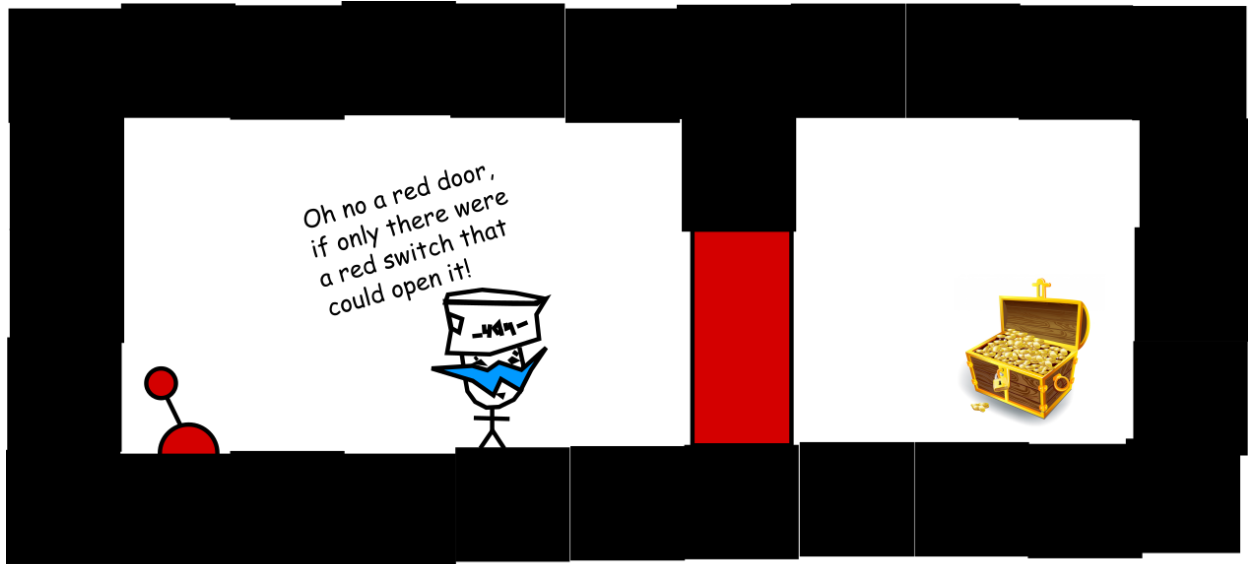# Project 2: Team 19
Research & Analysis Paper

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Fake Game: **494 Man's Switch Party**

Switch Party: As we're competing in the upcoming Game Jam, we don't currently have a prototype to research. Instead we will be researching our fake game concept that uses the theme "Switch": 494 Man's Switch Party (or Switch Party for short). Switch Party is a puzzle platformer where 494 Man has to flip switches that open and close doors to reach treasure. We'll be exploring similar games in the **puzzle platformer** genre, specifically ones with a **switch** mechanic that allows the player to change some part of the environment.

Game 1 - The Company of Myself

Overview

Developed as a hobby project by indie team 2DArray, The Company of Myself is a simple puzzle platformer flash game released in 2010. Despite the game's short length, simple artstyle, and repetitive music the game is fairly well received taking numerous flash game of the year awards. Learn more at: http://2darray.net/portfolio/the-company-of-myself/

Similarities

One major difference is that both our game and The Company of Myself were developed with a **relatively small budget** (in terms of time and money)**.** This affected a number of critical game

design decisions, such as choosing to focus on a single puzzle mechanic rather than many like larger scope puzzle platformers do. Larger puzzle platformers will introduce new mechanics throughout the game so old mechanics aren't overused. In both Switch Party and TCOM numerous mechanics weren't feasible under the constraints so instead level was the primary tool used to develop the puzzles. Variety was added through reusing old mechanics in new ways rather than adding new mechanics.
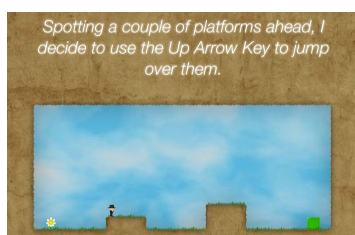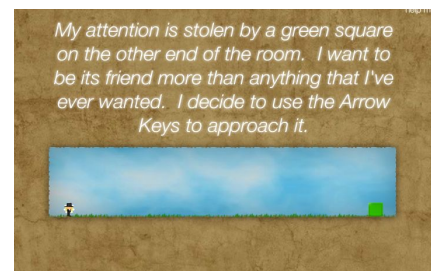

While the both games contains only a few mechanics , each **individual level** of the games **self-contain a piece of those main mechanics**. For example, in TCOM movement is introduced first, then single switches, and then multiple switches. This ensured that the player never felt like they were overloaded with any information on a single level. Additionally, it ensured that each level was unique in how it challenged the player.

