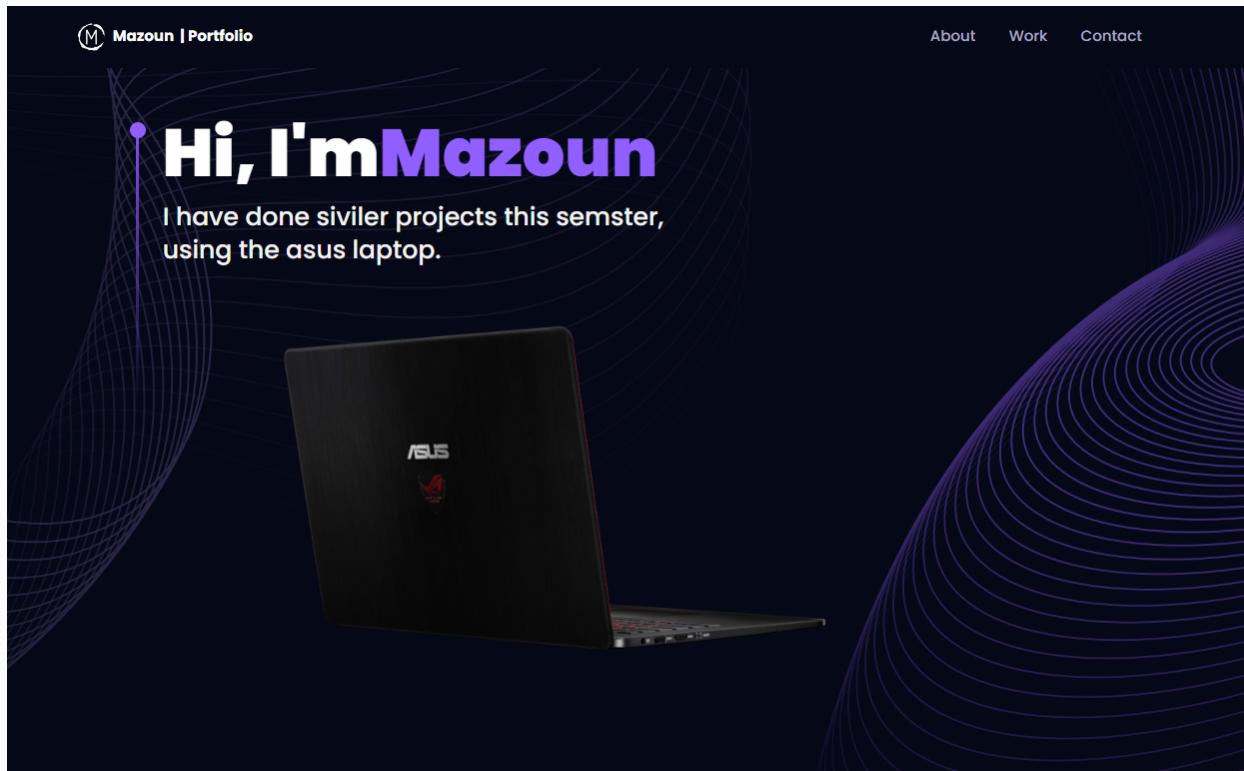


# RESEARCH REPORT PORTFOLIO

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## The Overview

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This is the overview

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# **Project Definition**

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## **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**

An impressive responsive portfolio website that presents what projects and tasks I have done, what workshops I attended, and courses I have participated in. I

## **1.4 Way of working**

I will be working 2 days on the individual portfolio and 3 days on the group project. Whenever I have free time, I will be doing react courses and fill up documentations.

# The Results

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## Main Question

How can 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?

## Sub Questions

**1- What are the primary challenges programmers face when implementing the latest web design trends, and how can these challenges be addressed effectively?**

### Method selection

I have used the Benchmark Creation method from the Library strategy, where I conducted benchmarking to identify challenges that face the web developers effectively.

