DECEMBER 2023

WEB
PROJECT

CSS & Tailwind

CSS frameworks

BY:
Patterson Leon

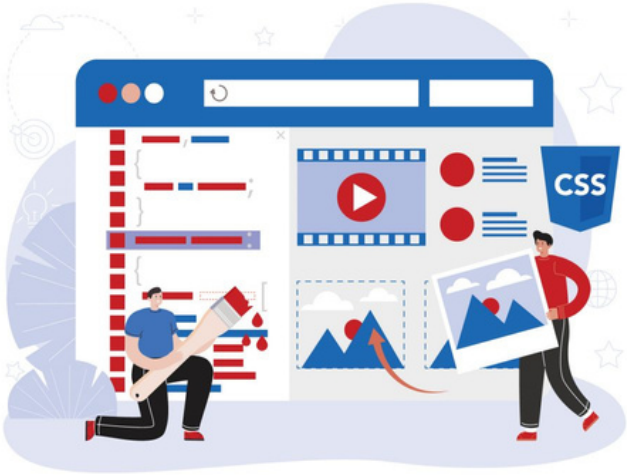
Table of Contents

What is a CSS Framework

When it comes to developing a webpage, it needs to be designed in a visually appealing way, for which the developers go-to method is using CSS. From applying colors to alignment of components CSS can be used to provide the styling needed for the structure of the webpage.

There are two main approaches developers can take to style a webpage. That is write CSS from scratch, or use a Framework.

Frameworks provide pre-defined CSS rules and components that can be often customized and used. Frameworks make it easier to style elements and help to quickly build webpages.



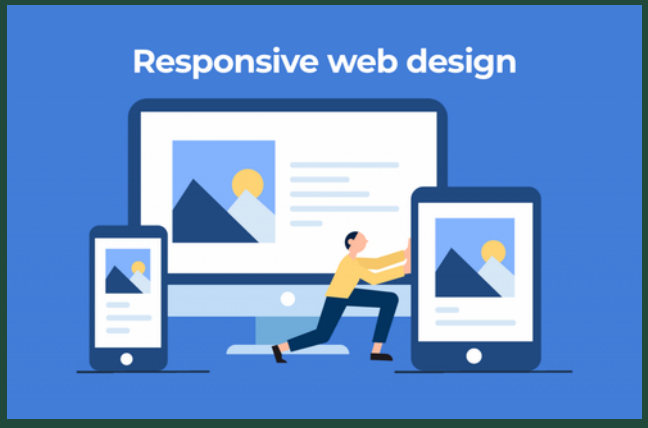
Advantages

TIME EFFICIENCY

CSS frameworks save time for developers and designers by providing ready-made stylesheets and components. This allows them to speed up the web development process, as they don't have to write code from scratch, especially for common features like forms, buttons, and layouts.

CONSISTENCY

CSS frameworks ensure consistency in the design across different browsers and versions. This reduces the chances of encountering bugs during cross-browser testing, providing a more reliable and uniform user experience. Designers can rely on the framework's predefined styles to maintain a cohesive look throughout the website.



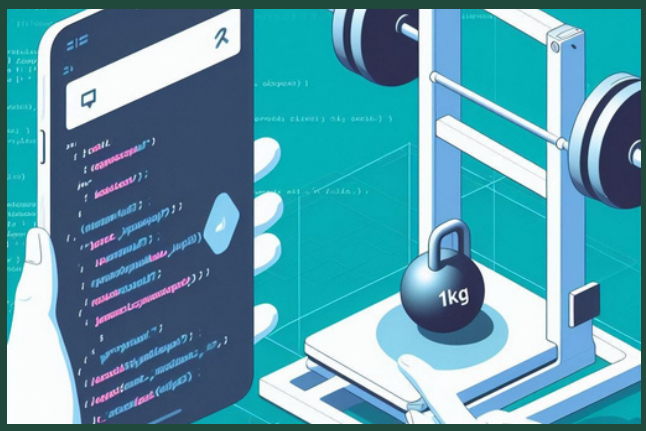
RESPONSIVENESS

CSS frameworks simplify the implementation of responsive design. With built-in features for creating adaptable layouts, grids, and navigation elements, developers can ensure that the website looks good and functions well on various devices and screen sizes. This responsiveness contributes to a better user experience.

