

Micro Project Analysis – Level Design

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Intent:

This week's Micro-Project revolved around the concept of level design in video games. Level Design describes the process of planning, designing, and building levels or environments that the player will play through when playing a game. This can include many different aspects such as the layout of the level's environments, the placement of in-game obstacles or collectibles, puzzle-solving elements that are required/allow the player to advance further into the level. etc. Good Level Design should provide the player with both an entertaining play experience as well as a goal that will push them to complete the level.

Initially, I was going to continue with the Turn-Based prototype: my plan was to introduce a simple dungeon-crawler system where the player would traverse various levels of a dungeon. The player would have to fight a boss at the end of each level to be able to progress to the next one, and after each boss encounter the player's stats would grow so they would be a little bit stronger for the next boss fight. However, I realized that doing a platformer prototype would be a better option for truly showcasing various aspects of Level Design. To do this, I looked mainly at the PC platformer Jazz Jackrabbit 2 for inspiration, as I personally feel it has some of the best level design in not just platformers, but video games in general.

Process:

First, I set about designing the actual layout of the level. Since I had planned exactly what I wanted to include in the level, I was able to design it based around all of these elements before the elements had actually been implemented – otherwise, I would have been designing each part of the level as I added each element and that possibly would have been more time-consuming. Next, I designed the player character and their move set consisting of three basic actions – move left and right, jump, and shoot. The player can shoot in three directions: left, right and up. This becomes important later.

Many platformer games, such as Jazz Jackrabbit 2 or Super Mario Bros. often have multiple paths that the player can take to complete the level, and I wanted to showcase this element in my prototype. At a certain point, I had the level split in two directions: the player can either take a moving platform and go up, or they can fall down to go the other way. Both paths eventually lead to the same end point, but they each present their own challenges and have their own rewards – I felt this concept gives platformer's a bit of extra replay value, as players want to come back and replay levels to find alternate paths and secrets. I implemented this to showcase this element of level design.

After this, I went about implementing a few simple platforming sections. I added moving platforms (such as the one in the level split) at certain sections that the player is not able to jump across, as well as one-way platforms that the player can use to reach certain points of the level but can not go back through. I added a few simple puzzle-solving elements: each of the two paths has its own button puzzle – the top has a door that can only be opened by shooting up at the button, whilst the bottom has a gap that the player can fall into and die. If the player again shoots a button above them, a platform that was "invisible" or not active becomes visible and allows the player to cross the gap.

The next step was to add more obstacles and collectibles for the player, two elements commonly found in platformer games. Firstly, I implemented a checkpoint system as it was needed for the next element I added – this checkpoint system was directly inspired by Jazz Jackrabbit 2. Next, I created a simple enemy that would patrol between two points – if the player touched the enemy, the player would lose a life and would be sent back to the last checkpoint they touched. If the player loses all three of their lives, they lose and will have to start the entire level again. The player could kill these enemies by shooting them.

On the collectibles side, I added a few coins for the player to find and pick up – each coin adds 1 point to the player's score. At the end of the level, I added a sort of "boss" enemy that takes five shots to kill as opposed to only one – killing this boss became the main goal for the player to accomplish in order to clear the level and was again inspired by the boss enemies from Jazz Jackrabbit 2. After this, I had implemented all of the major elements that I had wanted to, and the prototype was complete.

Reflection:

My goal with creating this platformer prototype was to showcase various different elements of platformer level design and how these can come together to create an enjoyable player experience. One of the core elements of good Level Design is creating a sense of flow for the player that almost directs them through the level, making sure they always know which way to go and motivating them to get there. I feel I was able to capture a sense of this, even if only slightly – when the player starts, they immediately see the way to the left is blocked by a wall, so they know they have to go to the right and this directs them for majority of the level.

However, it is not perfect: only after the game was complete, I noticed two slight issues with the level split section. The first is that the moving platform that goes up is rather slow and has to travel a long distance, so when the player reaches that section, they may not see the platform and may not realize that they can go up that way if they wait for it. Two possible fixes to consider in future would either be to change the level layout to make this part less long, or to increase the speed of the platform so it covers its distance in less time. Implementing both fixes in future would most likely be ideal.

The second issue is this: the level split was supposed to introduce a sense of replayability and present the player with a real choice of which path to take, meaning once they chose a path they could not go back. In practice, however, this can be exploited – if the player takes the path down first, they can not go back up. But if they take the path up first, they can simply come back and fall down before going through the door. This allows them to experience both paths in one playthrough and to collect both paths' coins, which is not what I intended to happen or wanted to happen. This is an issue to consider in future and could potentially be fixed by introducing either a one-way platform to prevent players from coming back down, or by adjusting the level layout so players who went down first can come back up (not ideal).

Overall, though, I feel as if I made a prototype for a platformer game which displays many elements of good level design and showcases how these separate elements can come together to create a sense of flow for the player. My goal was to design a level reminiscent of those found in Jazz Jackrabbit 2, and I feel I was able to accomplish this to a certain extent due the inclusion of elements found in that game such as shooting to kill enemies and solve puzzles, the level split, the boss, collectibles. etc. that all contribute to its flowy level design.

References:

- Jazz Jackrabbit 2. (PC Version) [Video Game]. (1997). New York City: Gathering Of Developers.