CS-499-T4251 Computer Science Capstone

Professor Goggin

Carlos Aguirre

Southern New Hampshire University

March 03, 2023

Module 1-4 E-portfolio Selection and Refinement Plan

This document is the initial workplan that I will use as a guide to complete my e-portfolio and at the same time demonstrate my growth as a software developer during my years of studying at Southern New Hampshire University. The artifacts I have chosen will within the tree categories proposed by the capstone course which are: Software Design and engineering, Algorithms/Data Structures and Databases.

- **Software Design and engineering**

For this first category as part of my final project, I decided to work with an artifact that was completed during **CS-360 Mobile Architect & Programming.**

Artifact: Event tracking App – Built in Java and Android Studio**.**

Enhancement plan:

I submitted my final project for this application, and I recall, it was completed but the app was not fully functional. What I would like to do this time, it's to transfer the app to a different language and create a web application instead of an android or mobile app.

The web application will be built using **JavaScript.** By transferring the app to different computer language, I will demonstrate the skills gained using JavaScript but also its relationship with databases and the utilization of Visual Studio code as the IDE.

By using web app development, web-based projects can function and behave just like mobile apps. Web apps prioritize dynamic interactions with users while still providing access through a network and the internet. The standard web development front-end and back-end technologies are used in web apps.

For instance, web app developers use **HTML, CSS, and JavaScript** on the front end. Like how websites are built, web apps' back ends may employ Python or other server-side programming languages.

Expected Outcomes:

To provide answers to a problem, I will design and develop software utilizing algorithmic principles and computer science techniques.

Showcase my ability to innovate in order to deliver a finished product that complies with industry standards and is ready for usage.

Increasing the web app's CRUD operations' capabilities.

- **Algorithms and Data Structures**

For this second category as part of my final project, I decided to continue working with an artifact that was completed during **CS-360 Mobile Architect & Programming.**

Artifact: Event tracking App – Built in Java and Android Studio**.**

Enhancement plan:

I will finish developing the JavaScript web application and configuring user authentication so that users can interact with the application's main user interface. I'll employ the correct syntax and libraries. Also, I will divide the program into the correct classes and procedures.

These actions will show that I comprehend algorithms and how they relate to data structures and object-oriented programming, reducing bugs and enhancing usefulness by following the right syntax and naming conventions. Procedural programming is fundamentally an extension of object-oriented programming, which means all existing programs have been written in files containing methods or procedures.

All of them were reusable, and one of the cornerstones of object-oriented programming is the ability to deconstruct things into objects.

Databases:

For this third category as part of my final project, I decided to work with an artifact that was completed during **CS-340 Client/Server Development**

Artifact: Salvare Search for Rescue App.

Enhancement plan:

As I had some problems submitting the initial milestones in this course, I'll start over with the application. Basically, I will develop a completely functional application based on the demands of the client and show that I am familiar with Python and how it interacts with MongoDB.