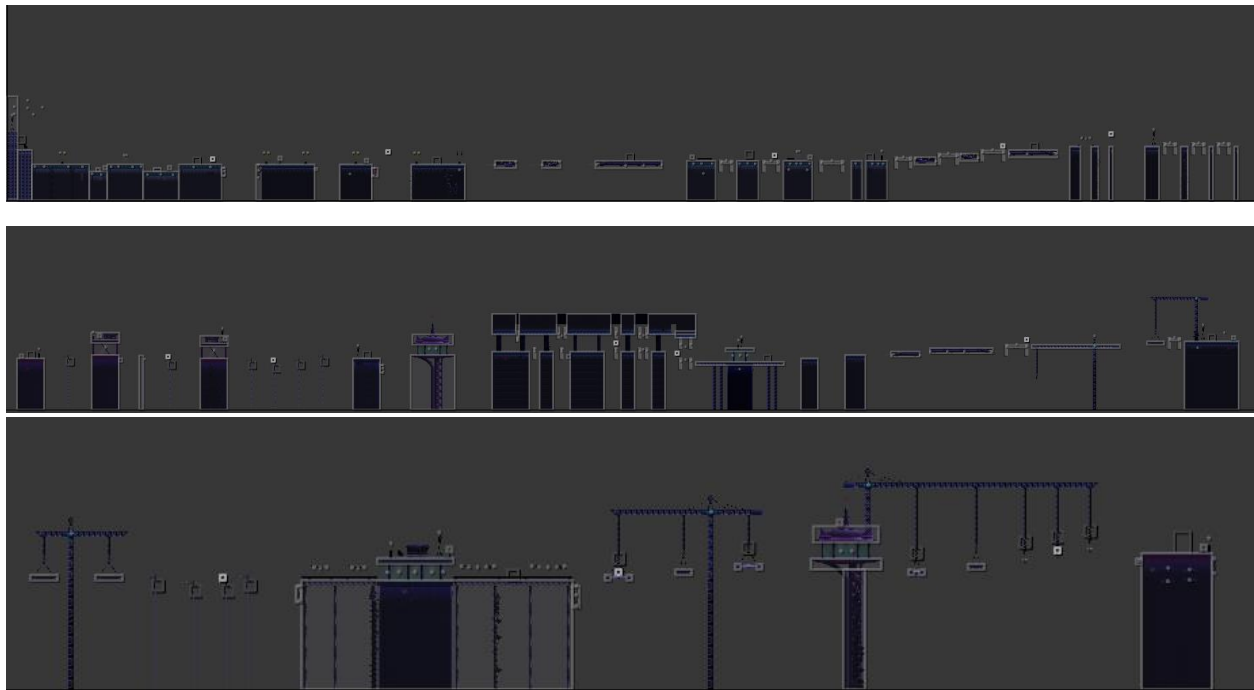**Overview**

The entire game was a 2-semester custom engine project. The whole first semester was spent working on the Unity Prototype and Documentation.

In the 2nd semester of the project, I designed two levels with Tiled, and we incorporated them into the custom engine.

Layout in Tiled

- This is the overall layout of Level 1 I designed in Tiled.
- I custom-placed all the art and level assets and imported them to the custom engine to test the game.
- The one negative thing about tiled for-level editing is that it's very tedious and time-consuming.
- Tutorials and mission objective is taught at the first level. Therefore, level 1 was our academic submission for the final milestone.
- Level 2 was a pet project for some of us.
- Some of us thought it would be better to have another level before publishing it on Steam. So, we reused most of the assets and made Level 2.

- This is the overall layout of Level 2 I designed in Tiled.
- Level 1 goes entirely in one direction, from left to right. We wanted to make Level 2 have multiple directions, so we had left to right, right to left, and drops down too.

