**Enhancement One Narrative**

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**Software Design/Engineering Narrative**

The artifact developed for the Software Design and Engineering 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 artifact I have developed a frontend UI with React to accompany this 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. 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 React 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. 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.