Jacob Morgan

Prof. Fred Annexstein

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Assignment #6 - Self Assessment

Our group, “The QWERTY Committee”, set out to develop a computer video game in the Unity game development engine titled “Project Arizona”. We tossed around various ideas before deciding that this would be a good chance to learn and attempt to make a video game or at least learn how to develop in an existing game development engine platform since finding time to dive into that outside of school is difficult. The problems that we attempted to solve were combining features to make a game the way we wanted to in a way that hadn’t particularly been done before as well as challenging ourselves to learn new skills. When we got together as a group, I had dabbled in Unity previously by attempting to make a basic 2D platformer controller/engine for an EEP upskilling project as a replacement for a Co-Op semester, so that made deciding on a platform easier. I took on somewhat of a development leadership role. I helped guide my team by providing them with the resources and documentation I had used to learn Unity, like Unity’s own Unity Learn courses or specific YouTube tutorial channels. I also made decisions about class structure, naming schemes, and other standards such as using Unity’s newer Input System as opposed to the older legacy solution. I took charge and began developing the main build of our game by fleshing out the character controller and core movement, combat, and interaction features through scripting in C# with Visual Studio and editing the project in Unity while the rest of the team developed other features independently (in parallel) that could work alone and be merged into the main build later. We all tested as we developed, helped each other out in coding,

and would meet up to decide how to tackle challenges or what changes to make when we would hit roadblocks with our design direction.

I did get to apply and build upon the skills identified in my initial assessment from last Fall. I'm always looking to learn and grow as a computer science student, to broaden my horizons and skillset, and try new things. I learned a lot and got pretty comfortable and enthusiastic about developing in Unity, as well as learned a bit more about Visual Studio and C# along the way. I also got to utilize many of the various concepts that I learned in my coursework and Co-Ops during my time at UC, from math, science, or basic programming, data structures, or software design concepts to things like algorithms, parallel computing, and more.

One thing that we were not able to do was develop the game that we originally intended to. We knew that going into this project we would not be able to make a big, full, or lengthy game, so we'd have to keep it simple. Last semester, we tried our best to whittle our end goal down to the bare necessities, but in practice we were only able to accomplish a very simple, core idea as a sort of proof of concept. The game we developed in the end was only a small, demo sandbox of some of the basic features we wanted to have in the game. We included the environment, setting, theme, and design style, but any backstory was only implied through the surrounding environment. There was no dialogue or interaction with other characters. Our character could move around, run, jump, aim, attack, destroy cacti, switch between active equipment, pick up weapons, ammunition, and food, access the inventory, drop and move around items, and reload their weapons. A big drawback from our decision to make a third-person perspective game was animation. We wanted the character to be visible so that they could possibly be customizable, but this meant that the character would have to be on screen at all times and need to be animated well, smoothly, and logically. Finding free animations to use with

our character model's skeleton rig was difficult, and attempting to program or logically design animation transitions in Unity was even more difficult. This cost us a lot of time and functionality with our core game as we had to tweak many things to make the game control, function, and look the way one might expect. Now that we know better, we likely would have chosen a different style of game to develop.

Ultimately, I believe we were still successful in making something that we were proud of. We had a solid, playable test game to show for our work, and it was well received by our peers at the expo.

In the end, our group accomplished creating a small, sandbox demo of a game-to-be. It is playable, it has several core features, and is a great starting point to develop a game further from as well as a great lesson and trial in game development. We were not able to implement the procedural generation aspect into the same build as we had compatibility issues and ran out of time, but we are still proud of the individual work and concepts we developed. I learned a lot about group work and what worked well or that I might change or attempt to organize better about a group project of this sort in the future. We did struggle with version control and synchronizing or sharing files and assets as Unity is a unique and sometimes difficult platform to develop with. I would definitely try harder next time to stress and help maintain version control and git commits to make project work more shareable and accessible to others, especially since I ran into a problem with my personal computer and lost a week's worth of effort that I needed to make up for.

I would say that we were successful in communicating, sharing ideas, and designing our project, but we could have been better at planning, organizing, and keep a consistent level of

work towards our goal. Sometimes we had minor communication errors or problems or poor organization that led to meetings being delayed or canceled, and sometimes happening without the entire group present. If we had done a better job coming together and being team players for each other, we could have likely created a more fulfilling or robust project.

I believe that everyone in our group contributed equally and played an important role in the development of our project. I would like to give special recognition to Aidan Sorensen as he was very available and agreeable when it came time to meet, discuss, or make decisions about our project and its progress. Aidan's leadership over our group and the project overall helped us stay on track to get the game done.