Ryan Richter

CS 5001

Assessment Essay

My capstone project is a collaboration between myself and two fellow computer science majors and two computer engineering majors. Our goal is to create a sort of haptic glove that can fully control a remote control car. Our group sort of divided the work into our strong suits, meaning the CompE members worked on the more hardware oriented portions, while myself and the other CS majors focused on the software/coding parts of the process. I expect to learn a lot about designing a code system based on received inputs and instruction relaying in a timely manner. While I will mainly focusing on the software portion of this project, I expect to learn a lot about the hardware components of the project as well. This is key to understanding our process as a whole.

My classes will help somewhat with this project. Much of the subject material of my classes have to do with implementation of code in a more corporate environment with common structures. This is a bit more of an involved process and I believe that it may go beyond what we have learned in class in some areas. Of course, learning about best practices, debugging, and general code structures will go a long way in this project.

My time at FOX will likely be of little help in this project. I initially wanted to do a project relating to sports (maybe sports odds) so that I would have more of a base to stand on but I’m glad we chose something different, even if it means I am less comfortable. I think working in a small team at FOX was very helpful as it made me comfortable with splitting up work with my teammates working towards a common goal. Of course, communication between the hardware and software portions of this project will be very important.

My motivation for this project comes from my teammates (and my own) interest in the project. The idea of wanting to control a car with your hands is almost childlike. It’s almost like fulfilling a childlike fantasy. It’s very different and involved multiple different parts working together in sync. This project is also an opportunity to work on something unique and high-level that we may not get to work on in our co-ops. That alone makes it exciting to me.

My current approach for this project is to research movement sensors and how they interact with code. Getting the sensitivity right will be very important. I believe the easiest way to implement this will be with Python, so most of my focus will be on that. Also, we will likely need to use some sort of Raspberry Pi to transmit instructions to the RC car, so researching how transmitting code in that way will work is important. Lastly, learning how to relay movement instructions to the car through code will be challenging but the most important part of the process.