

PROJECT 3

Flux

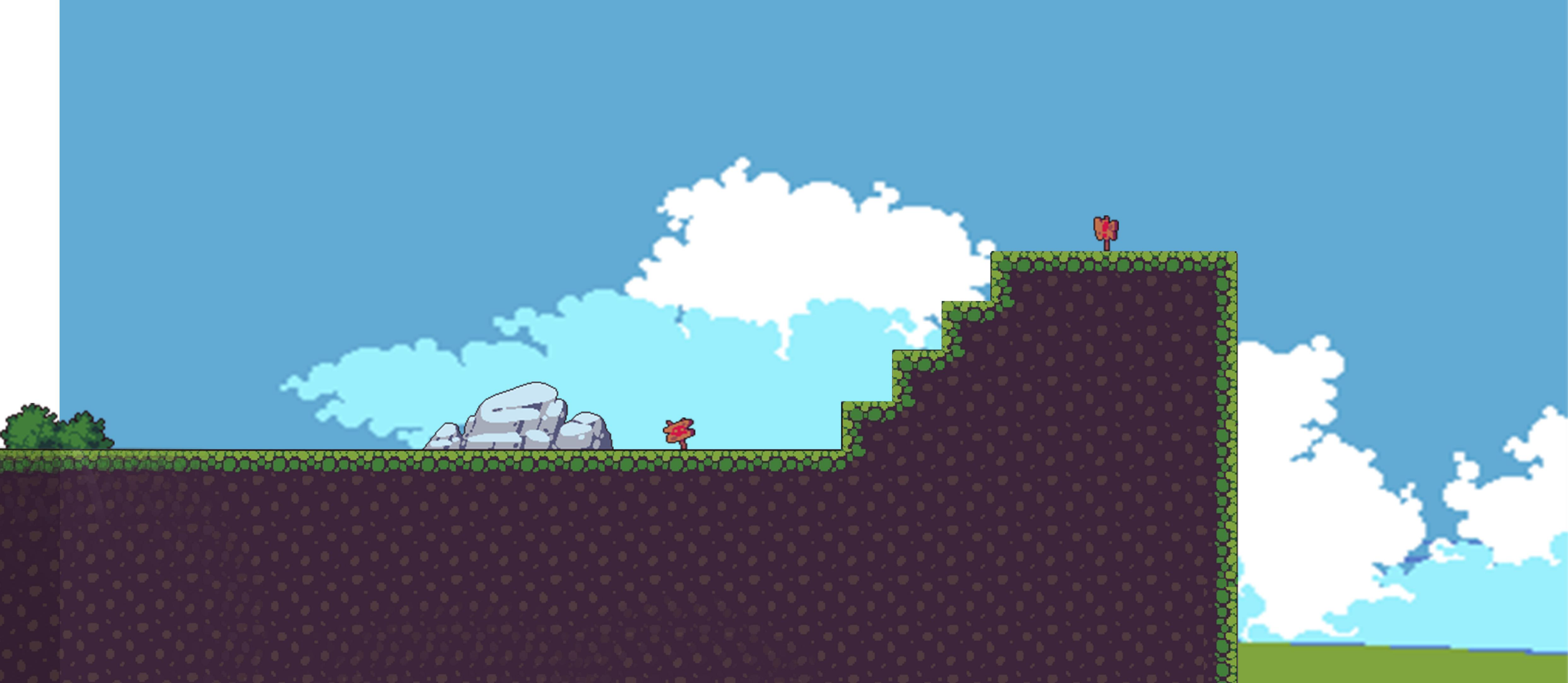
- Independent Development
- 2D Platformer
- Time Rewind

In "FLUX," a captivating 2D side platformer game centered around time travel, we've focused on conveying the concept of time control without overcomplicating the narrative. This mechanism extends beyond the player to include objects, music, and other game elements, enhancing the code's integration and extensibility. Our aim is to transform a seemingly simple mechanic into a variety of flexible gameplay experiences, demonstrating the depth and versatility of time manipulation within the game's universe.



Role: Game Developer
Game Designer

Data: Apr 2023 - June 2023



1.Time Rewind System in Flux:

The time rewind system in "Flux" is a sophisticated feature that enables players to navigate through levels by manipulating time, adding depth to both gameplay and puzzle-solving.



