

# Train to Die

## DESIGN DOCUMENT

By Couda and Damdee for the 2024 Pirate Software Game Jam

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<b>Introduction</b>	<b>2</b>
Game Summary	2
Inspiration	2
<b>Player Experience</b>	<b>3</b>
Platform	3
Development Software	3
Genre	4
Target Audience	4
<b>Concept</b>	<b>4</b>
Gameplay Overview	4
Theme Interpretation (Magic and Necromancy)	4
Primary Mechanics	5
Secondary Mechanic	7
<b>Art</b>	<b>8</b>
Theme Interpretation	9
Design	9
<b>Audio</b>	<b>9</b>
Music	9
Sound Effects	10
<b>Game Experience</b>	<b>10</b>
UI	10
Visual & Auditory Tells	10
Controls	10
Progression	11
<b>Development Timeline</b>	<b>11</b>



## Introduction

### Game Summary

Train to Die is an arcade-inspired co-op resource-management rogue-like about some reverse isekai-d alchemists who use a train to run from monsters while gathering resources between hordes to craft tools and weapons to reduce the horde.

### Inspiration

#### The Binding Of Isaac

Isaac's item system has inspired the Ingredient system in our game. Each ingredient added to your potion gives it a unique effect, and each combo has unique synergies together.

#### Noita

Noita's dynamic wand system is the inspiration for the modular flask weapon that can be upgraded using ingredients found in the world. Each ingredient has a different effect and stacking them makes unique combos.

## Cube World

*Cube World's* destructive voxel environment is the inspiration behind the style and the reason for having a semi voxel world.

## Borderlands

The *Borderlands* combat system with different enemy types and weapon effects forces the player to decide what gun they use to decide how best to handle each type of enemy. This strategic thinking is also a boost towards cooperation with your team to coordinate each person's role in combat, which is a feeling and system that fits well in the chaotic fast-paced *Train to Die*.

## Unrailed!

The game becomes quite chaotic very quickly and the players are running around trying to figure out what to prioritize until the train inevitably breaks down or runs out of rails. The *Unrailed!* system of having to take care of the train and grab resources to continue had some sway in the final decision on what the "challenge" is and seemed to fit the vision very well.

# Player Experience

In a shared screen, the players must coordinate and cooperate juggling several tasks in order to keep the horde away and keep the train running. At semi-regular intervals the train will come to a stop to allow the players to gather resources from the ground until the horde continues the chase. The player should feel the pressure from the fast-paced gameplay.

## Platform

The game is developed to be released on Windows PC

## Development Software

- Godot version 4.2.2 as the engine.
- Paint.net for graphics and UI

- Blender version 4.1 for specialized graphics
- **Unknown** for Music and SFX

## Genre

Co-op, Rogue-like, Resource Management

## Target Audience

With mechanics that are simple to grasp but difficult to master as well as time and resource management in a fast-paced environment, the game is marketed to **action game players** who like fast paced environments to make split second decisions that could tip the scales of the game

## Concept

## Gameplay Overview

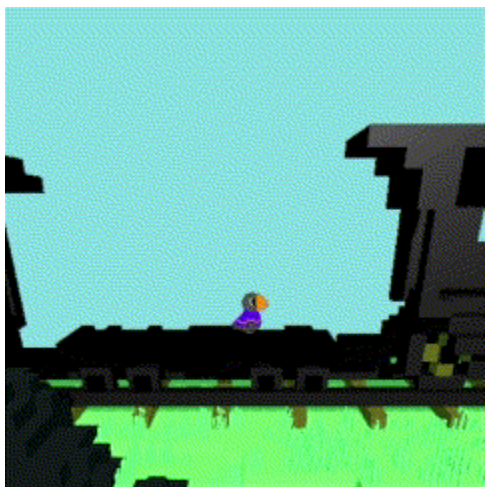
The player and company, if any, use a variety of weapons - some crafted and maintained - to push back a horde of monsters to prevent them from killing the players and destroying the train. Once the horde(s) has been pushed back enough and enough time has elapsed, the train stops to allow the player(s) to catch their breath and collect resources. The horde comes back after some time, and the players ride away with their loot. This loot is then used to alter the player's weapons, build more wagons and crafting stations/components and to repair and maintain the locomotive for as long as possible.

