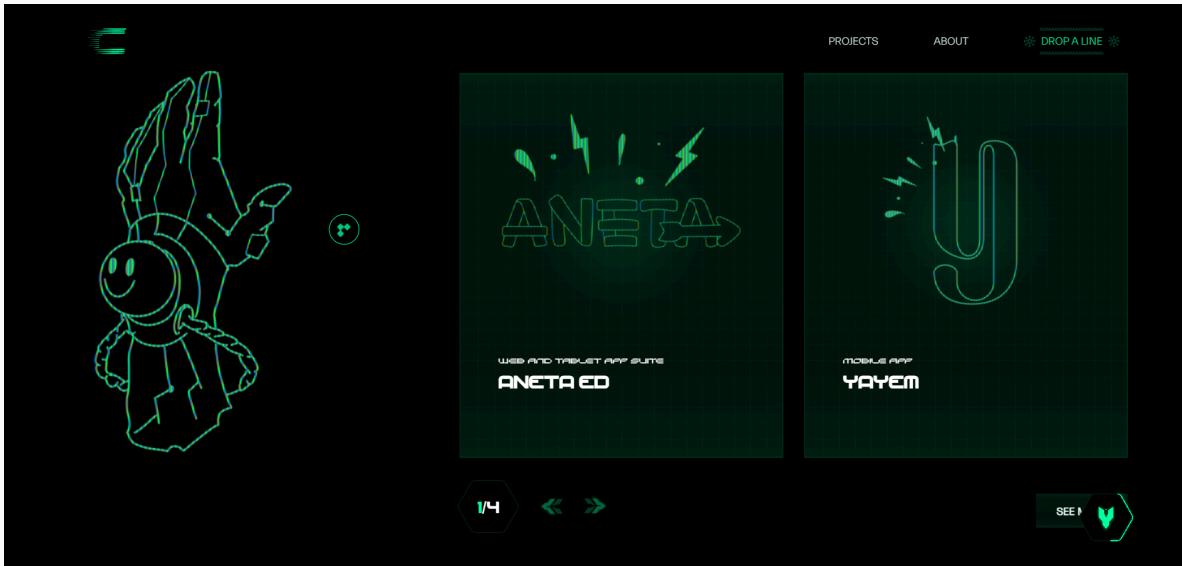
- What I like: The animation of the lines and text when hovering with the mouse, it is so cool.
- What I dislike: although the animation was cool, it was a bit distracting and annoying sometimes.
- Link: <https://jant.fr/>

- Minimalism
 - The below website show a minimalism design with a nice choice of colors and a cool animation that is triggered when mouse moves.



- What I like: That it is possible to switch to night mode, the animation, the font, and that it is possible to view the codes.
- What I dislike: The page refreshes when the user goes to other pages.
- Link: <https://marieflor.dev/>

- Gamification
 - The developer have created the website in a way like old games we used to play. With a cool animation and way of presenting the info using that.



- What I like: The used color, the used icons and images, the mouse, and all the details that have been put into this.
- What I dislike: It is a bit hard to navigate to the projects.
- Link: <https://www.codecraftsmen.io/>

So What?

Going thought the internet to discover more websites, I was able to discover more cool website that integrated some of the design trends in abetter way than I seen before from the videos and the literature research. The Text animation, as demonstrated on Jantana Hennard's website, presents engaging line and text animations that are triggered by hovering the mouse. The website of Marie Flor demonstrates minimalism, characterized by its elegant design, ability to switch to nighttime mode, and captivating animations caused by mouse movements, however intermittent page refreshes occur when navigating. Finally, the implementation of gamification on Code Craftsmen's website evokes a sense of nostalgia through its design that draws inspiration from gaming. The website incorporates attractive colours and images. Overall, even if the developers follow the trends, this doesn't mean that the website is perfect.

Conclusion for sub question 1

In conclusion, the research of web design trends in 2023 through the literature study, trend analysis, and design pattern search got me to identify a wide range of design trends. Including a preference for pastel colours, layering for depth, drag interactions for user control, scrolling-triggered animations for engagement, scrapbook aesthetic for unique content presentation. That Ultra-minimalism emphasizes clarity and loading speed advantages, while minimalist designs like Brittany Chiang's portfolio and innovative broken grid layouts as seen on websites like Cosmos demonstrate creative approaches.

However, I don't think all of these trends can be all together on my website. Because having many beautiful things does not mean that the end result will be beautiful, it can also mean it will be ugly. Therefore, I have chosen a few of these trends to be in my portfolio making, such as the pastel colours, and some animations.

2. How to ensure that the website is user-friendly?

To answer this questions, I decided to look at the following:

1. What insights can be drawn from feedback collected and analysed from three selected websites that have different navigation structure?
2. How can the website be tested in which, what is the best testing method?

The first question will help in identifying the best layout and the best navigation structure. While the next question can help me to determine the testing method that will give me the most valuable feedback, that can affect the portfolio from being user-friendly.

2.1 What insights can be drawn from feedback collected and analysed from three selected websites that have different navigation structure?

Why

I asked this question to identify the best layout and the best navigation structure and what the target group prefers. I chose the usability testing method because I can collect a lot of feedback and opinions, which I believe is going to be very valuable.

How

Usability Testing: In an early stage of this project, I engaged peer students and teachers to review three selected websites, aiming to collect diverse feedback on interface, design, usability, and overall impression. I asked some to think aloud. At the end, all the testers were asked to write shortly what they think of each website if it was my portfolio.

What?

Based on the results of the research, sub question 1 (What are the latest web design trends of 2023?) I was able to decide some of the criteria of what is considered as a good website to be selected on the testing.

The goal of the portfolio is to serve as a showcase of my achievements in the semester as my goal to show the coding skills and abilities to learn and to secure a graduation internship for the final semester. The process of selecting the websites wasn't just about choosing them, but it was about finding platforms that resonated with my goals, design preferences, and coding capabilities. There is a full document about how did I select the website, you can find a link below or view it from the portfolio.

Selected Website:

A. Code Bucks:

- a. This website caught my attention due to its innovative design elements and enthusiasm for showcasing coding skills and layout of the home page, specially for the headings. It is true that the navigation posed challenges, affecting the overall user experience to me and to the others, but despite this, its uniqueness and coding-centric approach were aligned with my portfolio goals, intending to highlight technical skills.
- b. Link: <https://react-portfolio-sigma.vercel.app/work>

B. Cali Castle: (website is in Chinese, please use the translator on the website)

- a. This website presented a clean layout and certain design elements that initially seemed promising. However, the website's formal design and functionality made it look boring, but it served - in my opinion - the minimal requirements for the teachers. Despite these drawbacks, its attempt at structured layouts and specific pages like the blog page with my portfolio's goals, to show the research for example. Therefore, it was not a bad choice.

- b. Link: <https://cali.so/projects>

C. React Portfolio : (React course)

- a. Among the choices, the React Portfolio stood out for its simplicity and potential to show coding skills effectively and most important, the 3D elements. The site is not built to showcase what is learned but to get a job, showing the history of the person's work, the languages he knows and a contact page with an impressive background and 3d element of an earth that is spinning slowly. Choosing this website as the layout will mean that there is a lot to do and fix, but I am ready for the challenge because it looks so good.

