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HW 3 Findings Report:

**Vanilla CSS execution**:

Total lines of code: 842 CSS lines total, 120 CSS lines average per page

Hours taken to implement (estimation): 9 hours

Load times:

Desktop:

DOM contents loaded: 100-150ms

Complete load: 150ms-300ms

Mobile 3G:

DOM contents loaded: 100-200ms

Complete load: 200ms – 4 s. 4s load is on home page with several pre-optimized pictures

Byte count: 12 KB total, 2KB average per page

When you would employ this approach:

The biggest appeal of Vanilla CSS is that it is light weight. You only use the CSS files that are necessary for your application rather than importing an entire library. This is appealing for applications that do not need all the style files included in a framework, because if they downloaded an entire framework for only a few files, the load time would not be worth it. Furthermore, using Vanilla CSS allows the developer to customize every element of their web application. While CSS has a faster load time than frameworks such as bootstrap, there is a time trade off. Since it is basically building the style for your website from scratch, it takes significantly longer to build the website compared to using a framework. Furthermore, it is not cross-browser compatible (each browser has different default values for margins, padding, etc for different elements). So, you would have to have different style pages for different browsers and as browsers update, you would have to update/debug your html and css pages accordingly. Ultimately, you get a faster, more customized web application at the expense of development time and maintenance.

**Bootstrap execution**:

Total lines of code: ~40 lines total, 5-6 lines changed per page

Hours taken to implement (estimation): 1 hour

Load times:

Desktop:

DOM contents loaded: 100-300ms

Complete load: 150-400ms

Mobile:

DOM contents loaded: 150m-400ms

Complete load: 200ms-4s

Byte count: 25KB average per page

When you would want to employ this approach:

This biggest appeal about bootstrap is that it is fast to set up, easy to customize, responsive and you do not have to have extensive knowledge of the framework to use it. If you have a time crunch or a small, you can build your website from one of the provided templates, customize it to your specifications, and you are done. Furthermore, bootstrap is responsive from the beginning with a guild grid layout. The columns and grid within bootstrap adapt to the user’s different screens so you do not have to alter mark-up files with every screen you are designing for. Additionally, bootstrap continuously updates. So, as browsers develop bootstrap updates as well. So, you do not have to spend as much time updating and debugging your code and do not have to worry about future compatibility issues. While there are many advantages to using bootstrap, one of the disadvantages is long resource loading times. If you do not need to use the full functionality of bootstrap, then you should consider either another framework or Vanilla because you must load the entire library which results in slow loading time and more battery drainage. Furthermore, as bootstrap is becoming more and more popular, more websites and web applications are using it. So, while you can quickly create an attractive, responsive website, so are thousands of other developers. This results in many websites that are visually similar, making your website not as memorable. Ultimately, if you need to build a web application quickly, bootstrap is a good solution because it allows you to create an attractive website quickly at the expense of load time and uniqueness.