## Theme Interpretation (Magic and Necromancy)

Shadows and Alchemy, is interpreted as the player using various potions and magics to alter their own attacks as well as support items on train while the undead attack the player and the train.

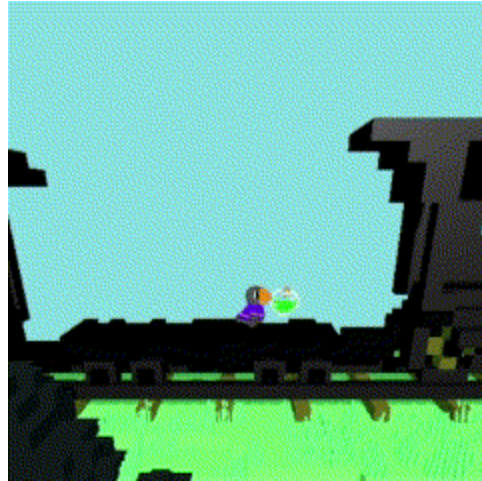
In an action game, the player combines various materials and magic systems to change their attacks' status effects and alter the attack behaviors. The status effects should be considered as each enemy is weak or strong to different effects. Additionally some effects can synergize with the effects another player has, such as laying down smoke and igniting it. **Conjure and transmute attacks to defeat the undead.**

## Primary Mechanics

Mechanic	Visual Example
<p><u>Normal Attack</u></p> <p>The player swings their 'hammer' to <b>whack</b> the undead. This can also be used to destroy the <b>environment</b> to gather <b>resources</b>.</p>	
<p><u>Card Pull</u></p> <p>The four possible wagons that can be made are chosen at random each time a wagon is made. This forces the player to choose carefully what they need to keep the run going.</p>	

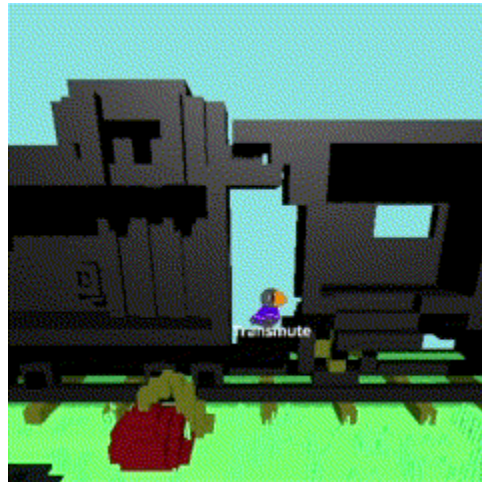
### Flask Transmutations

The basic **Flask attack** can be **modified and transmuted** into something else entirely with in-world **ingredients**. These transmutation effects stack and create **synergies**!



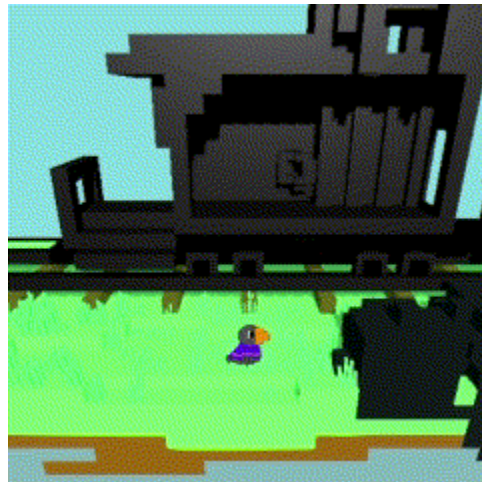
### Wagon Building

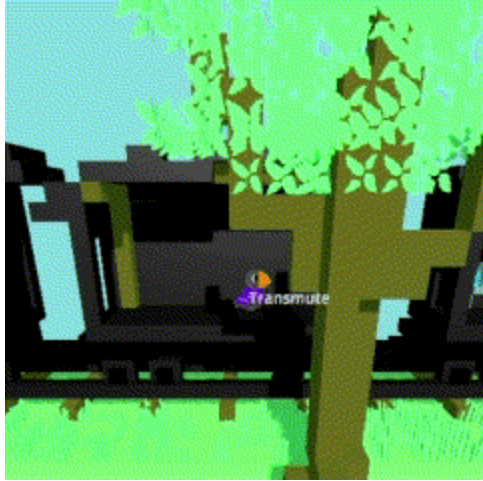
Wagons can be added in front of the train's caboose to allocate more space for different types of wagons to 'level up' while also causing the player to travel further to maintain the train.