Tutorials
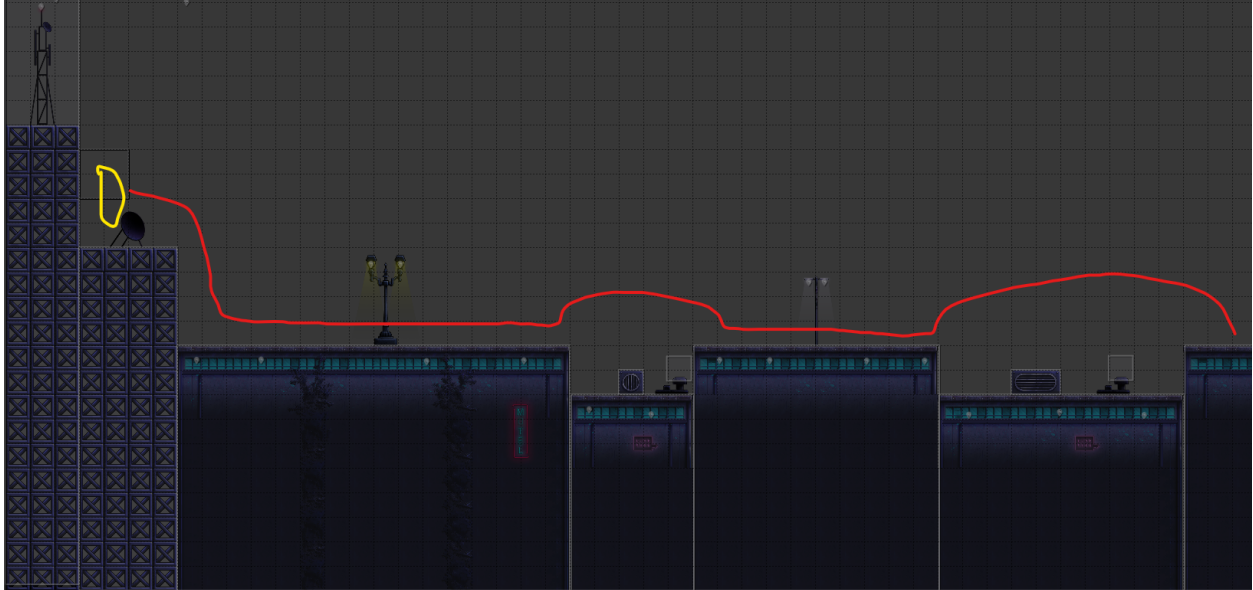
- Movement is taught first, followed by jumping here.
- Players who fail to jump the gap will fall on the platforms. They won't be punished right at the start.
- Dashing is taught right after the jumping.
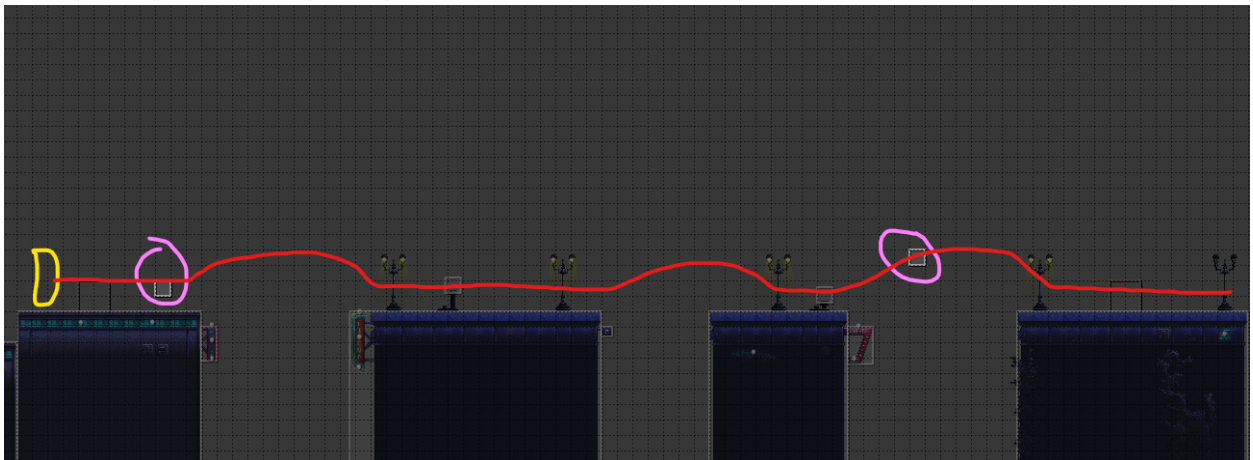
- Players are tested here, using the mechanics they learned to get past this obstacle.
