

# COMP 3218: Coursework 1 Fundamentals of Game Design

## Core Dynamic – Spatial Reasoning

I feel that my core dynamic is Spatial Reasoning, which is defined as any kind of game that requires the player to think ahead and determine possible results of an in-game puzzle by analysing what the possible moves are and figuring out what needs to be done to complete the puzzle.

I achieve this experience by firstly, my primary mechanic of a “mirrored” effect, which results in the player having control of two characters in two separate dimensions, with the game world eventually leading to being un-equal in these dimensions, resulting in walkable zones in one dimension possibly meaning perishment in the other dimension, this results in the player constantly having to check his position in both worlds before making a movement choice, this is emphasized by another mechanic which allows the controlled characters to be horizontally un-aligned to each other.

As well as this, in order to progress through the levels, the player must utilise puzzle elements within the game world to unlock barriers, which block the player’s progression through sections of the levels. To unlock the barriers, pressure plates in both dimensions must be activated simultaneously, this results in the player making choices on how to traverse moveable crates and the characters in order to activate them.

## Feedback and Response

The feedback which I received is summarised in the following two points:

1. My initial game design was completely linear, there was no option for the player to choose different paths with risks vs benefits trade off, I was told to add these to my level design.
2. My initial game design didn’t provide the player with the feeling of any single core dynamic, even though it had the puzzle element of a spatial reasoning game, it also contained a collection objective of coins, as well as this, I had a timer countdown to complete the level or else the level would reset, these features resulted in conflicting core dynamics of spatial reasoning, collection and race to the end. I was told to emphasize my core dynamic by altering my mechanics and objectives.

My response to the feedback was the following:

1. I added a timer mechanic, which results in the characters being allowed to become unaligned only for 30 seconds at a time, with this, I included a collection mechanic which gives the player extra time to stay unaligned, but these collectable “watches” are placed in positions throughout the levels which require the player to take a more dangerous path, so the player must make choices throughout their progression, will they solve the puzzles with less time, or more danger.
2. I altered my timer and collection mechanic to be utilised in the main goal of solving the spatial reasoning puzzles, making them sub-mechanics of the main puzzle, and not major objectives of the game.

## Resources Used:

### Utilities:

- Gizmos Cinemachine:
  - **How I use it:** I use Cinemachine for my camera to follow the player character smoothly.
  - **Creator:** Unity Technologies
  - **License:** Unity Companion License:  
[https://unity3d.com/legal/licenses/Unity\\_Companion\\_License](https://unity3d.com/legal/licenses/Unity_Companion_License)
- TextMeshPro:
  - **How I use it:** In my menus and tutorial Text
  - **Creator:** Unity Technologies
  - **License:** Unity Companion License:  
[https://unity3d.com/legal/licenses/Unity\\_Companion\\_License](https://unity3d.com/legal/licenses/Unity_Companion_License)

### Assets:

- GameDevMarket: [www.gamedevmarket.net](http://www.gamedevmarket.net)
  - **License:** <https://www.gamedevmarket.net/terms-conditions/#pro-licence>
    - All purchases were made after the 15<sup>th</sup> January 2019, subsection 4 (License (A)) is the relevant license.
  - **How I use it:** Assets from the following list were used in this game purely for audio, sprite, tiles and background visuals. No scripts were used from any of these assets.
  - **Used Assets:**
    - Background sky: <https://www.gamedevmarket.net/asset/game-background-pack-01-6176/>
    - Collectable Timers: <https://www.gamedevmarket.net/asset/animated-timer-4065/>
    - Pressure Switches: <https://www.gamedevmarket.net/asset/pressure-switches/>
    - Animated Flag: <https://www.gamedevmarket.net/asset/animated-flag/>
    - SFX: <https://www.gamedevmarket.net/asset/pro-sound-collection-6169/>
- Unity Asset Store:
  - **License:** [https://unity3d.com/legal/as\\_terms](https://unity3d.com/legal/as_terms)
  - **How I use it:** Assets from the following list were used in this game purely for sprite, animation and particle effect visuals, no scripts were used from any of these assets.
  - **Used Assets:**
    - Action RPG FX: <https://assetstore.unity.com/packages/vfx/particles/action-rpg-fx-38222>
    - The Artic Platformer Tileset: <https://assetstore.unity.com/packages/2d/environments/the-arctic-platformer-tileset-112231>
    - Ultimate VFX: <https://assetstore.unity.com/packages/vfx/particles/ultimate-vfx-26701>
    - Platform Game Assets Ultimate: <https://assetstore.unity.com/packages/2d/environments/platform-game-assets-ultimate-134039>