One specific similarity between both puzzle setups is the use of **multiple colored switches.** When introduced the player is already familiar with the concept of a single switch so it's easy for the player to grasp how multiple switches work given the visual differences in color. Having multiple switches opens up a number of new options in puzzle design. A switch can be used as a sort of mini-goal: although it doesn't complete the level it progresses it. It also can add depth to level design as the order in which switches are pulled increases the complexity in how a level is approached.
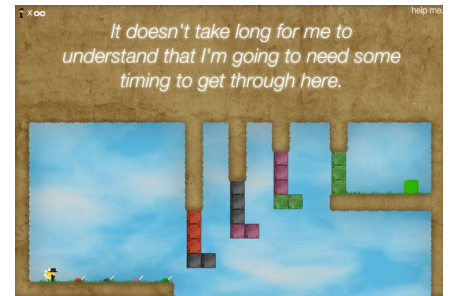
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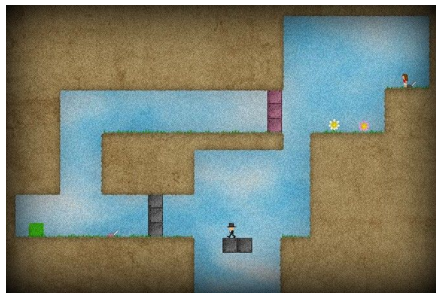
One major difference between TCOP and a typical puzzle-platformer is challenging the player to use **multiple characters** to reach the end instead of just one. This changes how the player approaches switches as puzzles are designed in a way that the character who flips the switch and the character that moves through the changed environment will often differ. Instead of thinking about the order of switches to flip the player must also think about who will actually flip it.

In addition to switching between two characters, the player will also experience levels where the character makes **copies** of himself (where the game's name comes from). This mechanic records a player's inputs in one life and then will play them on an uncontrollable dummy of the player. This adds a lot of complexity in how the player moves through a life as the goal will not always be to reach the end, but to set up a future player to reach the end by either acting as a table for a future player (or clone) or hitting switches at different times.

To add even more complexity to the the clone mechanic, **selective barriers** are added to further add complexity to each puzzle. These work by limiting movement to only clones or to only the current active character. The player then has to also account for which type of character will be going where and flipping what switches. Although it adds complexity in some levels, it also helps guide the player in others. Barriers are often used to force the player to approach the level in a specific way so they don't end up getting frustrated from having too many possible paths to explore. This is also true of switches too as switches can be used to either add complexity or guide the player.
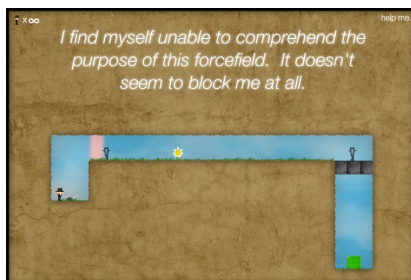
Game 2 - Portal 2
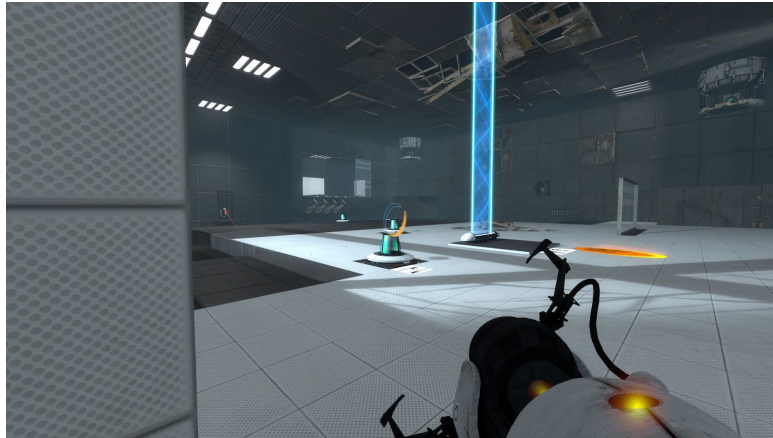
Overview

The original Portal was a first-person puzzle platformer that involved the player using portals to progress through a series of test chambers. Portal's developer, Valve, used the game's success to develop a sequel with a much larger scope. Portal 2 was also released to critical acclaim for expanding on the original game's story, length, sound design, and most importantly puzzle mechanics.

Similarities

Although Switch Party is a simple 2D game and Portal 2 a fully fledged 3D game, both actually fit into the same puzzle-platformer genre because they involve **moving a character** through a level. The Puzzle genre includes a huge variety of games from Tetris to Bejeweled, but what