- b. Link: <https://project-portfolio-6i7c.vercel.app/>

The testing results:

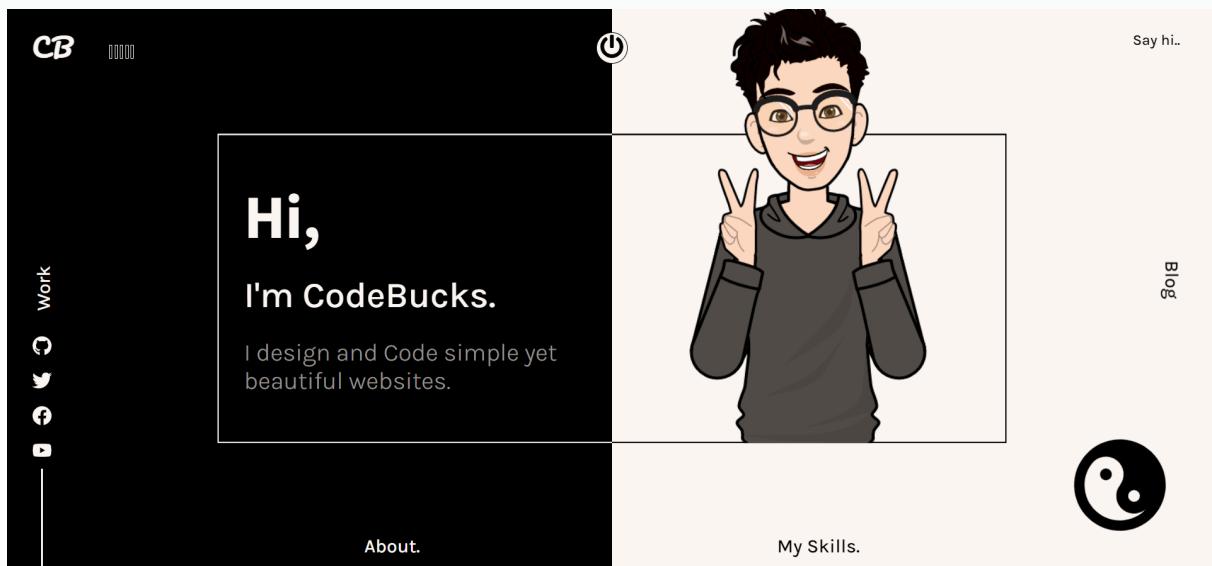
Participant Name	Participant Role	Code Bucks	Cali Castle	React Portfolio
Hajer Al Kindi	Student	I liked the design	Too formal, simple, and nothing unique	Overall, I liked the simple and neat design. I would write more information about myself in the beginning (just a short description)
Megin van Herk	Student	I hate it, its too confusing, there are directions or familiar navigation options. Everytime I click on something it opens another tab. This makes me want to leave the website.	Nice hover animations, the login is a bit weird for a portfolio, I would prefer anonymous comments as the reactions you can add.	Maybe indicator that there is a 3d thing, or already move it. Maybe make the text bigger, or less. No external links pls.
Negin Bokaei olmousavi	Student	The icons are confusing (power off button-playing music icon looked like hamburger menu) the scroll chain is well designed and gives feedback to the user.	The information architecture is good I can find information- The picture are not well selected because they are not personalized - I liked the emojis next to the blog- some pages are not necessary for example message wall.	I liked this one the best. It is minimal design and I can easily fine information. I like the micro animation. The time line helps alot with navigation

Participant Name	Participant Role	Code Bucks	Cali Castle	React Portfolio
Kim Oppers	Student	I think the website is a bit messy. There is a lot going on but I think the idea is very original. The navigation is confusing for me because I don't know where to click on. Where is the navigation?? Left, right?? It's confusing for me but I like the music and animations.	I really like this website. The 'blog' page has a nice overview with pictures. The homepage is clean, and I know how to navigate. It's a clean website.	I really like the website. I like the animations for the cards and 3d model. Very interactive.
Presiyan Penev	Student	Interesting way to structure the menu, I like that it is a bit more unique. Definitely original way to represent their portfolio	Better than the first website I saw, very well organized and clean, I like how images are organized and it is easy to navigate throughout the website. I really liked the testimonial page and that every page had a clear call-to-action button	The thematic is fitting in my opinion together with the colors, the animations I found really cool. The 3d animation was cool as well, but didn't know it was moveable in the beginning, think of a way to indicate that it's interactable, overall it's a really nice looking and easy to follow portfolio

Participant Name	Participant Role	Code Bucks	Cali Castle	React Portfolio
Stan van Oers	Teacher	<p>I've got a couple of small bugs. That is not a nice start for a front-end developer. Overall experience is all over the place. Though the soundbar was the menu.</p> <p>However! Although this website is imo technical and design wise super messy. I do see his enthusiasm about code and animations. And I like that.</p> <p>I would hire him for an internship to see if he would grow technically towards a junior.</p>	<p>Design feels outdated. Although there is cohesion.</p> <p>In terms of him as an app developer it makes sense. It is very structured. You can easily find his projects and his code is hosted on github.</p> <p>His code on github is clean. Good validation, structure is a bit meh.</p> <p>Junior/Medior backend/app/plug-in developer?</p>	<p>Love the 3D! I would say maybe try to integrate it more with the website. E.G. I would not have the laptop on the hero. But animate the lines in the background instead.</p> <p>I would swap the timeline with the projects since it is more relevant.</p> <p>Also put your contact information in the hero (above fold). Plenty of times potential clients will go to your website just because they forgot your email.</p> <p>Or they saw the website closed it and after talking about it with other people decide to send you an email.</p> <p>The ending with the contact is really cool.</p>

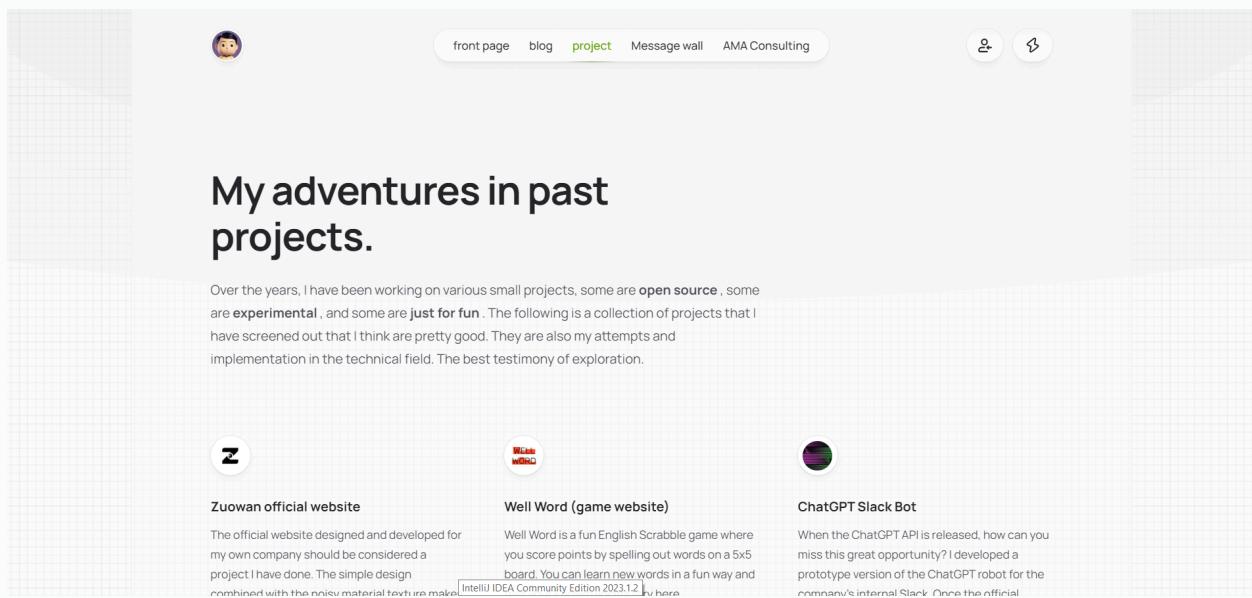
Participant Name	Participant Role	Code Bucks	Cali Castle	React Portfolio
Paul Reekers	Teacher	<p>The horizontal scrolling is weird, there is no clear understanding why it needs to do that.</p> <p>Social media icons on the left disappears into the white background.</p> <p>Power button in the middle with a green hover is weird and not clear why its there. The menu structure is all over the place.</p> <p>He wants to show his skills, but now it's too much of all the different elements.</p>	<p>Design is a bit simple, not that special or outstanding. The projects could use more information/image. First tile (zolplay) is a broken link. The hover effect makes the text unreadable.</p>	<p>I get errors Access to script at 'file:///src/main.jsx' from origin 'null' has been blocked by CORS policy: Cross origin requests are only supported for protocol schemes: http, isolated-app, brave, https, chrome-untrusted, data, chrome-extension, chrome. main.jsx:1 Failed to load resource: net::ERR_FAILED /logo.svg:1 Failed to load resource: net::ERR_FILE_NOT_FOUND</p>

