**Enhancement One Narrative**

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**Software Design/Engineering** **Narrative**

The artifact developed for the Software Design and Engineering category is a continuation of a previous project from class CS-320 in which we developed a Contact Service Manager that users can utilize to store, update, and manage their contacts. The project developed in said previous course focuses mainly on backend functionality, so for this enhancement artifact I have developed a frontend UI with React to accompany the existing backend. This allows users to access and manage their contacts VIA a web browser rather than solely through the Java code that comprises the backend functionality. Shortly after beginning this capstone course, I began work on the frontend UI to accompany my original project, this submission reflects my current progress towards this artifact.

As stated within my *ePortfolio Selection and Software Design Document*, I chose these original files to improve upon as I saw a great potential for a full stack project based on the original backend components. My career goals are to become a Full Stack Developer, so the inclusion of a frontend UI helps to showcase my abilities in this portion of the stack. Throughout my schooling, I have mainly focused on backend development, so the opportunity to work more on frontend UI is an excellent way to make myself a more well-rounded developer and improve my skills. Additionally, the UI of this project is how I communicate with my users and audience, this is the surface of what my users will interact with, so an intuitive, easy to use UI is vital to the success of this communication. While this capstone is a solo development project, in order to plan for future professional projects with multiple developers, I wanted to continue forming positive habits which supported collaborative environments. In order to accomplish this goal, I have hosted this project on a GitHub repository and have been utilizing organized commits and version control techniques to simulate a collaborative environment with more than one developer on the project.

Based on my *ePortfolio Selection and Software Design Document*, I followed a specific plan of incorporating the React library to develop my UI. I planned to develop several components to create a functioning frontend that reflects the functionality written in the backend. These components included a Contact class, which incorporates functionality from the backend to allow getting the contact, updating the contact, and deleting the contact and its associated variables (currently name and phone number). Then I focused on the creation of a Contact-List class whose main functionality focuses on retrieving contacts from the backend and displaying them to the frontend in the form of a list. This component also includes the ability to search contacts by name. My next component developed was the Add-Contact class, which as the name implies, focuses on the ability to add a new contact to the overall contact list within the database. Lastly, I developed a new ContactDataService class which sends HTTP requests with the help of the library Axios. I do plan to update my current frontend UI to include additional variables as fields for a contact, including the contact’s address which was not included in this stage of development.

As previously mentioned, I have had more experience with backend development rather than frontend, so this portion of the capstone project has been a great way for me to learn new skills and improve existing skills such as HTTP requests and connections between back and frontend. Additionally, prior to this artifact I had little to no experience with React nor JavaScript, so this portion of the artifact was definitely a challenge as I needed to teach myself new languages and libraries. An additional challenge was setting up the frontend in a way that could easily connect with the backend on the correct ports. I overcame this challenge by utilizing Axios, which I used to make HTTP requests and receive responses from the backend, which will be developed in the Algorithm and Data Structures portion of my capstone.