## Results

There are several challenges faced in web development when implementing the latest web design trends. These challenges include:

1. **Browser Compatibility Challenge:** Ensuring websites elements or specific languages work on all browsers, especially legacy ones like Internet Explorer, where Microsoft ceased its services after the date of June 15th, 2022. It was suggested handling DOCTYPE errors, validating HTML/CSS, and countering layout differences as solutions.
2. **User Experience Challenge:** Balancing user expectations and responsive web design. This challenge is compounded when different teams handle UI design and frontend development separately. User research is essential, but can be resource-intensive. Solutions involve user research, online surveys, guerilla research, and parallel design to create user-centric designs.
3. **Tech Stack Challenge:** Choosing the right technology stack for web development. Solutions include researching the latest technologies, considering project requirements and team capabilities, leveraging community support, and ensuring future maintainability. The dynamic nature of technology choices can make decision-making challenging.

4. **Defining Project Goals Challenge:** Setting clear and specific goals for web development projects. Solutions involve creating a comprehensive project strategy, effective communication, and using project management software.
5. **Performance & Speed Challenge:** Meeting the high expectations of website loading speed, with 47% of users expecting pages to load in two seconds. This challenge involves optimizing various elements, including code, images, and plugins, and measuring performance through tools like Lighthouse's Core Web Vitals.
6. **Scaling Websites Challenge:** Scaling websites to accommodate increasing traffic while maintaining performance. Scaling is not solely about adding more resources but also addressing architectural complexities. This challenge encompasses dealing with issues related to search, concurrency, consistency, and speed.
7. **Security Challenge:** Safeguarding websites against vulnerabilities and cyberattacks, especially considering that a significant portion of web applications remains susceptible to high-risk vulnerabilities. Common vulnerabilities include injection flaws, broken authentication, and more, posing a constant threat.
8. **Third-party Integrations Challenge:** Integrating third-party services securely and efficiently. This challenge entails bridging technological differences between service providers and the website's architecture. Outdated APIs can become potential vulnerabilities if not updated and customized properly.
9. **Maintenance & Support Challenge:** Managing and maintaining websites after launch, addressing issues like unresponsive pages, security, and performance problems. Maintenance can be complicated, especially when dealing with complex dependencies and ensuring zero downtime during upgrades.

These challenges were represented in “What are the 9 Biggest Web Development Challenges and Solutions to Tackle Them?” article by Hardik Shah on the 11 of March 2022. [1]

## Conclusion

In conclusion, the critical nature of addressing the challenges that faces the web developers when implementing the latest web design trends. These challenges are not only technical but also strategic and operational. Successful web development hinges on comprehensive research, thoughtful planning, and the strategic application of solutions tailored to each challenge. The suggested solutions serve as practical guidance for web developers, helping them navigate these complex challenges and deliver exceptional web applications that meet the evolving expectations of clients and users.

## 2- What specific web design trends and visual elements, prevalent in 2023, should be considered to create a modern and visually pleasing interface for showcasing work?