Code Bucks:



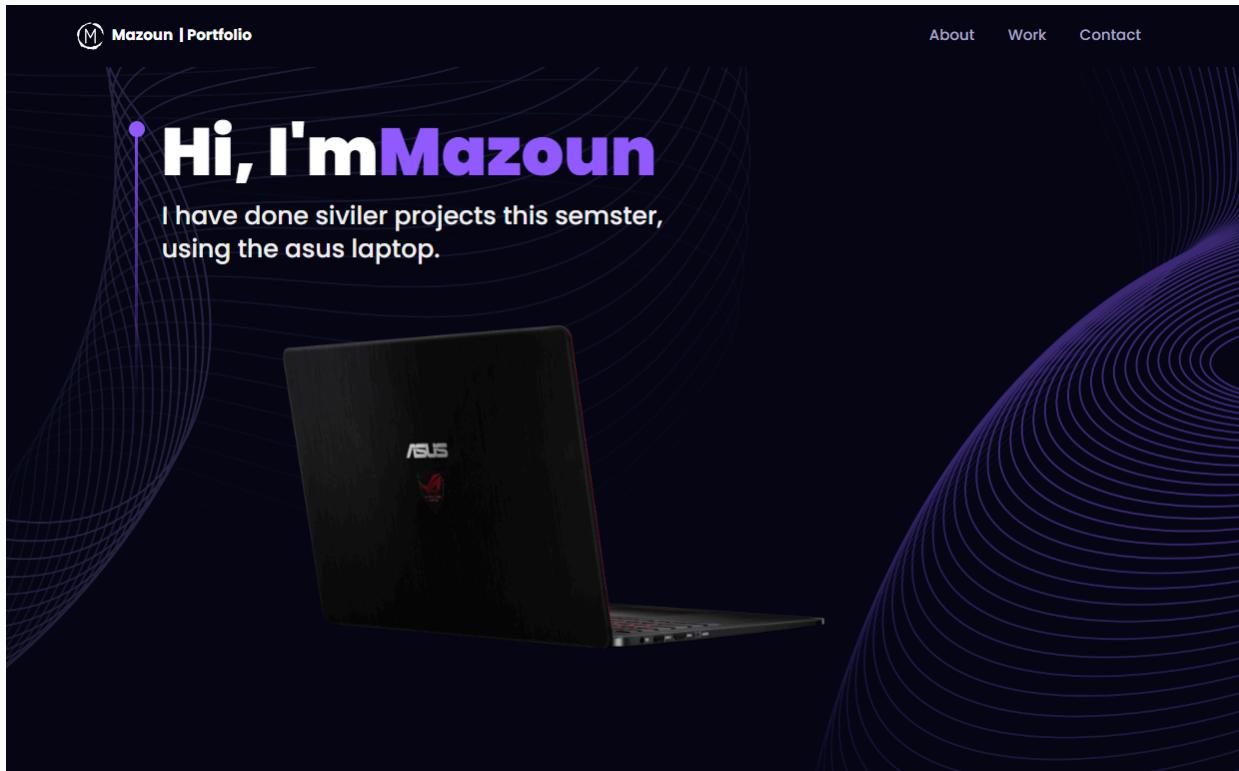
As can be seen from the above image, the navigation menu is all around. It is unique, but that doesn't mean it is good. When doing the testing, I was observing the users, most of them did not know that there are 5 menu elements. And from the testing results, a user said it is messy.

Cali Castle:



This website, on the other hand, showed a better navigation menu, at the top and in the centre. Most users agreed that it is well-structured and better than the Code Bucks. However, some users said it is simple and easy, I would say this is a very user-friendly website, because users did not find it difficult to navigate through it.

React Portfolio :



This website, is a one-pager website, which means that it is not complicated, that users can easily navigate throughout. As can be seen from the testing, none of the users real find any difficulties regarding the navigation.

So What?

Analysing the feedback from participants and teachers, it is evident that each portfolio website had its strengths and weaknesses. However, this is not the main point. What I am looking with this testing is the friendlies of the websites in the matter of navigation and layout. To conclude the results, the Code Bucks is not user-friendly, its navigation menu is messy, everywhere in the screen, its pages show different coding skills but doesn't rely focus on what the users really know and used to. Why would the user scroll to the right on the project page, there is nothing that illustrate that.

As for the Cali Castle, the design is boring and simple, but it is user-friendly because the results shoes that it was easy to find everything. And finally, for the React Portfolio, the one-pager, it is also user-friendly because everything is on one page. However, the question is as follows, if both the Cali Castle and the React Portfolio are friendly, which one should I peak? And why?

In light of this feedback, I have decided to choose the React course layout and navigation menu, this is because not only it is user-friendly, but the users had more positive feedback about the 3D objects and the theme, so it is the one standing out.

2.2 What is the best testing method?

Method selection

I have used the following cmd methods:

- A. Library: Literature Study

Why

I asked this question to know what are the available testing methods and which one is more beneficial for me.

How

Literature Study: The search plan for answering this question involved in looking at different keywords like "Website performance testing", "Different types of website testing", and "Best testing for website". I found the article named "The Most Effective Testing Methods to Improve Website Usability" by Newsroom, published on Mar 3, 2022. The reliability of the article was ensured after looking at the publication date and the authority of the website. The search was successful by reading the article and extracting and summarizing relevant data of different testing.

What?

UX testing is the process of evaluating common usability issues that might disrupt the user experience when using a website (Newsroom, March 3, 2022). Factors that define a site's usability coefficient include the site's responsiveness and intuitiveness, the difficulty (or ease) of finding information on the web pages, the website's loading speed and average load time, the site's memorability which allows users to navigate it during subsequent visits, the user's level of satisfaction after using the web platform the error frequency and severity when using features on the website.

From the UX usability testing results, the owners can optimize the website's structure, information architecture, user interface, and loading speed to generate more traffic. The UX testing also helps in improving the site navigation to ensure easy access to vital information. The below are the testing methods that the article talked about:

1. Baseline usability testing

- The specialist outlines the important UX metrics to evaluate the performance. It is usually tested with other people in the same team/company and sometimes with the users.

2. User testing

- Moderated: When the moderator supervises the testing. It helps to follow a testing approach which outlines valuable improvements.
- Unmoderated: When the researcher is conducting the testing. It limits the real user experience to only following instructions.

3. Guerrilla testing

- This testing is used when the owner has some concerns regarding the unbiased opinions. The testing begins with handing out the design either wireframe or prototype to random people and asks for feedback. It is good when the goal is to expand the target audience.

4. Card sorting

- It is useful when the architecture of the platform needs to be restructured. It begins by handing out cards that contains the content. The users are asked to arrange the cards based on how they want to use them. After which, the tester can write down results on the best structure he finds.

5. Customer feedback

- Using surveys and questionnaires can help into getting a wider improvement that is aligned with making users more satisfied with the experience.

6. A/B testing

- As the article states, this method is for testing an older and a newer version of the same site. This testing is conducted to the target audience, where the users compare the results and usability of the website.

So What?

There are different testing methods with different goals and outcomes, however, the best method for testing the usability is the user testing the moderate one, which is conducted under the supervision of a moderator. This is because among the ones I found on the article, it gives the most valuable improvement. Therefore, when I do any kind of testing, I must prepare a guideline to direct the user through the website and observe his actions to determine that.

Conclusion for sub question 2

To ensure that the website is user-friendly, I adopted a range of research and testing methodologies. The first step was to conduct usability testing on a specifically chosen set of websites. This was done to get more information and to understand various aspects of web design such as layout, structure, and user preferences. By analysing the feedback from these tests, I was able to determine what works and what doesn't and based on that I was able to select a template.

The selected websites for testing, Code Bucks, Cali Castle, and React Portfolio had different navigation structures which gave different user feedback. Code Bucks, despite its distinctive design, was considered complicated in terms of navigation, which means it's not that user-friendly. The simple and clear design of Cali Castle was met with a better feedback that it is more accessible to users. However, it was said that it is boring. While the React Portfolio distinguished itself with its clearness and appealing design components such as the 3D objects. Having its simple one-page structure makes it the most accessible choice for users.