- Collectibles and Checkpoint system is also introduced here. Players who fail to cross the platforms will respawn from the checkpoints.
- Timer UI and collectibles collected are displayed on the screen to remind the player of their progress.

Level design

- I designed the game with the Evolution-Expansion formula.
- For every new evolution introduced, there were multiple expansions.
- And I used all the evolutions and made them more extensive expansions.
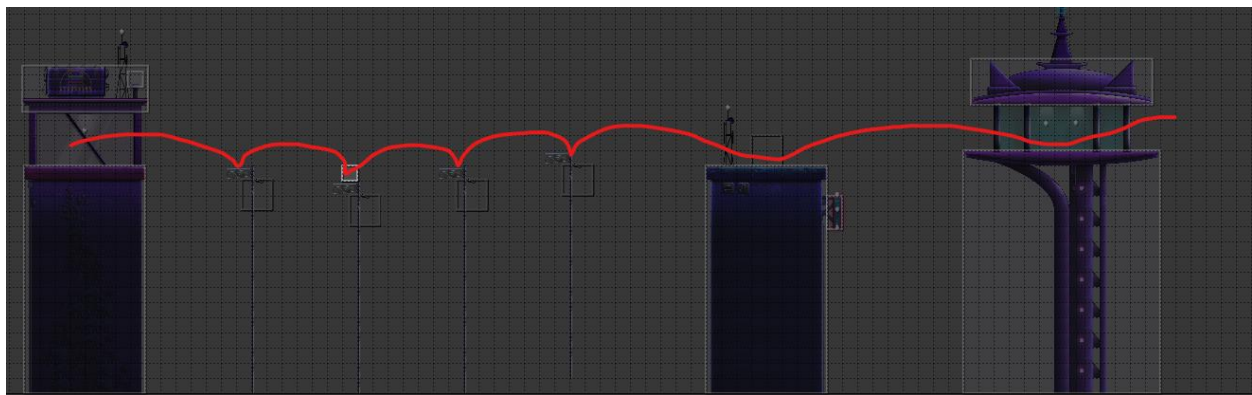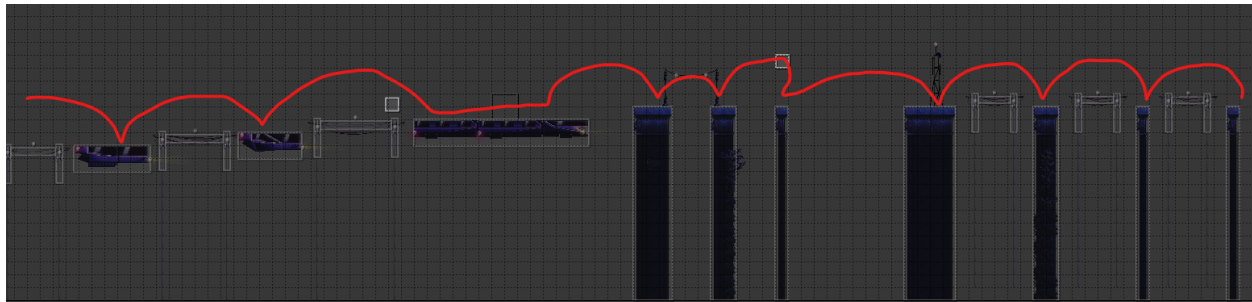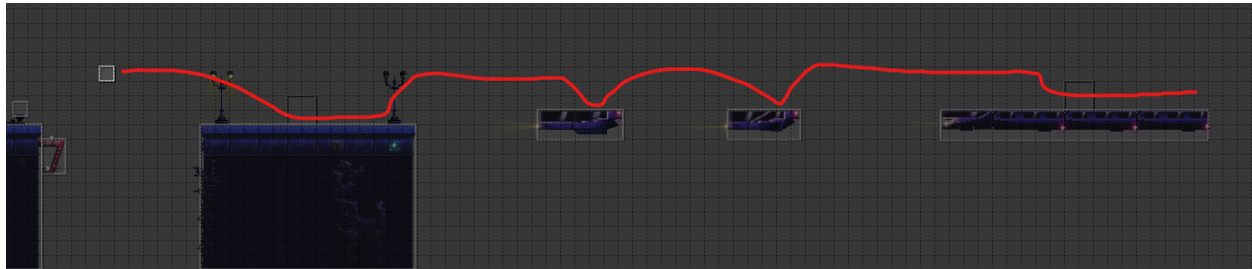
- The player fails in three ways: falling between gaps, electric cables, and platforms.
- The three hazards were used as the evolutions in the level design, and I expanded the challenge based on that.
- I often used the rule of 3 and designed the Evolution-Expansion formula.
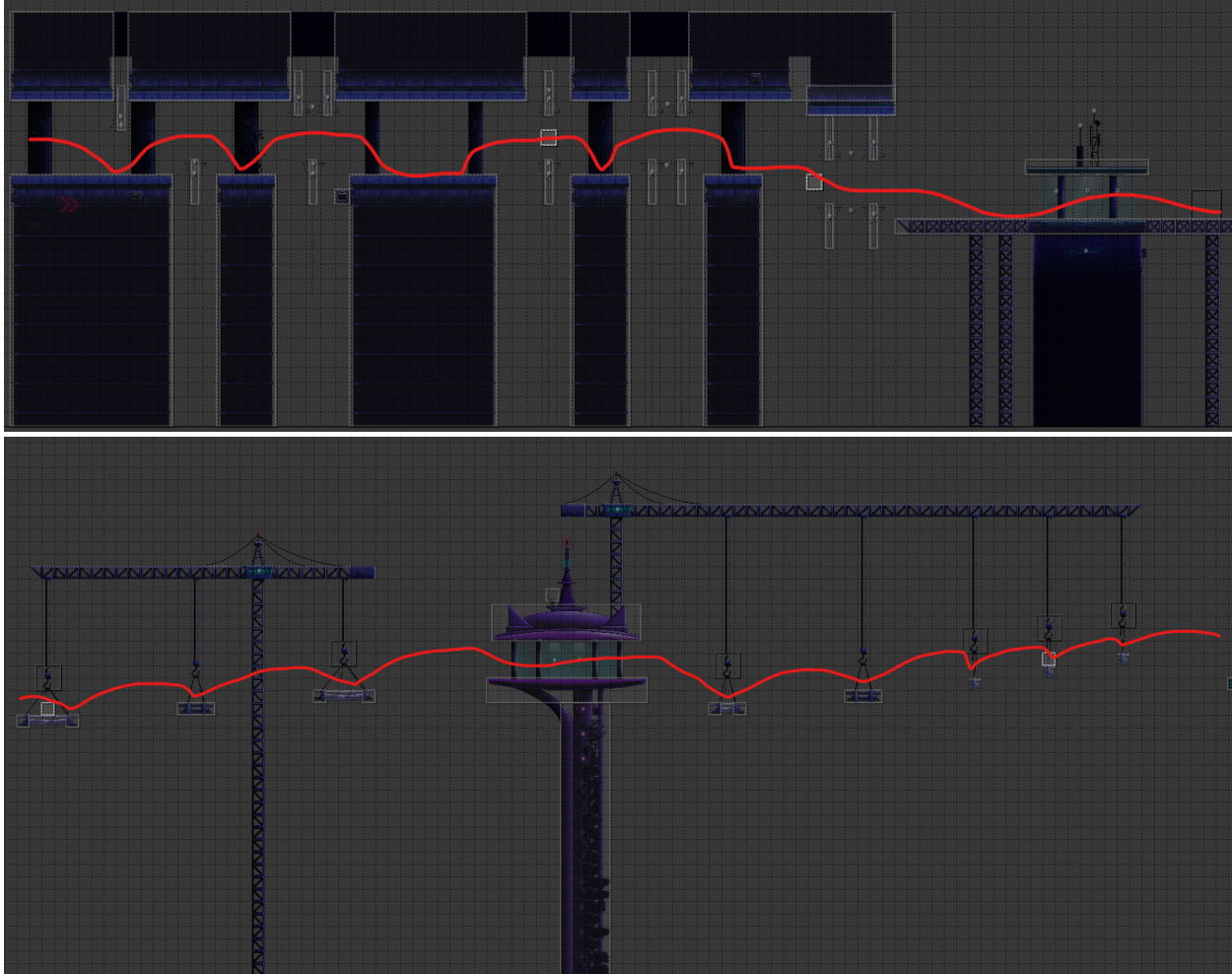
