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## Assignment 6: Self Assessment

### **Part A**

Throughout the project, I significantly contributed to the team's overall goal of creating a genetics simulation that could be played as a video game. I believe that I was able to utilize most of the research I did and the skills I obtained from the first semester to produce a refined prototype of our initial concept for a video game. However, I still required more knowledge of biology before I could be completely successful in completing my assigned tasks. For example, I had to implement reproduction into our traits system, and many intricacies are not discussed in high school biology, which we wanted to capture in our prototype. As a result, I spent even more time this semester looking through online research papers and discussions to understand these concepts better.

I think I was fairly successful in my portions of the project, although I wish I could have dedicated more time to the project as a whole. My efforts were largely centered around being the "technical lead" for the project, which meant standardizing and enforcing our software engineering processes as the project continued. Initially, this meant setting up documentation for contributing to the source code, the GitHub organization, CI/CD, and a proper pull request/review process. Then, in the end, it mostly meant performing code reviews and ensuring GitHub flow. In addition to those software engineering aspects, I also focused on implementing

the systems necessary for the main game, like the trait system (based on a Godot-friendly ECS structure), some traits, the entities' genotypes, and the revamped tutorial system.

## **Part B**

My group made very refined prototypes based on all our original ideas to see how they could work as an actual game. This included a main game based on a simulation-like puzzle game and a few mini-games we wanted to test for inclusion in the final game. Although that was a success for us, when we started, we wanted a fully fleshed-out game that would be in an “early access” stage by the end of the school year. Since we figured out quickly that we all had very busy schedules, we decided to refine the scope into something that we felt was accomplishable in the time we had to allot to the project. That was when we ultimately decided to make prototypes of our ideas thus far (Construct the Codons, Punnett Square Solver, Mutation Master, and the main game simulation). This concept was much more attainable in the time we had to dedicate to the project and ultimately led to the success of our goal.

As a whole, we contributed fairly similar amounts by the end of the year; however, this is difficult to gauge for a number of reasons. One of the biggest reasons is that we were busy at different times and participated in different aspects of the project. For example, David not only designed many aspects of the game, including the art, a minigame, and most of the concepts, but was usually the first to give something a swing when one of us had an idea. Alex worked on a minigame and the often-overlooked elements of video games, like audio mixing, menus, settings, etc. Connor also worked on a minigame, theming, and the initial tutorial system. Lastly, I worked on the “Software Engineering” principles (like CI/CD, pull requests, code structure, etc.), the main game, and the revamped tutorial system. Since all these elements have minimal overlap, it

isn't easy to compare one element against any other because each one requires its unique expertise, time commitment, and polish that is different from the other video game aspects. That being said, throughout the entire process, David Lewis was the star teammate. He was always responsive/available, led us strongly to the end, ensured everyone completed the tasks they needed to complete, and put out incredibly consistent work every week throughout both semesters.