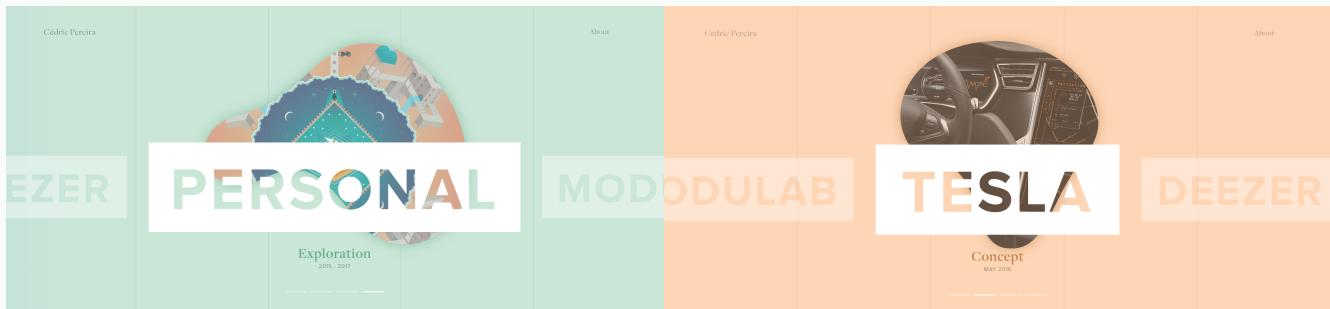
### Method selection

The chosen methods for this research were Trend Analysis and Design Pattern Search. These methods were selected to stay updated with the latest web design trends and to effectively identify and incorporate relevant design patterns.

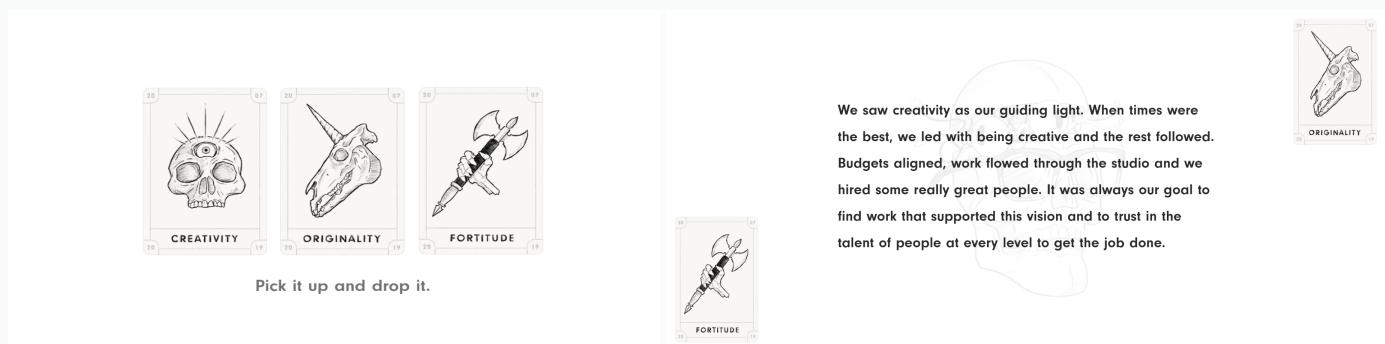
### Results

There are many web design trends in 2023, the following are some of them:

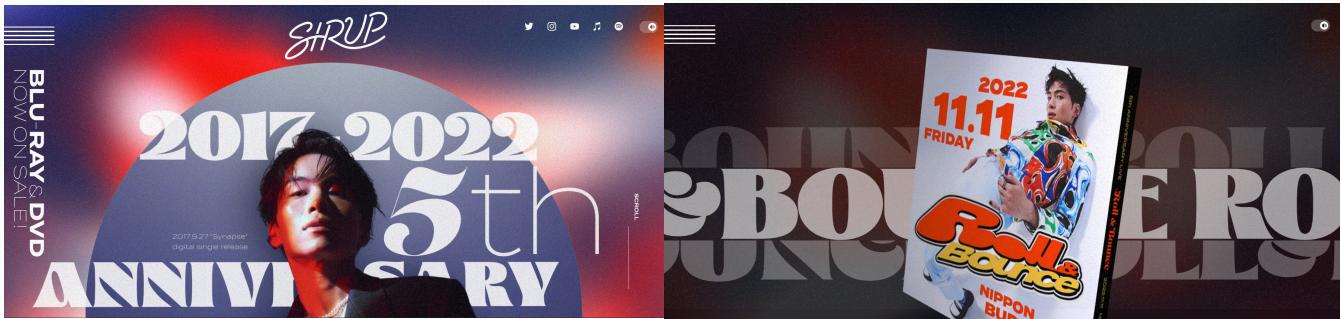
- Pastel Colors
  - Pastels are bright, warm, and whimsical — a powerful reprieve from the bleakness of the early 2020s. This portfolio created by Cédric Pereira reveals exactly how visually impactful pastel colors can be. [2]



