Phase 4 Report

The Game

For the most part the game is what we had originally planned in phase 1. The user guides the hero through a labyrinth collecting fire, the rewards, all of which must be collected in order to escape; as well as lamps which give bonus points. These rewards appear at random locations whenever a new game starts. In addition, the lamps will disappear and reappear at random locations if they are not collected in time. There are skulls, stationary enemies, which upon landing causes a loss in points and if this results in negative points the player loses. Furthermore, there is a moving enemy, the Minotaur ghost, that will cause an instant loss if the player comes in contact with it. Lastly, there is a timer that tracks how long the player takes to collect all the stationary rewards in order to exit the maze and win the game.

The differences that do exist are either due to us not having enough time to implement the more complicated aspirations or they are minor differences in graphics presented in the mock up. For example, the walls of the labyrinth were initially thin white bars however we opted for larger black boxes because they created a more intuitive map design. Moreover, the map was increased into an 8x8 grid rather than a 6x6 grid. Additionally we scratched the idea of using threading as we found it unnecessary for the game to preform smoothly. The biggest difference from our initial proposal was due to us choosing to drop the idea of having random wall generation. This idea was dropped after discussing it with Dr.Alimadadi since she said we should keep things simple and that what is most important is for us to implement the requirements. In a similar vein, we chose not to implement the concept of keys and doors for shortcuts as well as the concept of having a the fog of war.

On top of learning how to decide what are realistic goals for a project within a given time frame we also learned a multitude of other important lessons and gained our first experience in Test-driven development. Firstly and perhaps most importantly, we learned how to use utilize key tools like JUnit, JavaDocs, git, and maven, which are essential for the development of a large program in a team environment. These tools permit for a more organized work environment allowing a team to divide and conquer a project in an efficient and timely manner. Secondly, this project taught us lots about java and gave insight into concepts that exist in game development. For many of us it was our first time programming in java so we learned lots of the basics as well as more advanced subjects like how to use the Swing GUI. Furthermore, it introduced concepts like collision detection and shortest path algorithms like A*. Thirdly, since we did not know many of the aforementioned topics, we learned how to be independent programmers. We had to investigate many of these tops and read various documents in order to complete the project. Lastly, this project taught us how much work really goes into developing a program and team management, as well as the importance of communication tools like slack or zoom. For instance, with the lock down due to covid-19, it became impossible for us to meet in person after class. We noticed that this had a large effect in productivity and organization during phase3. Luckily we were able to utilize discord to have group meetings and in the end we feel that we produced an excellent product that satisfies the specified requirements.

Tutorial

For our tutorial we made a video, here is the link:
https://youtu.be/KMUu0aSI7rI