

Critical Reflection Essay

In this essay, I will critically reflect upon the design process of my Space-Scale website. I will discuss how global trends regarding web technologies and design techniques have influenced the design and development process of the website and explore how I created meaning in my website through the use of UI and UX. I will also touch on how I leveraged the interactivity of the web to influence the user experience and data interpretation of my website. The project presented several challenges, which I will address, along with the strategies I used to overcome them. Lastly, I will reflect on how this website aligns with professional standards and practices in the international industry.

Global Economics of Artistic Implications

Throughout the development process, I made extensive use of free web tools and technologies that significantly aided the production of the website. The reliance on these tools reflects web technology has become democratised and how the growth of the digital economy has made valuable tools accessible to new developers. The abundance of these resources also reflects the shift towards inclusivity, where beginner developers can make use of powerful technologies without a taxing financial investment.

Web Technologies

The developer technologies that significantly supported this project were GitHub and the Live Server extension on VS Code. These tools streamlined the production process, enhancing both the efficiency and workflow of the project. GitHub provided free version control, allowing me to track and manage changes seamlessly, while also serving as a hosting platform for the static website. The Live Server extension allowed for real-time feedback by auto-refreshing the browser with each code change I implemented. This is possible through the local hosting of static code that reflects how the code would run on the web. The ability to get immediate feedback on the changes I implemented removes the wait time required for GitHub to deploy your most recent change to GitHub Pages. This saves time on both debugging and implementation of features.

The abundance of code libraries and free API's allow developers to share tools and information with each other that save each other time whilst offering them a powerful tool that can be used to develop complex websites. I made use of Solar System OpenData which is a free API that allowed me to gather intricate data about the celestial bodies within our solar system. I could then display this data efficiently using the D3.js library. D3 consists of many pre-coded functions and methods that

developers can use to create data visualizations. The integration of a code library makes the development of a project less tedious due to the black-boxing and abstraction of external code.

Design Techniques

I adopted the minimalistic design trend frequently showcased on award-winning portfolio sites featured on platforms like Awwwards and The Webby Awards. This design technique leverages whitespace, streamlined elements, and clean layouts, allowing users to navigate the site effortlessly and focus on the core content without getting distracted. Minimalism has seen a burst in popularity in recent years, with major tech companies such as Apple, Instagram, and YouTube gradually refining their logos and products to embrace a more modern, minimalistic aesthetic. Minimalism gains its appeal due to its timelessness. Its simplicity transcends temporary trends and creates a look that remains engaging and relevant over time.

UI & UX

A key aspect of web development is creating meaning through user interface (UI) and user experience (UX) design. The UI determines the look and what users will interact with to engage with the website. UX is how the UI influences the users' overall experience with the website with notable experiences being its intuitiveness and accessibility. Thoughtful UI and UX design allows a website to stand out and leave a strong impression on its users. Interestingly, ineffective UI and UX design can also leave a lasting impression, but for the wrong reasons.

Recurring Design Themes

The background of the website is a subtle black and dark purple gradient immersing the user in the cosmic theme of the website. The subtle gradient transitions as the user scrolls down the page creates a sense of drifting through the void of space. Although this is not a realistic depiction of the experience, it is the fantasy that popular cinema has imposed on its audience, I am leveraging that part of pop culture to create an immersive UI.

A recurring design feature on my website is the use of a saturated yellow in contrast to the dark background and white-toned elements. The vibrant yellow naturally draws a lot of the users' visual attention, standing out from the surrounding elements. By applying this colour to certain elements such as buttons, icons, and phrases I give them a sense of priority and importance. Strategically placing an element higher on the visual hierarchy ensures that the users' attention is directed where it's needed most. This deliberate use of colour enhances the user journey by reinforcing key actions and information.

The glass-morphism technique is used to make elements have a frosted/opaque glass effect on the elements behind them. Glass-morphism creates subtle visual interest compared to the vibrant yellow which demands attention. This UI choice gives the website a sense of dimension with certain elements appearing in front or behind others with an added layer of playful interest.

Data Visualizations

In order to make each planet distinct I gave them each a specific colour that remained the same throughout the data visualizations. This gives each planet a colour that the user can identify by a general glance.

The first data visualization shows each planets distance from the sun (semi-major axis) to scale as well as the radius of each planet. I wanted the data visualization to look aesthetically comprehensive to the website without it immediately giving the user the impression that data has to be big numbers on intimidating graphs. By presenting the radius and semi-major axis of each planet in a text-book-like fashion, makes the data visualisation less intimidating to approach. This mends with the playful approach I took with the design.

The bubble data visualization simulates how physical bodies might behave in space, allowing users to interact with the data playfully. By adjusting forces along the x-axis, users can see how each planet ranks relative to others, making comparisons more engaging and intuitive.

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Interactivity

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Challenges

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Professional Practices

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