Furthermore, to really determine that a website is user-friendly, I decided to do a literature study of identifying the most effective web usability testing method. I found out that the moderated user testing as the best approach, where in this method the users are guided through the website under supervision that helps in collecting more detailed and immediate feedback on their experience.

In conclusion, combining these results can aid me in creating the user-friendly website I want. The information collected from this combined methodology has played a crucial role in choosing a website layout that successfully presents the desired abilities and projects, while also guaranteeing user-friendly navigation and clear communication for the end-users.

3. What should be the layout and structure of the website?

In order to answer this question, I created these two questions:

3.1 What should be the design of the website?

3.2 How can I further improve how I visualize the structure of the portfolio?

To begin with, designing the website will allow me to visualize the layout, while for the visualizing of the structure I need to use a different thing, which is the C4 model.

3.1 What should be the layout of the website be?

3.1.1 From the Sketching

Why

I asked this question to communicate the design of the website.

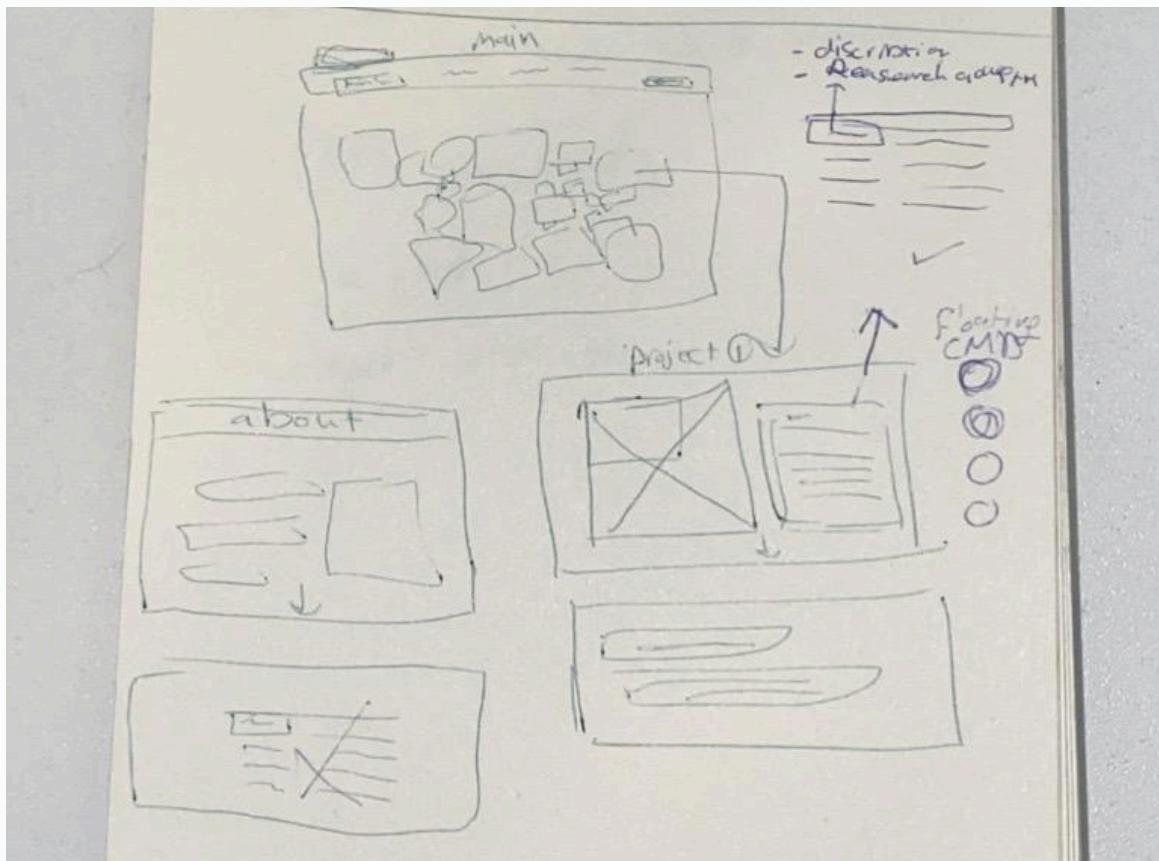
How

Sketching: With my notebook and the pen, sometimes with the iPad, I drew different designs and ideas. Then I transferred some of the sketches into wireframes, to easily communicate them.

Results

First Sketch: (iteration one)

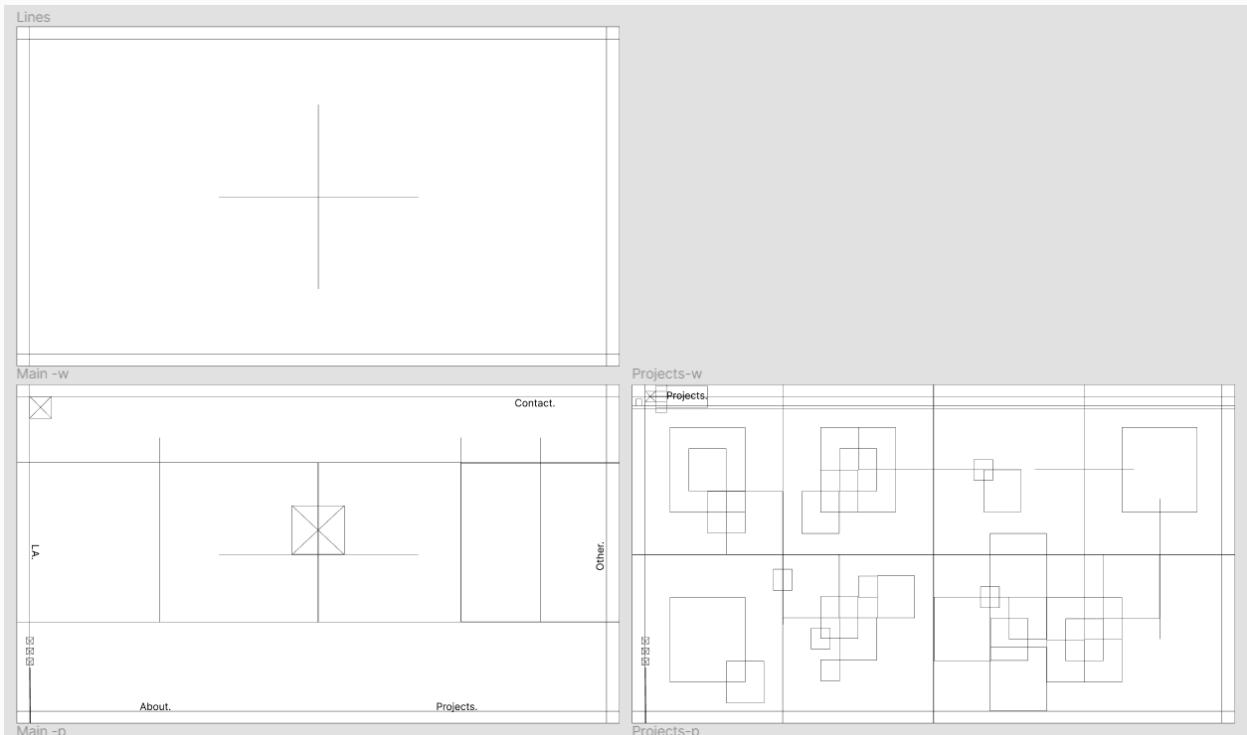
The design was made using a pin and a paper.



It consisted of some ideas like floating CMD methods to give motion to the boring part of the website which is about reading of what are the sub questions and projects. It also included some of the trends I found on the literature research, the main screen shows the trend taken from Gussi website, the page where they illustrate the gallery.