Key Components of the Time Rewind System:

1.1 TimeFrame:

The TimeFrame component is essential for storing a snapshot of the player's data at each frame. This includes the player's position, state, and other relevant game attributes. These snapshots are crucial for the time rewind functionality, as they serve as reference points to which the game can revert.

```
public class TimeFrame
{
    public Vector3 playerPosition;
    public Vector3 visualScale;
    public Quaternion spriteRotation;
    public AnimatorStateInfo spriteAnimation;
    public Vector3 spriteScale;
}
```

1.2 TimeManager:

TimeManager is responsible for managing and invoking the TimeFrame data. When activated, it applies the TimeFrame data to the GameObjects in reverse order, effectively rewinding the game state. This can include the player character, certain objects, or environmental elements.

Impact on Gameplay:

The time rewind system in "Flux" offers players unique ways to solve puzzles and navigate levels. Players need to think not just spatially, but temporally, planning their moves in both forward and reverse time. This system also allows for creative gameplay scenarios, where players can experiment with different strategies by manipulating time, leading to multiple ways to overcome challenges.

1.3 Customizable Rewindable Entities:

All rewindable entities in the game are based on a 'Rewindable Object' template. Any entity created using this template can be influenced by the time rewind mechanic. Entities not created with this template remain unaffected by time rewinds. This selective applicability allows for diverse and intricate level designs, where players must strategically decide which objects to manipulate with time rewind.



2. Core Game Systems Introduction Space Switching and Puzzle-Solving Systems:

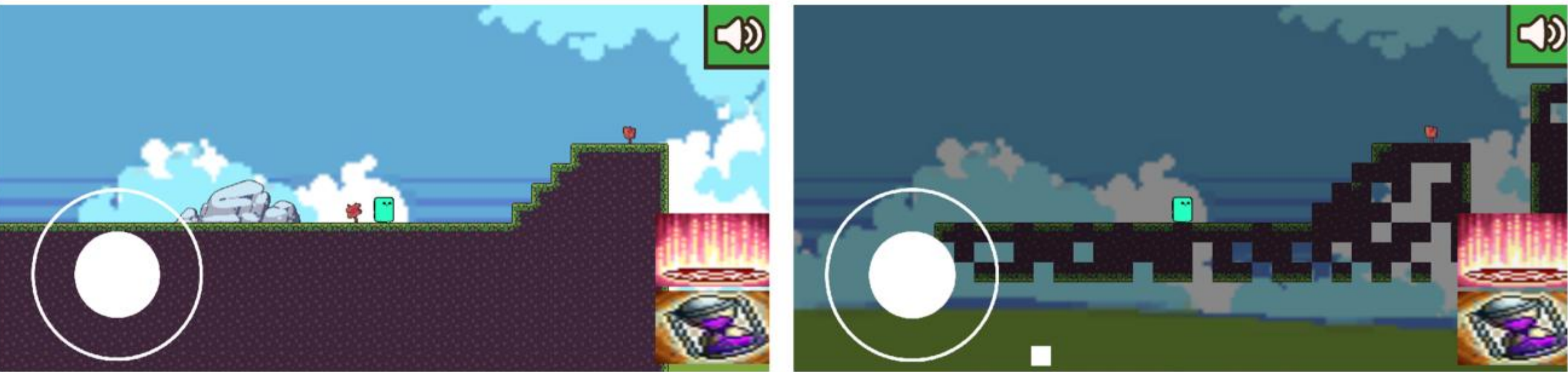
In "Flux," alongside the time rewind system, the space switching and puzzle-solving systems are key elements that enrich the gameplay, offering players a complex and immersive experience.



Key Features of the Space Switching System:

2.1 Dual Layer Design:

The game features two distinct layers, each displaying a different spatial environment and elements. One-Button Switching: Players can switch between these layers by pressing a specific button. This mechanism enables a transformation in the spatial dimension, adding a new layer of depth to puzzles and exploration. Strategic Application: The space switching is more than a visual change; it affects the player's movement paths and interaction modes. Players need to adeptly utilize this feature to solve puzzles and progress in the game.



Impact on Gameplay:

The space switching and puzzle-solving systems in Flux create a multi-layered gaming world. Players are required to think in both temporal and spatial dimensions, applying different strategies to solve puzzles and overcome obstacles. The combination of these systems provides a unique and rich gaming experience.

2.2 Key Features of the Puzzle-Solving System:

Interactive Entities: The game's environment is populated with various interactive entities. Players need to engage with these entities to advance the story. Attention to Interaction Order: Players must pay attention to the order in which they interact with these entities and understand the relationships between different items. The correct sequence and combination of interactions are key to unraveling the puzzles. Enhanced Playability: These puzzle elements increase the complexity and challenge of the game, making each level a fun exploration and discovery experience.