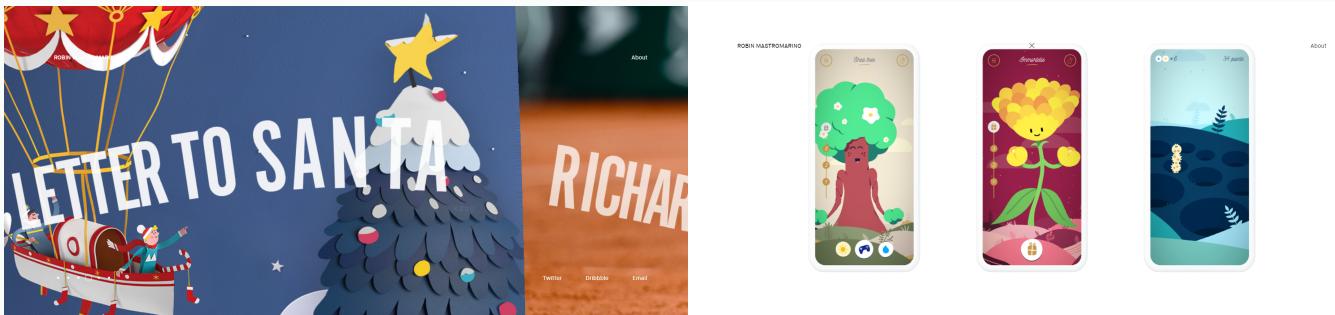
- What I like: The colors, the animation, the hover effects and the style of the website.
- Ultra Minimalism
  - Taking classic minimalism to the extreme, some designers and agencies defy conventions of what a website needs to look like, displaying just the bare necessities. This trend of web design, known as “ultra-minimalism,” can be great for the user experience and load times.



- What I like: Ultra-minimalism can positively impact the user experience and website performance.
- What I dislike: The website is very small, it barrel holds information about who did it and for what.
- Layering
  - Layering images, colors, shapes, animations, and other elements add depth and texture to a site that doesn't have a lot of text. Below is a stylish example from the singer-songwriter SIRUP. [2]

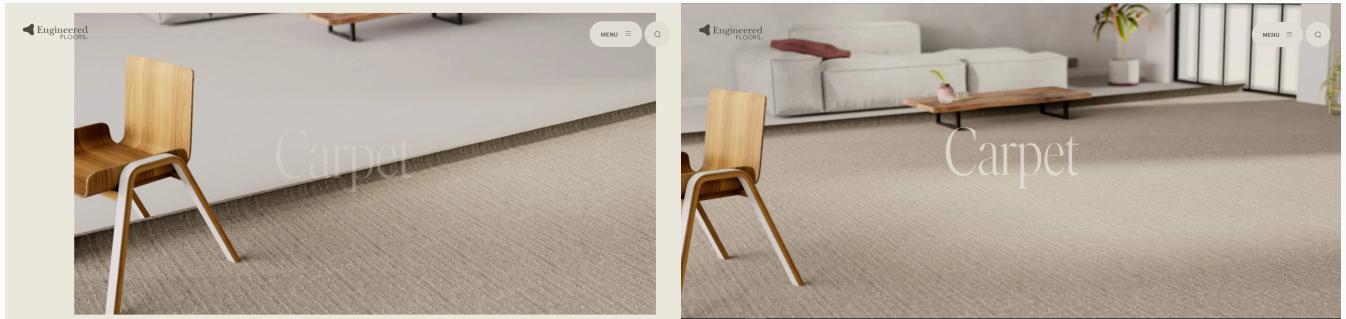


- What I like: The layout, the ability to turn music on or off and the vibe of the website.
- Drag Interaction
  - Drag interactions are designed to mimic an actual, physical action, they essentially allow visitors to pick up and move objects on the screen. This type of gesture interaction is gaining momentum with more websites. It's an especially popular option if you have an ecommerce or portfolio site.
  - 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. The page transitions and animations are based on drag speed to give users a sense of control over these effects. [2]



