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**CS-465: Full Stack Development I**

**SNHU - Instructor Prasad**

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**Week 8 - Portfolio Entry**

At the beginning of the project, the website was using static HTML. This was quickly transitioned to a dynamic structure, so that the data could change on a per-person basis. JavaScript was used throughout the entire stack so that the data could move through the system fluently. The website was then moved into a SPA (Single Page Application) framework, which allowed it to load application data directly from the user’s device. This greatly reduces the time it takes the user to move back and forth between pages and speeds up response times from callbacks and clicks.

MongoDB was used in this project as a backend for a couple of reasons. Mainly because it is open-source and widely used. This means it is updated and maintained by a team of developers and trusted by a large network of programmers and data engineers. MongoDB was also used for its unique ability to take in large amounts of unfiltered, or unstructured, data in the form of JSON Objects. This keeps database entries from being rejected if they don’t fit in a particular format, giving the database admin the ability to search through individual objects for relevant data.

JavaScript is used throughout the entire MEAN stack, making it very easy for the back-end, front-end, database, and servers to communicate with each other. JSON is also used in the application to hold data that can be represented by key/value pairs. JSON is used in the place of XML due to its compatibility with JavaScript and its format being identical to MongoDB’s.

Within the full stack application, the API endpoints are tested using common database calls to the server. The four functions GET, ADD, UPDATE, and DELETE are used to ensure that the user’s browser is properly communicating with the server. In order to secure these processes, a user email and password are required to access, or manipulate, any data. At the code level, the API endpoints are made inaccessible unless the user is logged in with valid credentials and has proper authorization.

Throughout this course, I received a very healthy dose of coding. This has certainly helped me understand the complexity of building software and the time it takes to tie everything together. Despite not understanding everything I was coding, I got many hours in and a much deeper understanding of day-to-day programming. This class also showed me everything I needed to know about web design, a topic I had previously very little knowledge of. And I also became more familiar with JavaScript, JSON, and HTML, which will become extremely important as I move into my career.