- I mixed the evolutions to form more extensive expansions.
- This also made it more challenging, and most players' speed breaks.
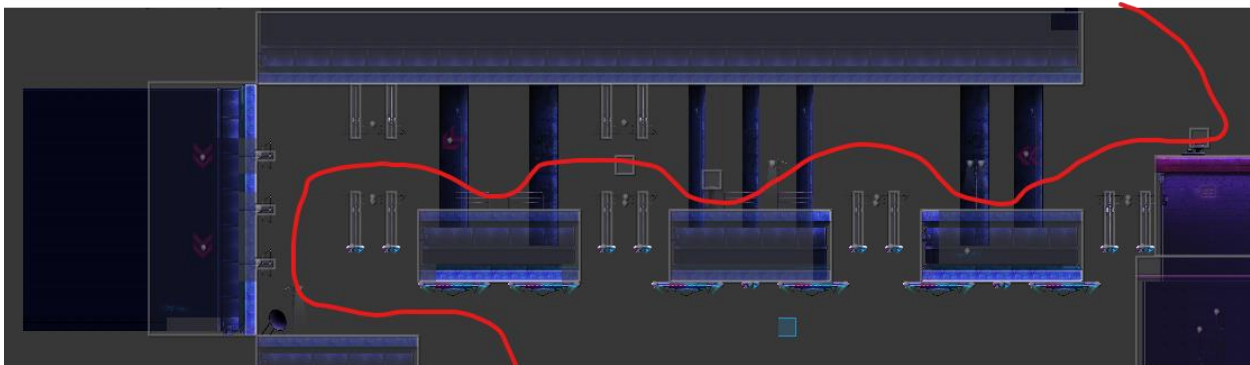

- For level 2, we combined the direction from left to right and right to left. In that way, players will have a new experience.

- I used the same evolution but expanded it differently, so the players who played level 1 can continue to excel without needing much practice.