- What I like: The overall of the website and the drag effects.
- What I dislike: At the end of a page, if 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. These are increasingly used on interactive websites to intrigue readers to keep scrolling, signify a break in content, and create a three-dimensional experience. [2]



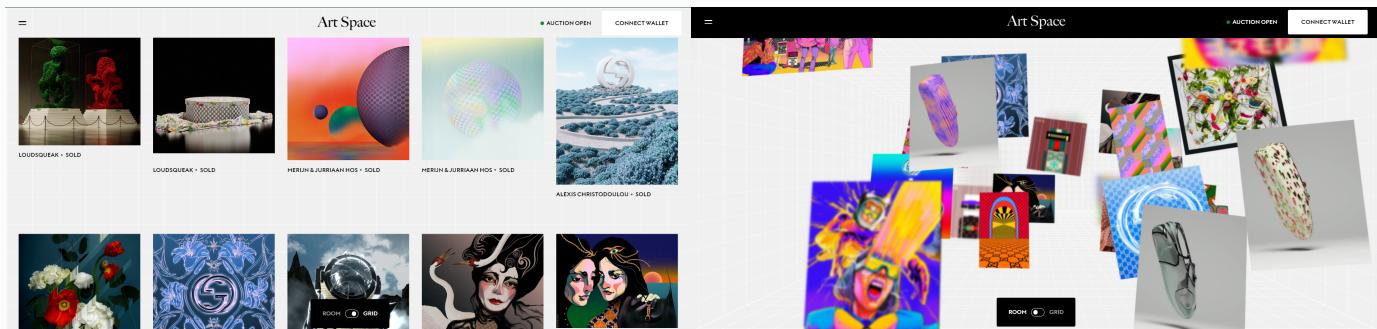
- What I like: The used animation and the way the carpet moved when navigating thought the website.
- Minimalism
  - The site from brittany chiang centered around a CV and little information with a very simple style with a dark color scheme. [4]

- What I like: The grid style, the minimalism vibe and how she fit everything in one page.
- Text animation
  - The site from brittany chiang centered around a CV and little information with a very simple style with a dark color scheme.

- What I like: The animation of the lines and text when hovering with the mouse.
- 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.



- What I like: The ability to move with the keyboard.
- What I dislike: Too long to navigate through.
- Scrapbook Aesthetic
  - Today's scrapbook aesthetic is an updated, buzzy version. In some cases, like this Gucci website, it's interactive.



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

## Conclusion

In conclusion, the research process allowed for the identification of key web design trends and visual elements for 2023. These trends, such as pastel colors, ultra minimalism, and drag interaction, were deemed valuable for creating visually pleasing and modern interfaces for showcasing work. By understanding and incorporating these trends, designers and developers can enhance user experiences and keep their interfaces up-to-date with the latest industry standards.

### 3- What should the portfolio website include?

#### Method selection

I have used the following cmd methods:

- Literature Study (Library): Conduct an in-depth literature study to gather and explore what content should be included in the portfolio.

## Results

Every personal portfolio is unique, by the content it has, by the touch of the designer or the developer it was built by or even by the way it captures the essence of the creator. It's a canvas where skills, passion, and personality merge into a digital masterpiece.

The portfolio is more than just a collection of projects; it's a reflection of the journey, growth, and aspirations. Therefore, here are some essential elements to consider when building a portfolio according to "28 Things to Put on Your Web Developer Portfolio" article:

1. A Custom Logo and Tagline: Create a unique logo and a catchy tagline that represents your identity and skills.
2. A Killer Site Design: Design your portfolio with usability in mind. Make it easy for visitors to understand your message and navigate through your work.
3. Personal Branding/Style Elements: Incorporate personal branding elements such as colors, fonts, and images to add a touch of your personality.
4. Relevant Skills: Highlight your relevant skills that align with the kind of work you want to do.