First wireframe: (iteration two)

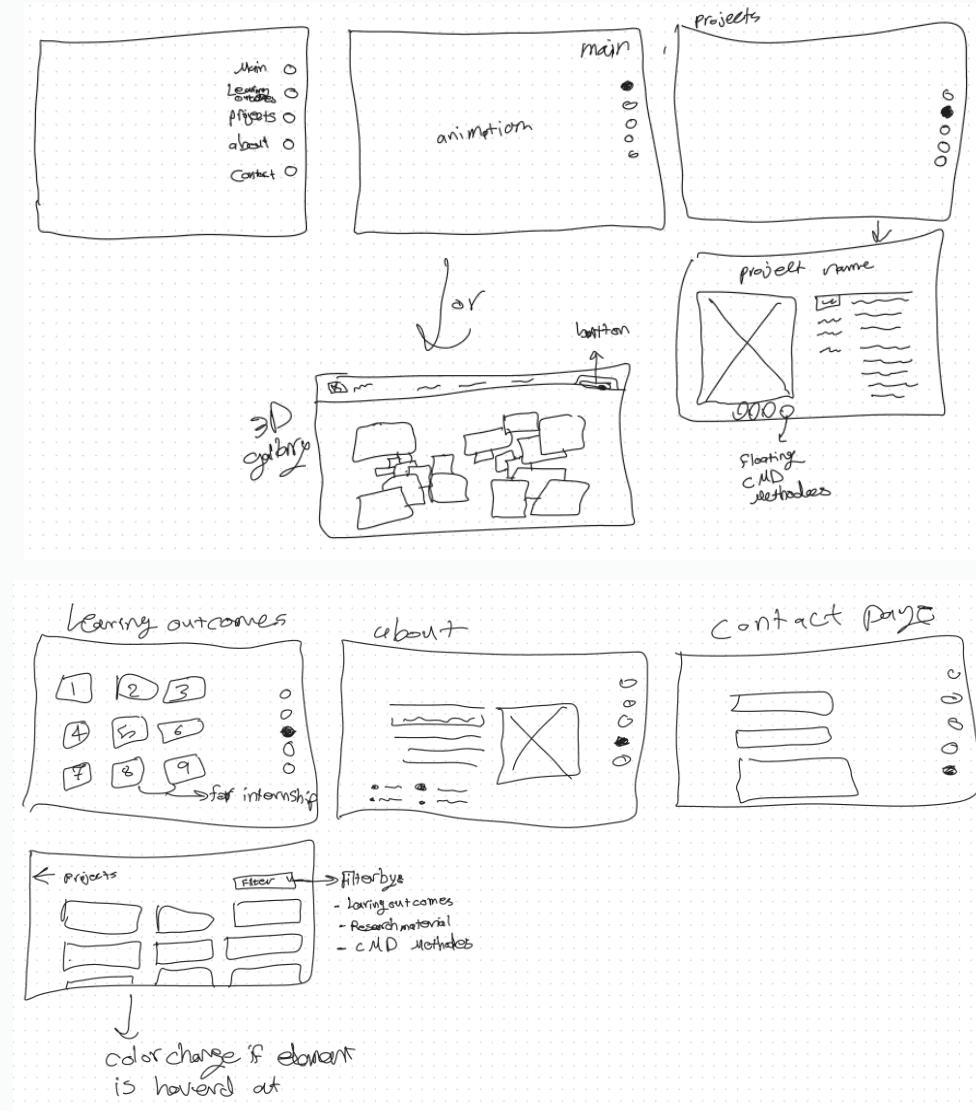
The design was based on 2 websites that I found online, it was design on Figma and on the laptop.



The home page design was based on portfolio website that is called Code Bucks, while the second page shows an artistic view of the projects, it was based on the trend of layering that was found on the first sub question about the trends. There is also a mock-up of these pages, however the idea was changed. This is because the results for Code Buck's website showed that having this navigation menu all over the places is not user-friendly. While for the project page, I couldn't find the code to do such an illusion and illustrations, therefore I cancelled it.

Second Sketch: (iteration three)

The design was a better look of the website, it was design on Figma on the iPad. This is iteration two.



As can be seen, it shows 5 different pages, and some alternatives to the project page. The idea behind the sketch is to have a one-pager website with the ability to go throughout sections with a click on the right of the screen. In this iteration, it's one-pager because it was influenced by the testing results of the Usability testing from research sub question 2. The design also had a spirit page to show all the projects and a filter to find them faster. There is also a button to change the way the person can view the projects, either with a grid or with a broken grid where the user view and feel the page as if it was in a museum. This is also taken from the Gucci website, but now it had a button to switch between the view type.

Mock-up: (iteration four)

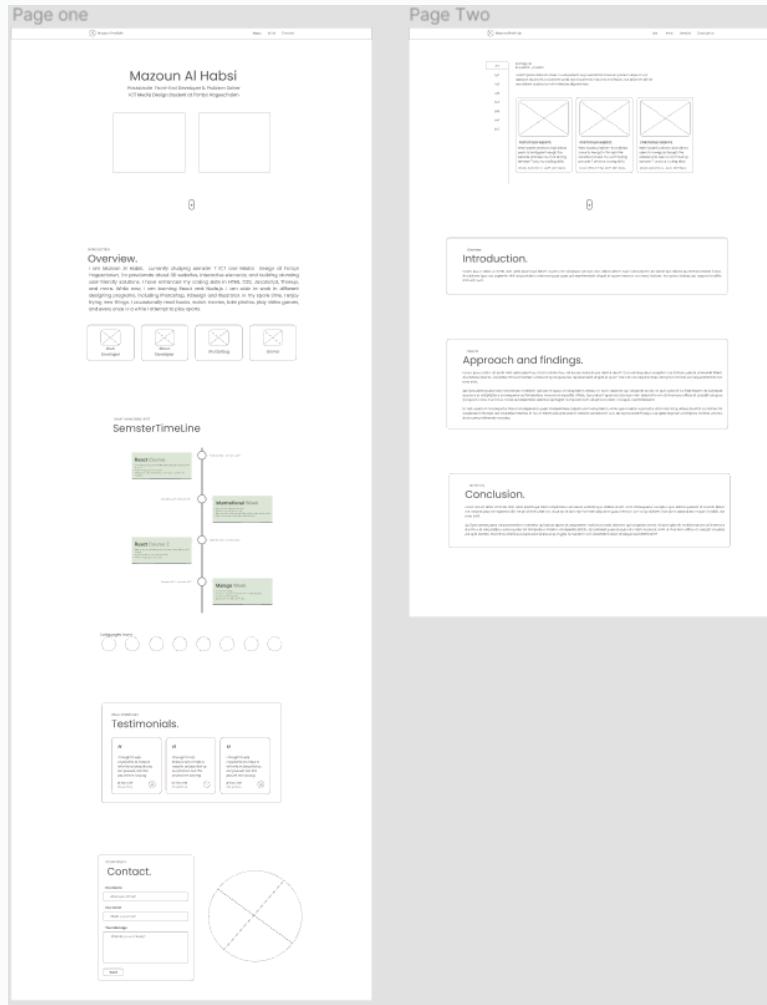
The design was based on the website that had the most positive testing results, it was design on Figma on the laptop.

The image shows a composite of two Figma designs. On the left is a 'Landing Page' for 'MAZOUN | PORTFOLIO'. It features a header with a logo and navigation links (About, Work, Contact). Below this is a main section with a green circular icon, the text 'Hi, I am Mazoun', and a small image of an ASUS laptop. A paragraph below the laptop states: 'I have done few projects this semester, using the ASUS laptop.' Below this is a 'Overview' section with a paragraph about the website being built with JavaScript, React, and Three.js. Six cards below the overview describe skills: User interaction, Software design and realisation, Future-oriented organisation, Investigative problem solving, and Goal-oriented interaction. On the right is a vertical timeline titled 'September 2023 - December 2023' with four project cards: 'React Course' (React.js and Three.js), 'Project company' (React.js and Three.js), 'WeyWeyWeb Malaga' (React.js and Three.js), and 'International Week' (React.js and Three.js).

This design has similar to the React Course. However, it has different colour theme and some different components. The colours weren't matching the research I conducted, therefore it was decided to be changed. What's more, the experience timeline is not going to be relevant for this project. Therefore, this design is have some cancelled componenets.

Wireframe: (iteration four)

The wireframe was design on Figma on the laptop, it was based on the previous iterations and websites testing.



