*Describe or illustrate what your game is about.*

My game is based on the 2001 hit Icy Tower. A player uses swiping motions on the mouse to get past lasers and avoid spikes. The player will often times be moving at a high speed to do so, providing excitement. The lasers and spikes are built together with walls to form levels, with each level having different combinations of the three. The levels are always procedurally generated, so each playthrough will be different.

*o Amount of time spent*

10 hours

o *Declaration of external assistance (either from friend or teacher / website)*

None.

o *Acknowledgement of source of graphics, sounds etc from external website /*

*authors*

Music: moose.mp3 (bensound.com)

Image: trianglify.png (trianglify.io)

o *Learning points in the project planning / execution*

I managed to start on the project early and spread the workload over a few weeks. However, in the last week I thought I was nearly done so I left the last parts of my code to the last day to finish writing, which caused it to be very rushed.

One thing I will try to replicate in the future is my rigorous planning process. Only after deciding on a game I really like after brainstorming for hours, did I start on the actual programming, ensuring that I was really passionate about what I was coding.

One thing that I should have improved on in my code was my scoring system for the game. Instead of basing it solely on time, it should have been based on the difficulty of the obstacles passed.

In addition, I would have liked to create a settings menu to start the game which allowed the player to choose from different starting difficulties and more. However, doing so would stray quite far from the idea of a one-button game already.

Lastly, in the future, I would like to experiment more with inheritance and polymorphism, as I am still not very sure about those topics yet.

*o Notable features that you are proud that you implemented in your*

*assignment*

I managed to implement a clever way for player movement, based off mouse holdings. This allowed me to keep the simplicity of the one-button game while allowing for varied movements.

I also captured the fast pace, old-school type of game with the music and images used. My initial inspiration was a game my father played in his childhood with similar features.

Another notable feature was the idea of a list of levels, where each level would progressively move down the list and be removed while new levels were simultaneously added to the top, allowing for infinite generation of levels, at little cost to computing power.

I also managed to implement a system for drawing the lasers, where each level’s lasers would be drawn, seemingly randomly, based on the length of the gap the lasers were in. They would also flash and random but the same timings as the other lasers on the level. The former was achieved by using only two different sprites for the laser, a laser that spanned two squares and one that spanned three. Then, I used a function to recursively draw the lasers in random positions, making each level look different from the previous.

Notably, I also made good use of object-oriented programming and the pygame library’s in-built features to achieve an efficient product that I can be proud of.