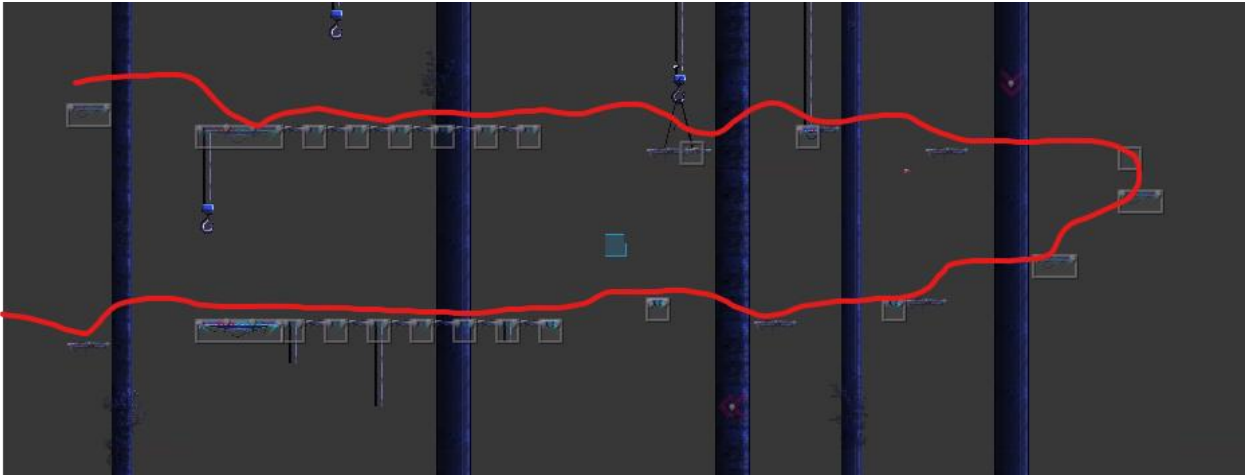

- I recreated the falling platforms by placing them to create a dropping as you walk through its effect.
- This was my intention, but sometimes, the players can get stuck between the falling platforms.
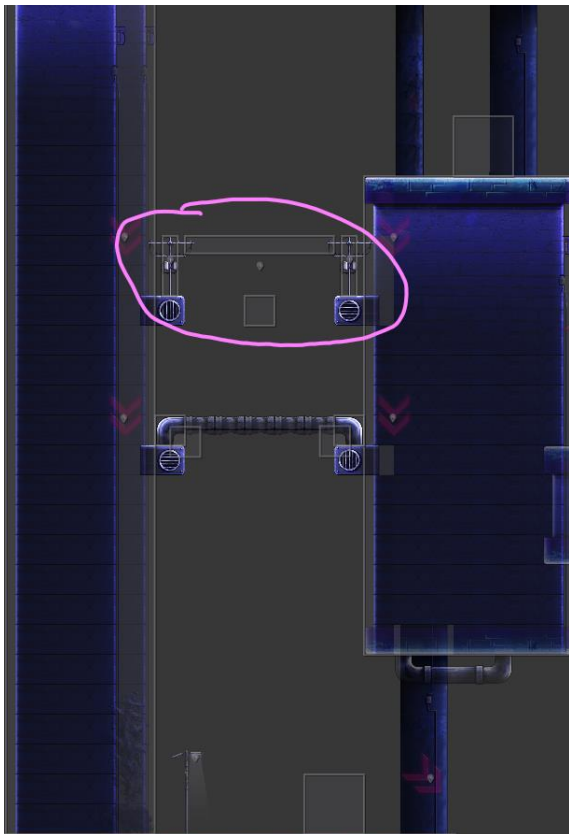
- In level 2, we added two more challenges to our existing ones. Again, it was timed electric cables and horizontal moving platforms.
- The timed electric cable was introduced in the development of level 2 and the horizontal moving platforms at the start of the turn phase.
- I added a checkpoint before every new evolution so the players can retry from where they failed.
