Descriptive Document

\<Drop\>

Team Members

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Logline

(*Puzzle + 2D platformer)*
A puzzle game where a player navigates a 2D platform environment using left–right movement and anti-gravity to activate mechanisms and reach the final goal.

Genre Research

Research done on three genre titles that are a puzzle game:

1. Animal Well
2. Limbo
3. Monument Valley

Tropes:

Across these games, the shared theme is exploring a quiet world. Controls stay simple (move, jump, interact), but level design adds depth. The environment is the puzzle: paths, doors, switches, moving parts, and tricks of space. Visual cues like color guide the player. Checkpoints are strategically positioned after potential failure points to preserve pacing and player momentum. Hazards are clear and readable. Progress opens new routes and triggers layout changes.

Twist:

Our game focuses on using the ability to manipulate gravity, specifically switching between normal gravity and anti-gravity to navigate the environment. The majority of the games in this genre rely on standard jumping and falling mechanics under constant gravity. The tropes listed above also exist in our game, but we use the core mechanism of anti-gravity and remove the traditional jump mechanic entirely, which is our twist, to further innovate on these tropes.

How Gravity Manipulation is innovative for a 2D platformer:

Our core mechanic is to manipulate gravity. The player navigates the environment not by jumping, but by reversing gravity to move upward, cross obstacles, or trigger mechanisms that are otherwise inaccessible. This shift changes the logic of traversal: puzzles are designed around spatial reasoning with gravity states rather than traditional platformer jumping. Additionally, the absence of a jump mechanic forces players to think creatively about how to use anti-gravity as the sole method of vertical movement and problem-solving. In this way, the anti-gravity mechanic challenges players to rethink how paths and mechanisms can be activated.

Prototype description

<Drop> is a puzzle game featuring a distinctive anti-gravity mechanic. The player's goal is to navigate through the 2D platform environment by triggering mechanisms and finding the correct path to reach the door. To achieve this, the player relies on left–right movement and gravity reversal to explore the environment.

Mechanic Matrices - Twist & Mechanics Matrix

Mechanics	Description	Interaction with Twist	Affected Genre Elements	Type of Genre Innovation	Supports
Trigger	A switch, when activated, moves, toggles platforms, or activates portals.	Player can move to the trigger and activate it to create new paths.	Platform and player movement	Addition	

GitHub Repository

https://github.com/CSCI-526/paired-prototype-1

Individual Contributions

Yang Li	*Map & path design, checkpoints*
Xinlu Xu	*Mechanism design, player control*
Sherry Wang	*Mechanism interaction, game UI*

Diagram/Sketch