The wireframe as can be seen looks similar to the previous mock-up. But it has most of the components that the portfolio should have, with two pages, one for the teachers and the hiring against together and the other page for the teachers to view the achievement from. As can be seen, thee timeline is still there on the design because I was planing to change it something else. As for why did I add another page, this is because I was asked from a company to view my website and I did not want to show them a website that doesn't have all components running and working.

So What?

Overall, having multiple sketches and prototypes is not bad. Either if the new designs are for updates or new concepts, as long as they work in favour to create a better version of the final layout. But there must be some considerations to know when to stop and why to create another version, some of these considerations or limitations are time. As this semester is not that long and the website is also serving me the props of landing a graduation internship.

On this research, I had four iteration, where some iterations had big changes and some little. Each iteration illustrated why an idea was cancelled, some because of not aligning with what I found on the previous researches, some because of coding skills, and others were because of not being relevant to be added.

Overall, the last design was having two pages, one for both target users and the other for one user. The first one shows who I am on the working field, while the other illustrate the achievements I had during the semester.

3.1.2 From the Prototype

Why

I wanted to evaluate the design and communicate it.

How

Prototype: After going through iterations, it was time to determine one design. Therefore, the challenge I was trying to solve I changed from wireframe and design choices to creating a high fidelity prototype, the digital prototype.

Results

Prototype: (iteration five)

This prototype was design on Figma on the laptop.



This iteration is about communicating the wireframe or the last fourth iteration into a live design with colours and text. It can be seen that the boxes and the circle are represented with visuals that are either icons, images or 3D objects which give a clearer overview of the final look of the website. There are three 3D objects, where the first two takes the users to the reading guide or the projects page and the third object is just an effect and a design to give life to the portfolio. The used colours are from a pastel colour palate with a black shade.

So what?

There is not much to conclude from this iteration or method. This is due to the fact that there was no testing for this iteration, it was mainly about showing how would the website look with the text and visual elements.

If I had to conclude something, the design shows an interesting portfolio website with the use of pastel colours. It is a live now, which makes it more interesting to view the layout of the website.

3.2 How can I further improve how I visualize the structure of the portfolio?

3.2.1 From the C4 Model

Why

To improve the structure of the portfolio, this method will illustrate the components and container of the portfolio with the relationships of components and users.

How

C4 model: I started by reading what is the c4 model and how it helps, then I looked at an article by the name "The C4 model for visualizing software architecture" also the "Understanding the C4 Model for Software Architecture Documentation" that was published in 26 October 2021 by Sheldon Cohen. I was able to find a website to create the diagram by drawing it, the website is called "visual paradigm", also found another website that draw it with codes, the "Structurer" website. Then I created the structure with both website by identifying the key elements of each level, the context and the relationship. At the end I compared the two diagrams and found out they are both valuable and have different things.

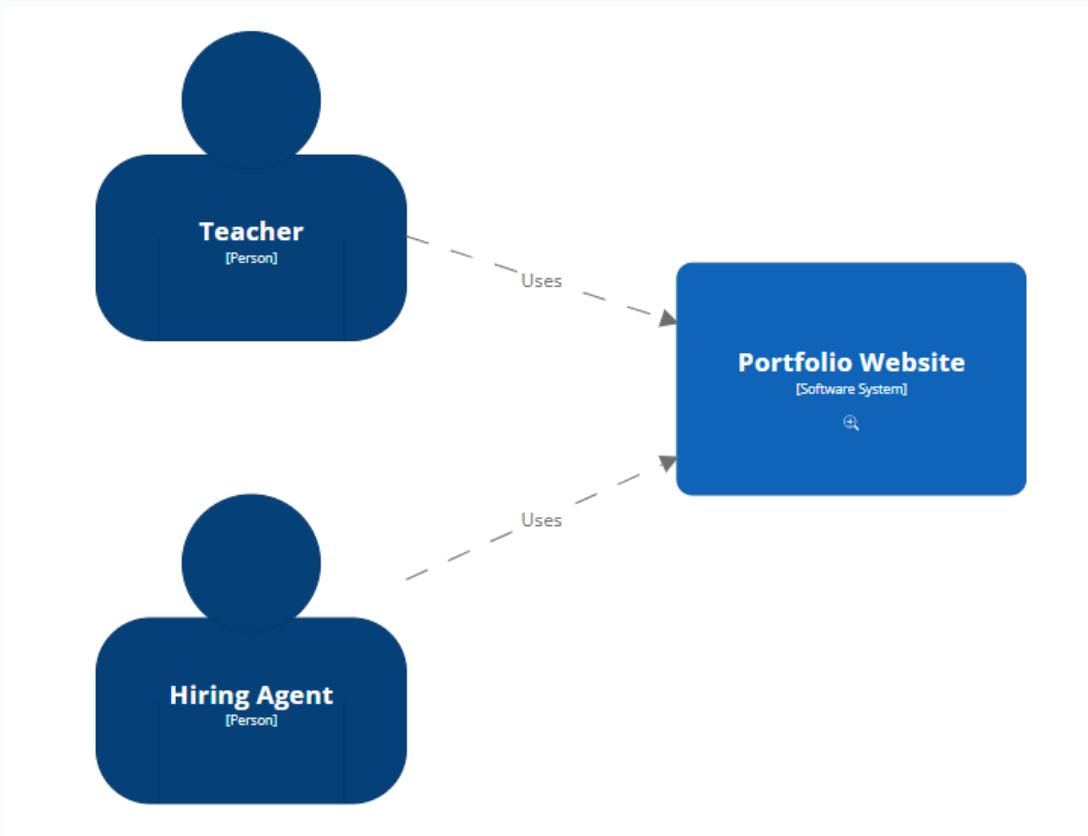
What?

The C4 model is about visualizing the architecture of a software system. The C4 model contains of the Context, Container, Component, and Code. There's a full document about the creation of the C4 model, however, I will only show information of level 1 otherwise the document will be too long.

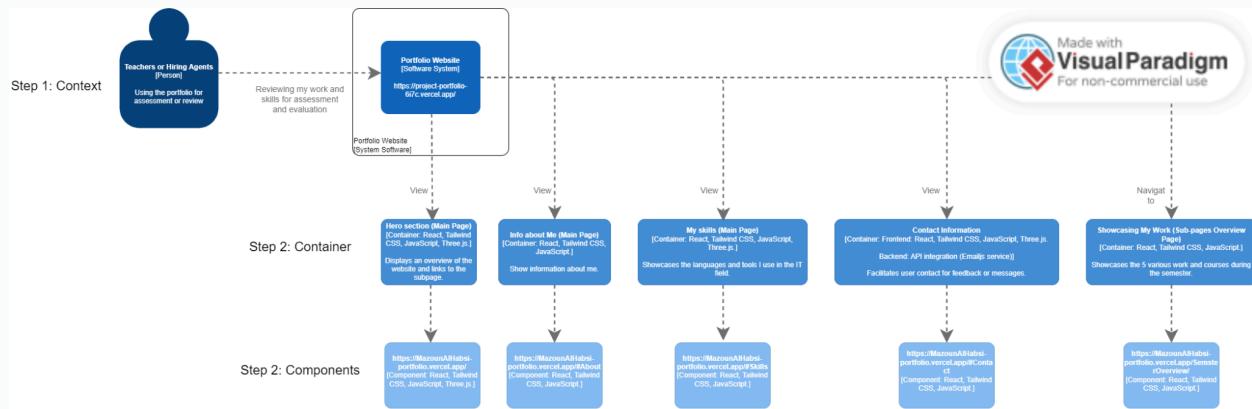
Context (Level 1)

To have a broader view and see the bigger image. Drawing and documenting a software system can be initiated with this stage.