5. Relevant Education, Coursework, and Certificates: Include relevant courses, certifications, and educational background to showcase your expertise.
6. Previous Jobs with Transferable Experience: Feature previous jobs where you gained transferable skills relevant to your current field.
7. Downloadable Resume: Provide a downloadable resume for potential employers or clients to access your qualifications easily.
8. A Bio or About Page: Share your story and personality to engage visitors and make a personal connection.
9. A Professional Photo: Include a professional photo of yourself to add a personal touch.
10. Visible Contact Information: Make it easy for people to contact you by providing clear contact information.
11. Social Media Accounts: Include relevant social media profiles, especially LinkedIn, to showcase your professional presence.
12. Specialties & Services: Clearly state your specialties and the services you offer.
13. Testimonials: Include testimonials from previous clients or colleagues to build credibility.
14. Awards and Recognition: Showcase any awards or recognition you've received in your field.
15. A Blog: Consider having a blog to demonstrate your expertise and engage with your audience.
16. Videos: If applicable, create videos relevant to your field and showcase them on your portfolio.
17. Your Own Design or Coding Projects: Include personal projects to demonstrate your creativity and skills.
18. Volunteer Work: Highlight any volunteer work or pro bono projects related to your field.
19. Explanation of Your Process: Describe your work process and tools you use to give clients insight into your methods.
20. Open Source Contributions: If you contribute to open source projects, showcase your involvement.
21. Quantifiable Achievements: Include quantifiable achievements to demonstrate your impact, such as improved website metrics or increased user engagement.
22. Relevant Groups/Communities: Mention any leadership roles in relevant industry groups or communities.
23. Speaking Engagements: Include details of speaking engagements or presentations you've participated in.
24. Links to Guest Writing or Features: Share links to articles, blog posts, or features you've written or been featured in.
25. A Blog Theme or Template: If you've created a popular theme or template, include it in your portfolio.

26. Your Own Icon Sets/Patterns/Fonts: If you've designed unique icons, patterns, or fonts, showcase them.
27. Free Cheat-sheets/Guides/Tutorials: Create and share free resources related to your expertise.
28. Call to Action (CTA): Clearly define the main goal of your portfolio and include a CTA, such as "Hire Me" or "Get in Touch."

Overall, the portfolio is not just a static representation of the work; it's a dynamic tool that evolves by time. Regular updates keep it relevant and reflective of the abilities and achievements a developer have.

## Conclusion

In summary, a well-designed portfolio is a digital masterpiece that reflects a developer's journey, skills, and aspirations. By incorporating key elements such as personal branding, relevant skills, achievements, and engaging content, a portfolio becomes a dynamic tool for making meaningful professional connections. Regular updates ensure its relevance, making it an essential asset for showcasing expertise and attracting opportunities.