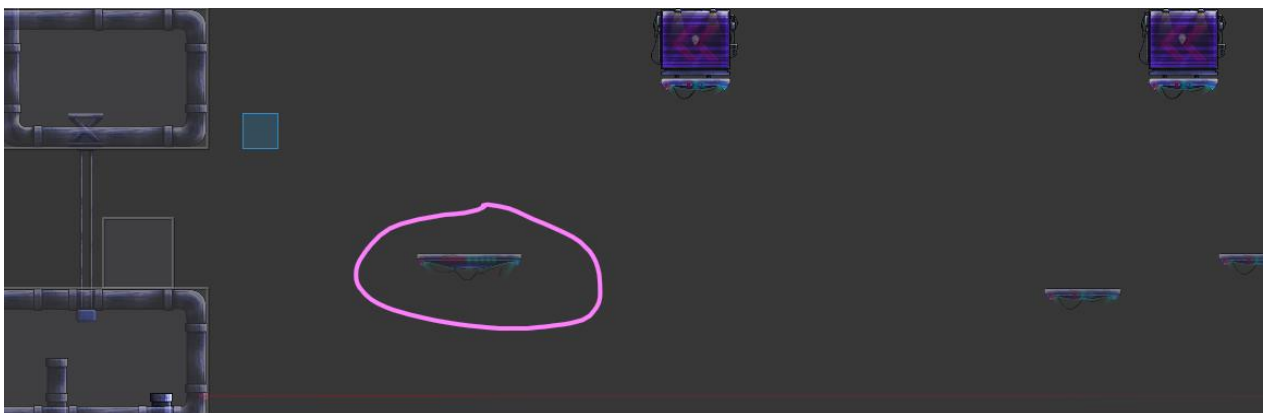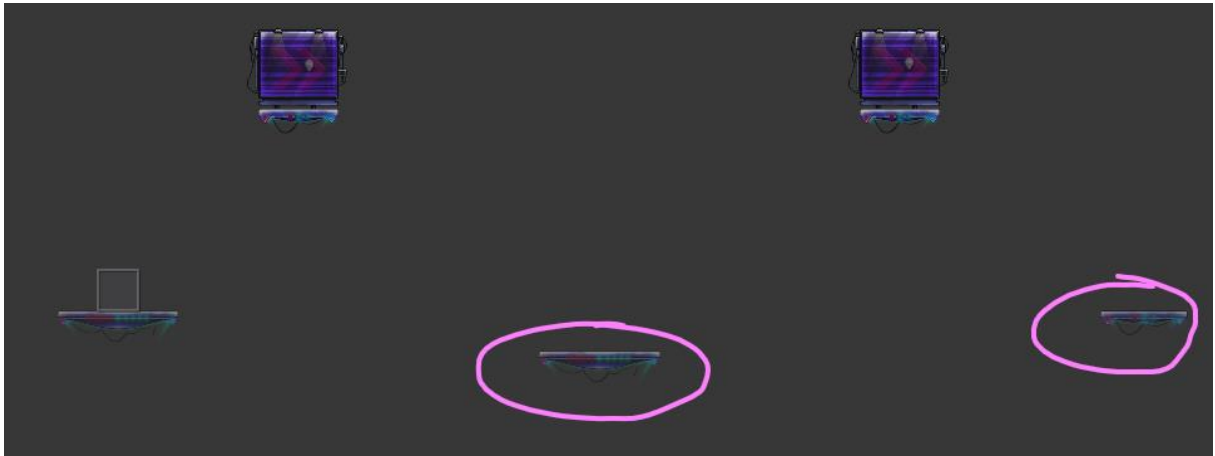
- The moving platforms had the same design principle. Introduce it as an evolution and expand the challenges with the expansion and multiple of them.
- The most challenging part of the moving platform was that they were hard to tweak because the programmer did the system in a week and stopped working on it because of the end of the project.
- So, we did our best to ship the game with the systems we managed to do within a week for Level 2. The hardest part was playtesting because the semester ended, and we did our best.
- Most feedback mentioned that level 2 was harder but more fun to try and fail. The game was not balanced, and the level didn't help the players in level 2.
- My biggest challenge was accommodating the game systems with the level designing. As a solo designer, I was responsible for everything design in the game and the documentation.
- For our academic submission, we were required to do a 3-minute custom engine 1-level game. So, we did that and a Level 2 because we wanted to.