Disadvantages

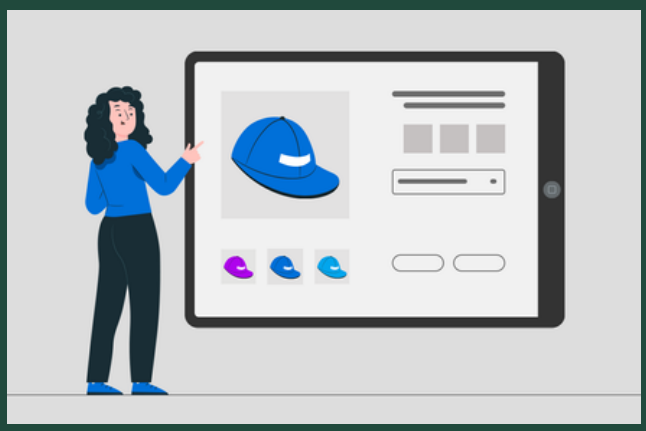
LEARNING CURVE

Users may face challenges in adapting to the specific conventions and practices of a CSS framework, leading to a learning curve that could impact initial efficiency.



BLOATED CODE

Some CSS frameworks come with excess code and features that may not be needed for a particular project, potentially resulting in larger file sizes and slower loading times.



LIMITED CUSTOMIZATION

While frameworks offer pre-designed elements, there might be limitations in customization, making it challenging to achieve highly unique or specialized design requirements.

Choosing a framework

It is important to select a Framework that suits the project requirements and it is best to evaluate the offerings of different frameworks and the below criteria can help with that.

Features and Components #1

Check what the framework provides in terms of pre-designed parts, grids that adapt to different screen sizes, text styles, symbols, form elements, and other elements for the user interface. Make sure it has a wide range of features that match what you need for your project.

Customizability #2

See how easy it is to change and adjust the framework. Check if you can modify styles, colors, and layouts without making it hard to maintain.

Responsiveness #3

Make sure the framework supports making websites that work well on different devices. Look for things like grids that adjust to different screen sizes, breakpoints, and classes that make it easier to create designs that respond to the user's device.

Performance #4

Think about how the framework affects how fast your website loads. Look for frameworks that focus on making the CSS efficient and keeping file sizes small, so your website loads quickly and users have a better experience.

Browser Compatibility #5

Check if the framework works well with popular web browsers and their different versions. Depending on who you expect to use your website, it might also need to work with older browsers.

Tailwind CSS

1 Highly Customisable

2 Common Utility Patterns

3 PurgeCSS Optimization

4 Responsiveness

Tailwind CSS is a CSS framework that stands competitive among other Frameworks due to its developer-first approach and its flexibility in styling webpages on top of vanilla CSS.

What makes Tailwind special?

It follows an utility-first approach, that it provides pre-defined classes with a single functionality. For example there can be different classes to style a text to make it bold or thin each has its own defined single class. These classes can be used inline to the structure with custmoizations applied directly.

