1-4 ePortfolio proposal

by Brandon Hollada

Southern New Hampshire University

CS-499-19649-M01

Submitted to Neil Kalinowski

The goal of this paper is to layout a plan to complete a well rounded ePortfolio that will showcase my skills and how they have developed throughout my education. To do this, I will need to demonstrate enhancements in three categories: software design and engineering, algorithms and data structure, and database. To do this, I will lay out my plan for each below based on previous course work.

Looking at past projects the first one that came to mind is the final project for cs360. The reason I though of this project is because even during the completion of the course it is one that I wished I had more time on. A majority of the project was focused on the design and implementation of an app. For it, I choose to do a weight loss app that could track your goals. One of the main improvements that I could implement is to improve the architecture of the design by moving the SMS and business logic into a viewmodel layer. This would create a separation of concerns and allow for a cleaner easier to test program. The next part would be to add security enhancements. This would come in the form of improved SMS handling and input validation. This would take concepts from cs405 and apply them to the previous courses work. The last one is a personal improvement that I would like to implement, and it is feedback for

each of the interactions. The current design makes it difficult to tell if any changes or inputs are being handled. This would increase the user experience and give a better feel to the app. I think this would be a useful addition because of its use of java in an android environment.

For the algorithms and data structures I would like to utilize the cs340 project. This project consisted of making a dashboard with interactive elements that allowed the user to obtain information on animal shelters. The current limitations with this are that the application utilizes basic pandas dataframes. I would like to add additional algorithms that could determine the adoptability of animals based on different categories. This algorithm could give scores based on how far they are from each range of selection that the user inputs to allow the user to sort based on a combination of multiple inputs. I think this would be a useful addition for shelters with limited spacing to find animals that they believe they could find homes for. Another addition could be to allow for a history that allows for the user to interact with the searches and to go back or forward to be able to reobtain previous filters. This would allow the user to see undo errors in filtering or to modify searches to have more limited results.

I think that the cs340 project would also work well for the database requirement. Because the project already utilizes MongoDB, I think that migrating the project to a different database would be a good way to showcase my education. It would allow me to show the differences in implementing them into a SQL database as compared to the original NoSQL. This would demonstrate the diff3erences between the two and would help showcase my understanding of the pros and cons of each. It would allow me to show my understanding of the relational model that would be required and my understanding of how to implement it.

Overall I think the cs 360 and cs340 final projects would be a great way for me to showcase my skills and how I would apply my education. These two projects have sections that

can cover not only the specific requirements, but a large number of additions that would show my understanding of how to tackle problems and improve on those solutions. Each project can be used to show a variety of techniques and are ones that I feel would be great additions to my ePortfolio.