Intro

The goal of this senior project is to create a bus route mapping system. One of the group members has a parent that works as a school's transport supervisor, and they have noted the need for something like this to be created in the industry. This project hopes to cover the route creation needs for a wide range of school's needs. We also hope to provide an easy edit capability to the system to allow for changes in the route, such as additional student pickups, or bus break downs. This is different from normal GPS mapping systems that allow for easy point A to point B navigation. I can also see a potential for this to be useful for city bus routing as well.

College Experience

The man class that is relevant for this project work would be CS 4071 D&A Algorithms. This class taught about graph theory and search algorithms that would be useful for the finding of the shortest distance between many points for multiple routes. CS 2028C Data Structures and CS 4092 Database design are also both relevant courses the data structure will be important for the processing and the data will need to be stored properly for easy of accessing later for editing routes. EECE 3093C Software Engineering was a class that taught proper planning of software projects from the water fall method to agile. In that class we ended up working through the agile process for a group project that span the whole semester. That class experience will be useful for this project, because planning will be key for a successful outcome over the two semester that we will be working on this together.

Co-op Experience

For all five of my co-op rotations I worked at Siemens Software in Milford as a software developer. The first two terms there I worked on their NX CAD software on the drafting team which allowed for experience in a large-scale software under a focused area of the software. My third term was with a team working on an internal web page for project managers trying to keep track of project goals meeting project deliverables and the possible gaps in our software between design and actual functionality. That position gave me front-end and back-end web experience, as well as more agile experience. My last two terms I worked on their Teamcenter product management software on the Product Excellence Program that gave me a broad experience across that software due to needing to collect data from various parts of the desktop and web versions of the software. None of this experience is particularly useful for the creation from the ground up of new software, but I hope to bring some of my project experience from my co-op rotations to this team.

Motivation and Approach

This is a project for someone that has expressed the need for a solution to a problem they are facing in their field. That makes working on this project more than just the experience that I personally will be getting out of it. I will be contributing to actually working towards a solution that can be beneficial in the real world and that is exciting. Since we have contact directly with the team member's family member, we will be able to work closely with them in creating a solution that fits their needs. We will start with gathering information from this user and hopefully other potential users to help guide our design goals.

The expected result of this project will to have a functioning bus routing system that public schools will be able to use to improve their routes and stores address. We will start by creating a feature list that covers the functionality that we want from the end product. Then, we will break those up to individual tasks that can be completed by one person. Each person will choose their own tasks to work on, or tasks will be distributed based on experience or desire to work on a specific area of the project. In the end we will create a document that covers the functionality in the completed product for the end user to be able to reference.