## React course

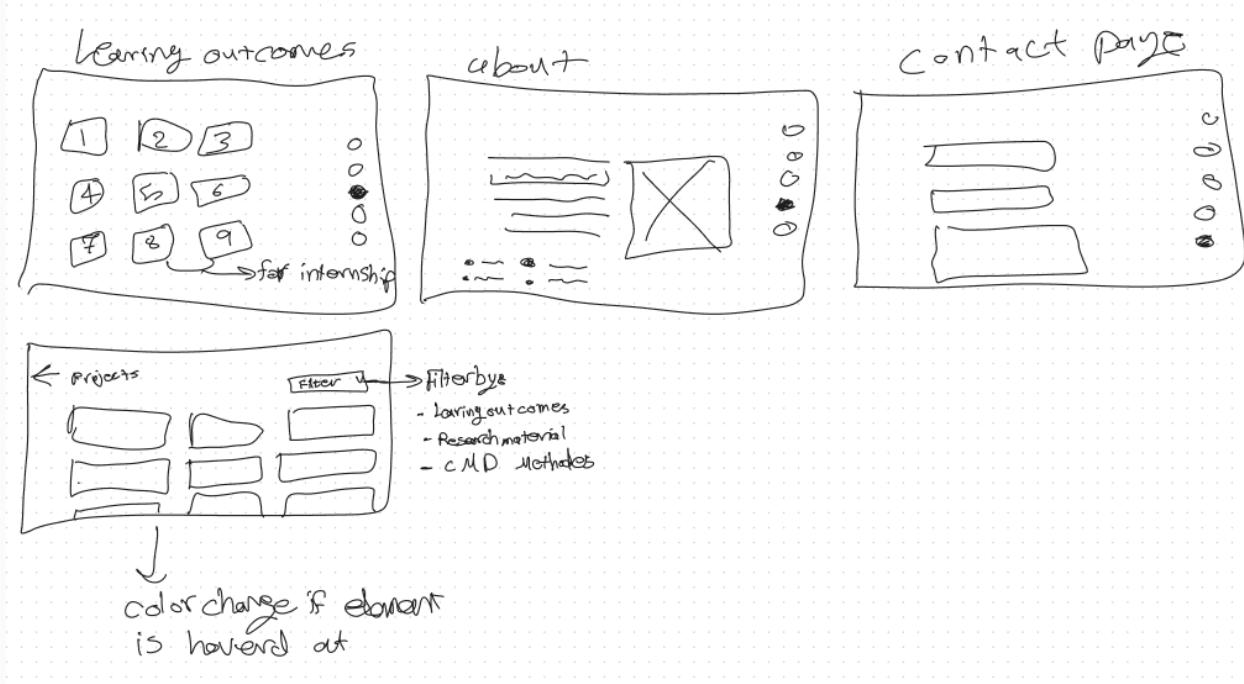
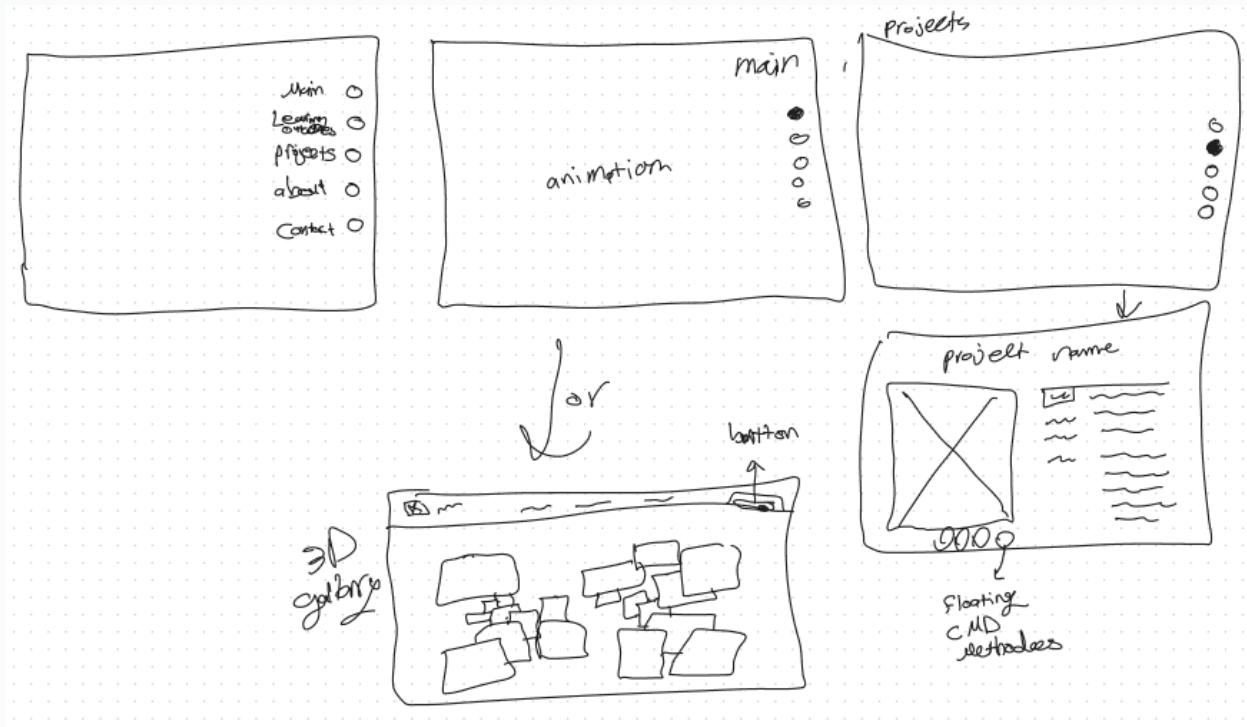
The most impressive websites in the world use 3D graphics and animations. Therefore I found this React course that is also applying a 3d element using three.js.[5]

