

Capstone Self-Assessment Essay

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The project involves automating the Bearcat food pantry process at the University of Cincinnati. Stephen Kridel is the project lead and I was told from him about a hundred students regularly use the bearcat food pantry because of food insecurities. Currently the bearcat pantry does not have any automated system for the pantry. The bearcat pantry service does not manage inventory and Stephen as well as the associated members of the board want to automate the process to better meet the needs of students. The goal of this assignment is to automate all aspects of the bearcat pantry process. This project will require creating a database that will store and monitor the bearcat pantry information. The project will need a desktop application or phone application that will allow employees at the pantry to scan barcodes and update inventory. Having a web application or phone application to allow students to check inventory and checkout items in the inventory. We want to automate the process similar to the Amazon store on Calhoun street. We want the process to require little human interaction and be easily maintainable.

My college experience has provided me the necessary skills and background experience to succeed on this project. I have gained advance knowledge of coding languages and techniques. The foundation for my coding skills and techniques was built by the C++ courses such as CS 1021 C, CS 2028C, and EECE 4029. Through these courses I gained knowledge of data structures and object-oriented programming. I learned advance sorting algorithms and gained advance knowledge of operating systems through EECE 4029. Throughout this project, I will be utilizing skills taught through software engineering (EECE 3093 C) this involves project design, scrum, and agile development. I will be utilizing my database design course (CS 4092) to setup the database and create stored procedures. I will utilize android development course (IT 1046 C) when setting up the android or IOS application in the project. I will also draw upon the knowledge gained this semester from data security. Data Security will be important to help keep the application and client information secure.

My co-op experience has given the added benefit of giving me a diverse technical and soft skill experience. I have had five co-ops at two different companies. All my co-ops have involved work in the automation and controls area. My co-ops consisted working on project-based assignments for clients. I have been involved in project reviews meetings, and I have worked on a scrum team. The first co-op I had allowed me to work on a C# desktop application that used image recognition to read barcodes of car parts and update a database. This co-op helped me gain insight on image recognition and how to read barcodes using barcode scanners. On my last three co-op's I worked on many projects that involved either object oriented visual basic code, databases, and advance scripting software. Working with database queries, stored procedures, and creating databases will give the team the foundation to hit the ground running on the project. I am used to working with clients and I understand that communication between contractors and clients is important for a project to succeed. I have the soft skills as well as the technical skills and I as well as the team are suited for the different road blocks that we will hit during the project because of the different skills each member of the team brings to the table.

I am extremely excited to set the project in motion. This project is a way for me to make a difference to the University of Cincinnati. Project based assignments is something I am very passionate about. I look forward to seeing the end result and how the end product will benefit students at the University of Cincinnati. Getting to work a project with a group of students that I

can rely on will help make a great product. I think this project is a great way to show my diverse knowledge coding in multiple languages. This project is not only going to improve my technical skills as a person but will be an experience that will help me grow in my career. One other thing that motivates me is getting to work on multiple different aspects of a single project is something that I will love to be a part of.

For the preliminary approach, our end goal is to create a product that is simple, reliable, and easier for the end user. We want the product to be accessible to as many of the students as possible. Our preliminary approach is that we need a website built for the pantry. This website is going to allow students to checkout and access inventory. A server is going to be needed to manage and maintain the inventory. We will need a desktop or android application to allow bearcat pantry employees to update inventory in the database. So, we currently have three aspects of the project. We have a database that needs to be created, a desktop/android application, and web application. The end goal is to have all these pieces of software completed and working together in unity. Our contributions will be evaluated by Stephen Kridel as well as the bearcat pantry clients. We will know when we are done when the clients' features are all completed. We know that we have done a good job if the product is being used after development is completed. If the features are kept realistic and our backlog doesn't increase exponential we should have no problem completing this project with all features required by the board and Stephen Kridel.