Capstone Self-Assessment Essay  
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 The project I will be working on for Senior Design is called HelloWorld and the entire idea of this project is to introduce and teach programming concepts in video game form. There are many games that exist with this idea but most of them feel like studying rather than a game. Our goal is to create a game that is fun and feels like a video game that also teaches programming concepts. Ideally this will encourage the player to continue learning as they progress through the game. The game will be structured to target mid-teenagers and young adults but ideally will be enjoyed by anyone who likes video games and wants to learn to program. Ideally after playing the game, players will understand basic programming concepts and be able to apply these concepts in the real world.  
 I started my college career with almost zero programming experience. Throughout the years, I took many courses that taught me the basics of programming. Starting with Computer Science 1 (CS1021C) and Computer Science 2 (CS1022C), where I learned the very basics of programming including: variables, functions, loops, pointers, classes, object oriented programming, etc. These concepts will be taught throughout HelloWorld. I have always thought that a good way to demonstrate/test your knowledge on a subject was to try and teach someone else that subject. Another important course for this project is Software Engineering (EECE 3093C) because it taught a lot about objects and inheritance which is another very important topic we will need to cover in HelloWorld. Data Structures (CS2028) and D&A Algorithms (CS 4071) are two other courses that taught more specific programming concepts that we will need to cover some of in HelloWorld.  
 When I started my first co-op experience, I knew a little about programming (C++) but had never actually coded in the real world. This first experience was somewhat eye-opening in that I realized how little I knew. I spent my entire co-op career at a company called Signalysis and my job title was software developer. At Signalysis, I was taught so much programming and I specifically spent a lot of time learning about pointers and inheritance and how important they are when you are coding in C++. Again, we will strive to cover these aspects within HelloWorld and to teach them effectively we will need to understand them ourselves. One other important concept that I learned while at Signalysis was working with a team to create a project. I will be working with three other students on this project and we will need to share code in an effective way to succeed.   
 My main reason for choosing Computer Science as my major was because I played video games all the time growing up and continue to do so today. I was always fascinated with how they were made and it always seemed like magic to me. I chose Computer Science so I could understand video games and learn how they were made. This project is a perfect opportunity to test my knowledge of all the computer science topics that go into creating a video game from scratch. I am excited to start from nothing and create a game that people can enjoy and learn from. I believe it will be challenging but will provide invaluable experience in the game development industry.  
 The first thing we need to do to make this project a reality is figure out what our game will be like and how it will go about educating its players. We want our game to have an interesting storyline that will encourage the players to want to go further in the game and learn as much as possible. Designing this story will be challenging because it needs to be interesting enough for the player but also incorporate learning programming concepts. My expectation is to have a finished game by the end of the year. I hope to have a demo station set up at the expo that can play the game and allow others to see it and enjoy it. I will know I have succeeded if the game successfully tells an engaging story while also educating people on programming concepts. Hopefully it will inspire some people who play it to pursue a career in computer science.