makes it a puzzle platformer is the focus on moving a player that can only interact with nearby parts of the environment. The biggest benefits this provides is that the player will only have to worry about parts of a level available to them and that exploration becomes a core mechanic. Compare this to a game like Lemmings where the player is given all of the information right from the start and must account for everything within the level.
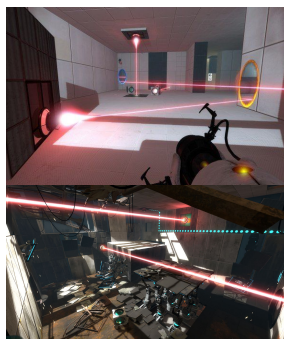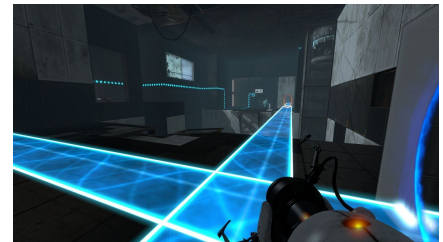
Despite having a full art and level design team, Portal 2 still primarily constrains itself to **grid based** level design like Switch Party does. This causes the levels to be easily understandable as the player can expect some degree of uniformity and there won't be too much visual clutter. When the designers do choose to add more details I often found myself having a harder time understanding what exactly is going on. The two screenshots to the right show simple puzzles, but the one cluttered with off the grid details (below) is much harder to understand.

Both Switch Party and Portal 2 make heavy use of **switches** to help control the environment. Although Portal doesn't color their switches, it still has a method of letting the player know exactly how a switch will change the environment. This is accomplished with a line of dots that connect a switch to the part of the environment it affects. Color is instead used to determine the state of the switch with inactive switches appearing with a light teal and active switches a darker orange.
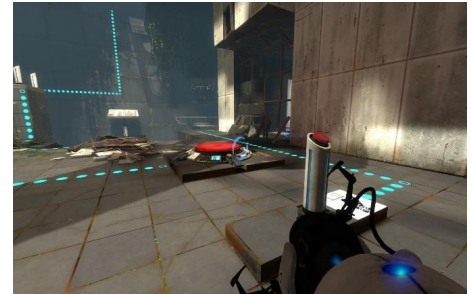
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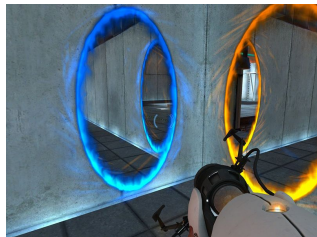
As the name suggests, the Portal genre introduces the use of **controllable portals** to the puzzle-platformer genre. While portals that move the player instantly aren't original to the Portal series, the depth in which they are used is what makes the puzzles so interesting. The puzzle-platformer genre is all about moving the player while modifying the environment, and the portal mechanic serves both those goals making it an ideal feature for a game in the genre.

The first variation on switches that Portal 2 provides is **pressure buttons.** These require the player to either stand on them or put another weighted object on top of them for it to be active. This adds complexity in a number of ways, the first being that an additional step is required before a switch is useful in reaching the end of the level. It also compliments the portal mechanic as portals are often required in order to move the weighted object (moving the switch with portals may be a bit wonkey given how they're connected with a line to what they modify). Variations that require either a cube or a sphere can add additional complexity to the level as well.

By using a line rather than a color to connect a switch to a piece of the environment, **switches can be used for a number of different purposes** rather than just opening doors like in Switch Party. This includes spawning cubes, shooting lasers, dropping gel, and creating light bridges. By connecting switches to every other mechanic the developers are able to create a much greater variety of level designs without creating new mechanics or teaching the player something unintuitive.

Game 3 - Braid

Overview

The game starts with a nice intro describing how you(the main character) messed up while you were in a relationship with the princess. You made too many mistakes and this resulted in the end of your relationship. The intro speaks about how if time could be changed then you could resume your relationship with the princess while still being wiser from your previous experiences. This nicely translates into one of the game's main mechanics, time travel. The player begins in a house with 6 rooms, with only the first one being lit. As the player clears the worlds the corresponding room in the house becomes lit.

In each world(a collection of levels/floors) the time mechanic is changed to keep the game play experience fresh. In the first world the player has the ability to rewind time making tasks that were impossible before possible. One of the many tasks players have to do is chain jump on

enemies(think goomba-esque from mario but square lions) to reach puzzle pieces. The player's main objective is to travel through the world and gather all the puzzle pieces. Each world has a multitude of puzzle pieces which are used to create a full picture which then opens a new world. But not all the puzzle pieces are used and this require the player to focus the remaining pieces they need as they explore the level. The player slowly solves the puzzle by piecing the pieces together slowly revealing the puzzle and the missing pieces. The puzzle pieces are placed in places where the player has to think on how to reach them. The mechanics involve a multitude of jumping, switching levers, and using the time mechanic specific to the level.

Similarities:
The game requires changing the environment (using switches to spawn enemies) to reach some of the pieces.

This game uses new and old mechanics as they are slowly introduced to keep the game interesting.

Improvements:
One thing the game could have done was made the ending more clear because a lot of people probably would not understand it.
Some parts of the story also did not trigger all the background info unless you went through the books(they trigger the story text) in a specific way during the ending.

It also could have included more mechanics (e.g. pushable blocks) that can be used in different ways, and maybe implemented bosses.

Other notes:
Overall the gameplay was enjoyable and fresh in every world, there is not that much improvement to be made in that respect.
The story was also very clever and tied in very well with the concept of the game. Which greatly adds to the game overall