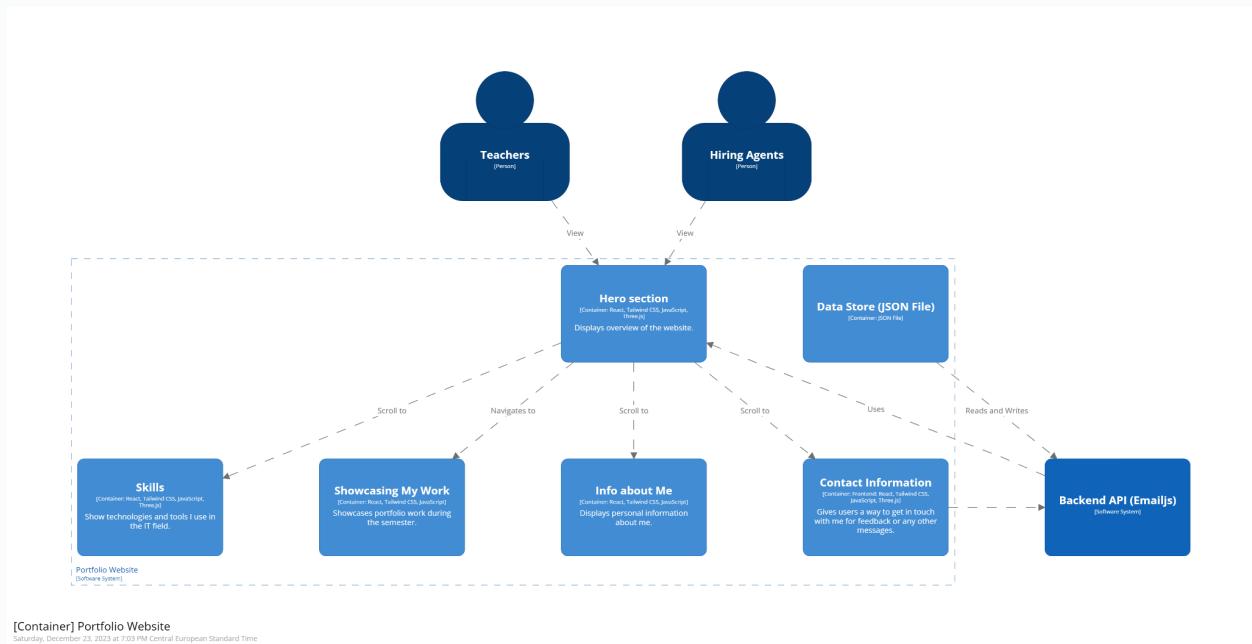
1. System: My portfolio website.
2. Actor: Users (Teachers and hiring agents)



The below image shows the C4 model that I draw on the website:



While the following image shows the structure with the coding website:



As can be seen, there is a somewhat great difference. The first one shows clearly what is what in each level, while the last one only shows the last level with some backend and deeper understanding of the relationships. The codes can be found on the full document, please review it for more information.

So What?

In conclusion, visualizing the structure of the website using the C4 model is very helpful, it illustrates the related people, the pages they view (Home page, reading guide, the work pages) and shows from where they navigate through it, what kind of component goes into different pages and what are the needed coding languages in each page as the C4 models illustrated, not all pages will be using the Three.js language but all of them will use the HTML, React and JavaScript. This helped me in not only structuring the components but to deeply visualize what I am missing from the previous design iterations.

3.2.2 From the Sketching and the Prototype

Why

To explore and draw the improved structure of the portfolio and to communicate it.

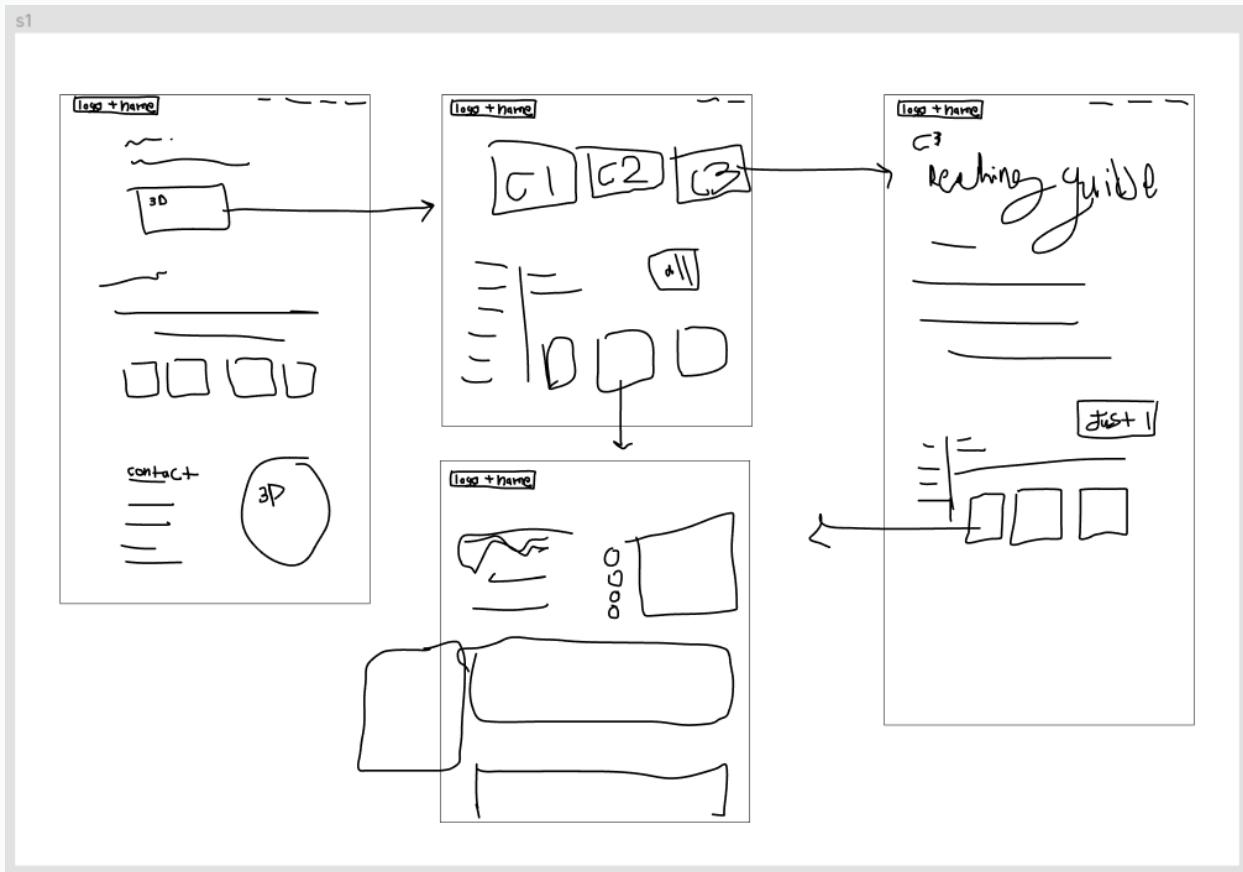
How

Sketch: With the iPad, I drew a newer design.

Prototype: In this last iterations, it was time to determine the final design. Therefore, I created a high fidelity prototype, the digital prototype from the sketch.