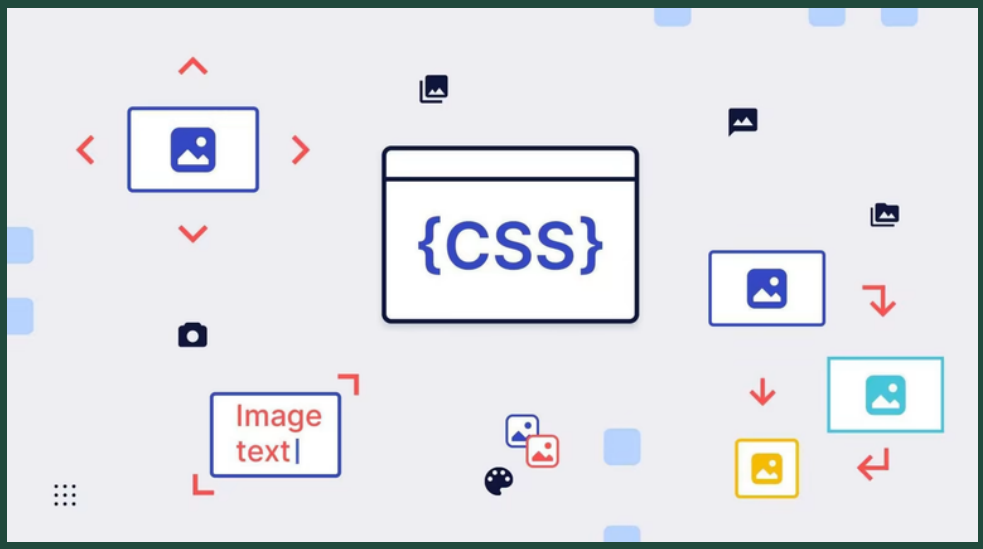
Reasons this is a compelling option:

1. Highly Customizable: Tailwind CSS allows easy customization of styling, themes, spacing, and color palettes through a tailwind.config.js file, providing flexibility for developers to tailor designs to specific project needs.
2. Common Utility Patterns: Tailwind simplifies the creation of custom components by offering commonly used utility patterns. Users can reduce the need for excessive class naming and easily organize classes, streamlining the development process.
3. PurgeCSS Optimization: Tailwind leverages PurgeCSS to optimize file size by removing unused classes from the CSS code. This proves particularly beneficial as projects grow, ensuring efficient management of CSS file size and improved performance, especially during deployment.
4. Responsiveness: As the Utility classes can be used to create complex layouts, we can specify breakpoints to create implement a responsive design that is tailored for multiple screen sizes.

Conclusion

Frameworks can be used to make life easier for developers and increase the speed of implementation if there are time constraints, Also using Frameworks provides an oppurtunity to focus more on other areas of the project than shedding effort and time for design.

using Tailwind CSS has its pros and cons as a framework nevertheless if highly accurate representation of design is required then opting for writing vanilla CSS from scratch is the best approach. Else using this Framework for styling can produce high quality stunning websites efficiently with minimal effort after a moderate learning curve.



References

HTTPS://WWW.BROWSERSTACK.COM/GUIDE/TOP-CSS-FRAMEWORKS

HTTPS://WWW.FREECODECAMP.ORG/NEWS/CSS-FRAMEWORKS-VS-CUSTOM-CSS/

HTTPS://TAILWINDCSS.COM/DOCS/UTILITY-FIRST

HTTPS://WWW.YOUNGWONKS.COM/BLOG/TAILWIND-VS-BOOTSTRAP#:~:TEXT=TAILWIND%20USES%20A%20SET%20OF,FOR%20THE%20FRONT%2DEND%20DEVELOPERS.

HTTPS://BETTERPROGRAMMING.PUB/WHY-TAILWIND-CSS-BECAME-SO-POPULAR-A-DEVELOPERS-GUIDE-11213C08FA46

HTTPS://MEDIUM.COM/@STHEODOREJOHN/TEXT-STYLING-LAYOUTS-RESPONSIVE-DESIGN-USING-UTILITY-FIRST-APPROACH-TAILWIND-CSS-CDBB3A00CEFF#:~:TEXT=THE%20UTILITY%2DFIRST%20APPROACH%20DEMYSTIFIED&TEXT=IT%20CHALLENGES%20THE%20TRADITIONAL%20METHOD,HTML%20ELEMENTS%20TO%20STYLE%20THEM.