The screenshot shows a YouTube video player with the following details:

- Title:** Build and Deploy an Amazing 3D Web Developer Portfolio in React JS | Beginner Three.js Tutorial
- Channel:** JavaScript Mastery (467k subscribers)
- Description:** What was missing, at least for me, was actual hands-on experience BUILDING something. Something I could test and change and debug and learn from. Projects that I, myself, thought of, developed, and owned. Since then, I've taught millions of developers with project-based courses on YouTube. I mentored developers from being stuck to getting their dream jobs. I created the JSM Masterclass Experience to save you years of struggle and frustration. If you want to condense years of learning into months, code with confidence, create invaluable connections and get a high-paying job, this is for you. You're in good hands. I've been recognised as a GitHub Star. The GitHub Stars program features only the 100 most influential developers in the world.
- Video Progress:** 2:00:56 / 2:53:18
- Controls:** Standard YouTube controls for play, volume, and navigation.
- Bottom Bar:** Includes links to the channel (JavaScript Mastery), subscribe button, like (49K), dislike, share, download, and more options.

## Sketch

I have designed the first look of the website on Figma, I also created a prototype, but I decided to change my idea therefore I included the second version of the website I am going to build.



## The Risk Assessment

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Within the project, these risks can occur :

1. Misunderstanding the requirements

Sometimes the instructions are not clear enough and there might be a serious misunderstanding from our side as students, which can lead to serious problems in the future when it's time to deliver the work.

2. Delayed submissions

Issues or mix-up can happen before the delivery or at its time. Internet connection or the provided computer could have issues or be out of order. What's more, The risk that some activities will take longer than expected or some activities are harder than what was anticipated.

3. Lack of communication

I might not communicate with the supervisors and clients as frequently as I should which might mean that I am not interested or not doing the work while I actually am doing.

Although there are a few really serious risks, we believe that everybody will do their job regularly and if there are some issues, we would be able to resolve them.

Risk	Solution
<b>1. Misunderstanding the requirements</b>	One way to solve this is to ask the appropriate questions and make sure I understand the requirements from the teachers or fellow students
<b>2. Late submissions</b>	Following the schedule I have created and make sure to inform the teacher of any anticipated issues that I might not be able to solve by submissions time.
<b>3. Lack of communication</b>	I must make sure to communicate frequently, even if I don't have much to talk about or show.

## The Reference

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1. What are the 9 Biggest Web Development Challenges and Solutions to Tackle Them?  
Hardik Shah, Published: March 11, 2022;  
<https://www.simform.com/blog/web-development-challenges/>
2. What are the most important web design trends for 2023? Karla Hesterberg, Published: March 07, 2023; <https://blog.hubspot.com/marketing/web-design-trends-2017>
3. Top 7 Websites of Spring/Summer 2023  
[https://www.youtube.com/watch?v=\\_X3OvCby1Bs&t=2s](https://www.youtube.com/watch?v=_X3OvCby1Bs&t=2s)
4. 8 Developer Portfolios that MIGHT be 10/10's?!  
<https://www.youtube.com/watch?v=At6XyItIHsE>
5. <https://www.youtube.com/watch?v=0fYi8SGA20k>