**Front-End Developer Challenge and Questions**

We realize there are often multiple solutions or answers to the same questions and to the challenge in particular. We do not necessarily have “right or wrong” in mind, we are simply looking to learn a bit about you, and your approach to development.

**Questions:**

What front-end component libraries or frameworks have you used besides bootstrap?

Material, Foundation, Carbon, and Elemental are a few of the component frameworks that I have worked with. Others unique component libraries include Toastr, Nebular, and NG2-Smart-Tables.

What tools would you implement to enforce code quality rules and standards?

To maintain standards, I would probably write a Project Coding Guide for all developers, product managers, and designers. The guide would provide common conventions for uniformity of work and design. It might cover naming conventions, nesting limits, comment incorporation, indentation, maybe style, and other topics for the project’s codebase. As for tools, depending on the language or framework, I have used linting packages like eslint for code validation and rule enforcement. I also have experience with tools like prettify/beautify for indentation and increasing code readability.

What HTML templating languages or engines have you used?

I only have experience with Handlebars for templating, otherwise I write the code manually.

Which code related blogs or sites do you read regularly?

Medium, Hackernoon, Smashingmagazine, Quora and Stackoverflow are my go-to’s. I visit any framework documentation site and w3schools.com, a lot I admit.

In Sass, what is the significance of using an underscore at the beginning of a sass file name?

The underscore designates partials and tells the sass preprocessor to not include the file in css file generation.

Name a few (npm) node modules that you think are most useful?

Express, body-parser, babel, socket.io, passport, morgan, webpack are some go-to’s, but to be frank I’ve been using yarn more than npm on most projects for the offline cache advantages.

Given the option to choose Angular, React or Vue.js for a new project which would you choose and why? What type of requirements might affect your decision to use one over the other?

This will be a bloated answer, apologies. I’ve never used Vue, so I can’t speak to it. My current project is in Angular, but I maintain my online portfolio site in React. Between React and Angular, I could not choose one over the other as it’s very dependent on project requirements. For more robust projects that need to be scalable and have large teams, I would choose Angular. It has a powerful CLI and most everything you need to build an app is already integrated into the MVC framework providing a lot of uniformity. On the other hand, React is more suited for small projects as it is only a library and only covers the View, which makes relying on 3rd party packages unavoidable. The good news is, React builds quicker and apps perform faster because its footprint is leaner. It refreshes page loads faster due to the virtual DOM and React has more compatible 3rd party libraries available with a larger community for support. Other influences would be team knowledge of these brands, their language preferences (TS vs JSX), and does the app live mainly in the web, mobile, or on desktops? React is quicker for resource-limited and mobile environments, while Angular makes more sense for desktop and more robust web projects. What is the business logic and data flow like? Angular provides easier two way data binding, while simpler data flows lean to a React solution. The bottom-line is, this choice is never black and white.

If you were referred to an unfamiliar node project repo, what file or files would you first look to, to determine the commands to run, build and test the project?

The package.json file would tell me most of the command context to run the app. Possibly the readme if the developer made some custom commands.

What is the benefit of using the HTML ‘nav’ element vs. a div with the class of .nav?

A couple of things: It uses the newest syntax(HTML5), provides semantic context to the browser and developer, uses less code than a div with a class, and it supports screen readers for disabled users.

What code related framework, library or language do you want to learn next?

I think I would like to learn the Go language. It seems to be the future, balancing end-performance with straight forward human-readability that is easier to grasp.

**Challenge:**

Using the latest version of Bootstrap, create a single, web page that collapses responsively from desktop to mobile and where the desktop and mobile breakpoints match the wireframe images provided.

Utilize the Bootstrap grid system, components, and classes. Take care to demonstrate the use of modern, semantic HTML elements.

The carousel at the top of the page should contain three slides – which can all display the same content, but the carousel itself should be functional in that clicking left or right will animate to the previous or next slide.

Additionally, in the mobile view, the “hamburger” (three lines icon) menu button should collapse and expand the navigation.

All other components are only present for layout purposes and do not need to function - navigation links do not need to lead anywhere, search does not need to work, and so on.

**Challenge Setup:**

At a minimum, you must utilize Sass to import Bootstrap via your choice of any build tool (Gulp, Webpack, Parcel etc) or CLI to create the HTML and CSS output. The output should be locally viewable by simply loading an index.html page into the browser.

Use whatever tools you are most comfortable with to accommodate this, you do not have to reinvent the wheel.

Combine all of your challenge directory/files as well as this document with completed answers in a single .zip file and deliver back to us as soon as you have completed them.

Please provide your entire directory structure (with the exception of node\_modules if it is generated by your toolset) to keep totally delivery size small.

Feel free to contact us with any questions and thank you for taking the time to complete these items!