

Assignment #3 - Individual Capstone Assessment

Andy Greer

This project will allow me to display skills and technologies that I have learned throughout my academic career at the University of Cincinnati. It will be a challenge, that I hope I can show to future employers, that showcases my strengths. To successfully complete this project it will take many of the skills that I have developed. I will also have to rely on my team to accomplish tasks which I know I would not complete due to my lack in experience in some topics compared to other members. While working on this project, we will go through steps to designing and implementing our project, using the techniques that I have learned in class and during co-ops. My goal is to have this project be something that I can proudly showcase to others.

The way my college curriculum will guide the development of the project comes from several key classes. First, Software Engineering (EECE 3093C) will guide the design and management of the project. This consists of using the agile methodology to help manage the project and writing design documentation to flesh out project requirements and architecture. Other classes that will guide this project would be Design and Analysis Algorithms (CS 4071) and AI Principles and Applications (CS 4033). These classes will guide the algorithm design for optimizing marching band drills. There are also small things that I have learned throughout other classes that I feel will have an impact on choices throughout this project.

For my co-ops, I worked in two roles at Tenet3. The first role that I had was as a Quality Engineer. In this role, I was responsible for creating an automated testing suite for a web app. This can be applied to the project, for after we define the requirements from user stories, we will be able to start building out the test for features we want our project to have. The second role that I had here was as a Dev Ops Engineer. In this role, I worked on Infrastructure as Code (IaC) for our cloud services and helped with design parts of the company's infrastructure architecture. This can help guide the project as I apply these skills to help build out any architecture that our project will need and help build out CI/CD workflows. Some non-technical skills that I picked up while working at Tenet3 consist of team communication, cooperation, and time management. The first two are extremely important while working with a group, as not being able to communicate the ideas and progress can hinder the progression of the project. Time management will help keep the project and my task on track for completing this project.

Although the subject of the project is not something that I am familiar with, I am excited to learn more about this subject. What excites me the most about this project is the features of this project are something that does not have a commercial equivalent, at least from what the two members have informed me of. The primary approach to designing a

solution for this project will involve defining the requirements that we want for our project. This is especially important to understand exactly what we want from the beginning, as changing requirements midway through could dramatically increase the workload needed to complete this project. Once we cement what we want from our application we will probably move on to brainstorming sessions to flesh out the initial ideas that we may have on designing out a solution. From this, we can start to document our designs so that all members are on the same page, and have a source of truth to reference when implementing our solution.

As this project does have a lot of room to grow and I don't imagine that we will run out of features we can add to our project. Because of this deciding on when we are done can be hard to describe. What I can say is that I won't consider that this project is "done" until we have implemented the core features that we have for our project. As well have to have an end project with minimal to no bugs for end users. When self-evaluating my contribution, the key things that I will look at are what ideas have I contributed, how have I added to progressing the project forward, and the actual code that I contribute to the project personally. Things that I expect from myself for this project are building out CI/CD workflow for us to deploy a dev environment for all of us to access and contribute a fair amount to both design and implementation where I can help.