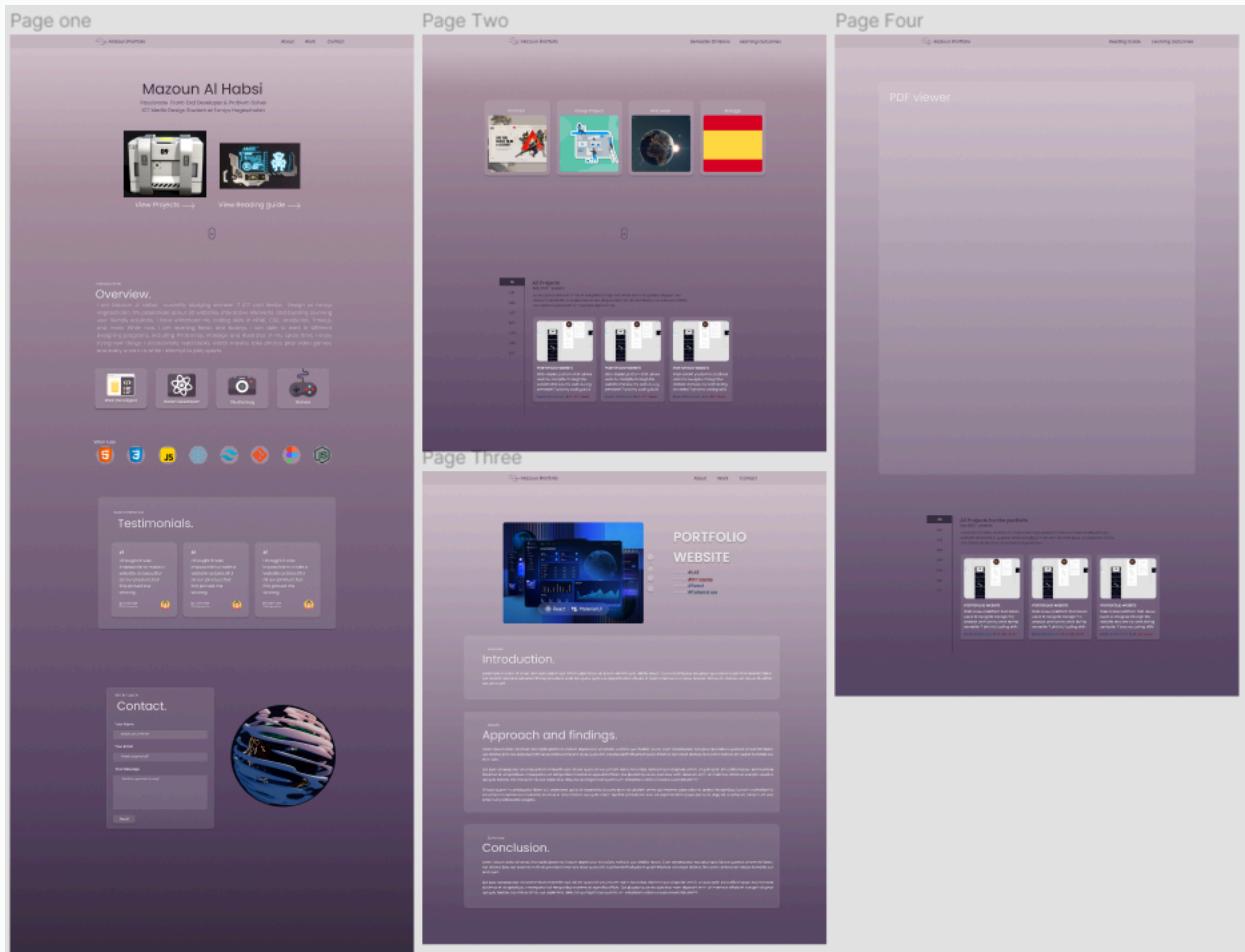
What?

After using the C4 model, I have updated the design of the website with the updated structure I had in mind. The below image shows the sketch. I believe this is iteration six.



As can be seen, the design now contains 4 pages. The main page is to show how I am as a developer as intended before, and it also directs the users to another page that have the categorization of different projects during the semester. The categorizing page, also include all the learning outcomes of the whole semester. As for the page on the right, it is meant to show the reading guide and the learning outcomes of that specific categorization. If the user click on one of the learning outcomes, he should be sent to the page that is in the centre bottom of the image, as can be seen. The page shows some information of the selected learning outcome.

The below image shows the prototype.



As can be seen, this design shows better the component of each page. Having some categories to the different things in this semester. As shown, this iteration aim to show what is for the group project, what is for the first week, international week and Malaga trip.

So What?

The upgraded prototype shows a significant change with a better navigation presenting all different stages of the semester from the portfolio to all projects reaching to the Malaga trip. It also consists of all the achievements of the semester connected to the learning outcomes and a separate categorization of a specific stage, for example the out-of-space, the user can view the achievement for that specific category with its associated learning outcome. Finally, I will conduct a testing to verify the improvement of this website structure.

Conclusion for sub question 3

To identify the website's layout and structure, I utilized a set of methods. The Sketching and Wireframing, the prototyping, the C4 Model and finally another iteration of Sketching and prototyping.

The process began with sketching, where I explored various design concepts. It was crucial for brainstorming and visualizing different layout ideas. Then the initial sketches were transformed into wireframes, while these wireframes were a digital blueprint of the sketches, they provided a better and more structured visualization. This allowed me to refine the ideas and establish a clear vision for the website structure.

Moving on, the next phase was about designing a high-fidelity prototype. The prototype had details of elements like colour schemes, some text, and interactive features, to mimic the actual user experience of the final website. This helped me to make informed design decisions and adjustments before finalizing the website.

The next phase was creating a C4 model to enhance the structure of the website. The model assessed and outlined the website's components, their interactions, and the overall system architecture. This method was particularly effective in ensuring the integration of the various components of the website, with a focus on both the user interface and some technical languages.

The final step, was to improve the design based on the C4 model. First, sketching to adjust and improve the layout based on previous findings and then created another prototype based on that. This final prototype represented the final design with a better structure.

Overall, each method helped in shaping the final layout and structure of the website. The end result was a well-designed, user-friendly, and visually appealing website, ready for testing.

The Conclusion for the Main Question

To answer the main question:

How can I as a programmer design a modern and user-friendly portfolio website that effectively incorporates the latest web design trends of 2023 while ensuring a smooth user experience and achieving the desired website goals?

In order to create a modern and user-friendly portfolio website, I adopted a methodical approach, considering various aspects of web design.

The research on the latest web design trends highlighted a trend for pastel colours, layering for depth, drag interactions, scrolling-triggered animations, scrapbook aesthetic, ultra minimalism, minimalism, broken grids, text animation, and gamification. However, recognizing that not all trends would suit my website, I selectively chose elements such as pastel colours and animations to achieve a blend of trendy aesthetic and functionality.

Through usability testing of websites with different navigation structures, I gained insights into what makes a website user-friendly. Testing sites like Code Bucks, Cali Castle, and React Portfolio helped me understand the importance of simple, clear navigation and engaging design elements. I also discovered that moderated user testing is the most effective way to collect detailed feedback, which helped me in collecting more feedback.

To determine the best layout and structure, I used a mix of sketching and wireframing, prototyping, and the C4 model. This process started with sketching to visualize design concepts, followed by creating wireframes for a structured digital blueprint. High-fidelity prototyping provided a realistic feel of the final website. The C4 model was instrumental in outlining the website's architecture, ensuring seamless integration of components. The final design step was to refine the layout based on the C4 model insights, leading to a final prototype that highlighted functionality, style, and user experience.

To summarize, through a methodical approach, I successfully developed a portfolio website that not only follows current design trends but also highlights user-friendliness but also effectively show a good communication of content. The final website is a blend of modern design elements, intuitive navigation, and a well-structured layout.

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External Links

- Project Plan:
 1. [!\[\]\(bdac780c749766df4b3644d8404ac5d7_img.jpg\) 2.2 Project Plan-Portfolio V3](#)
 2. [!\[\]\(33a631497c33218c19ead0f2ca2a328c_img.jpg\) 2. PPV2](#)
- Documents:
 1. [!\[\]\(928b23a367422643fa15dd0830ab0258_img.jpg\) 3. Design Trends and Principles](#)
 2. [!\[\]\(443256a9bb8dac5a2dc8297d73e53a9f_img.jpg\) 4. Website Selection Process](#)
 3. [!\[\]\(7063cb3b95cd82d045081d7d8f86e31f_img.jpg\) USER TESTING PORTFOLIO](#)
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- Courses:
 1. Build and Deploy an Amazing 3D Web Developer Portfolio in React JS | Beginner Three.js Tutorial: <https://www.youtube.com/watch?v=0fYi8SGA20k>
 2. React Portfolio Website Tutorial From Scratch - Build & Deploy React JS Portfolio Website: <https://www.youtube.com/watch?v=ohnrC3gh9YI&t=6221s>
- GitHub: <https://github.com/mars-xion/Project-Portfolio.git>
- Website: <https://project-portfolio-6i7c.vercel.app/>
- LA's:
https://docs.google.com/document/d/1IiV9wZmD4WjYdhqNgIpnz5NU_Ga0lNfCspD3pWo2GfM/edit?usp=drive_link

- Coding Process:

https://docs.google.com/document/d/1U5T1ZZuPiPK6iElNgnr_BWeXvZWUm8ZHI_jIScSPoEU/edit?usp=drive_link