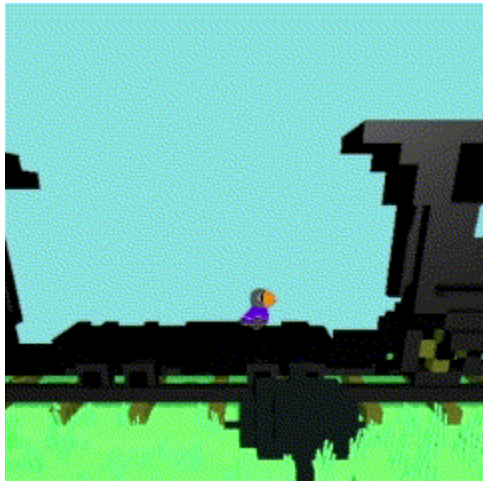
### Destructible Environment

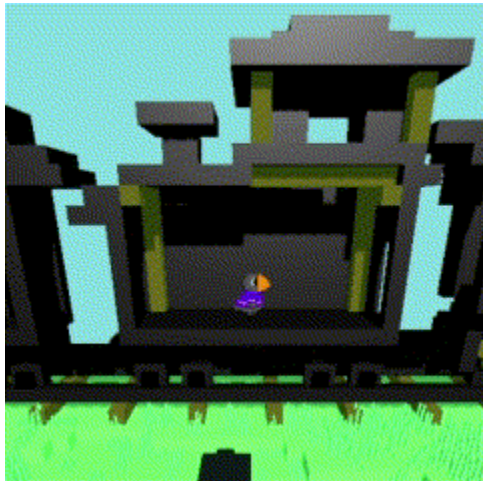
Nearly every block is destructible, some will drop resources that can be used, and others do not. When gathering resources underground, the player may create their own obstacles for returning to the train.



<p><u>Wagon Components</u></p> <p>One or more components can be added to a wagon for different functions like Crafting, Transmuting, Shooting, and aiding in maintenance.</p>	
<p><u>Respawn</u></p> <p>Players can be respawned during multiplier at the respawn wagon. This can only happen once and another player must activate it. The user counter is refreshed per departure.</p>	

## Secondary Mechanic

Mechanic	Visual Example
<p><u>Charged Attack</u></p> <p>The player charges a power meter which translates to the distance a <i>flask</i> is lobbed. This flask usually acts as a ranged AOE attack.</p>	
<p><u>Train Maintenance</u></p> <p>The locomotive is cooled and</p>	

<p>fueled to prevent the boiler from exploding and keep the train running. The Wagons and other train components can be repaired at the cost of resources.</p>	
<p><u>Overheat</u></p> <p>The gameplay is sped up to double-time which allows players to complete tasks and perform actions faster while risking the train boiler to explode.</p>	
<p><u>Wagon Destruction</u></p> <p>A wagon can be destroyed by the <b>Hord</b>, <b>Enemies</b>, <b>Explosives</b>, <b>Flasks</b> - if the player has the correct transmutation - losing its functionality but in turn making space for a different type of wagon.</p>	
<p><u>Status Effects</u></p> <p>There are 4 status effects; <b>None</b>, <b>Holy</b>, <b>Flame</b>, <b>Corrosion</b>. <b>Shade</b> is weak to <b>Holy</b>, <b>Zombies</b> are weak to <b>flame</b>, <b>Skeletons</b> are weak to <b>Corrosion</b>. All are neutral to <b>None</b>.</p>	

# Art



## Theme Interpretation

A 2.5D style was chosen as a nod to popular indie games and classic casual arcade games, as well as for simplicity. The effect is a mix between digitally drawn and voxel-based assets which compliment each other as both are a staple of popular indie games.

## Design

Digital 2D sprites are made and layered at different depths to give a 3D illusion while voxels are used for most static objects like wagons and terrain to show that something is destructible.

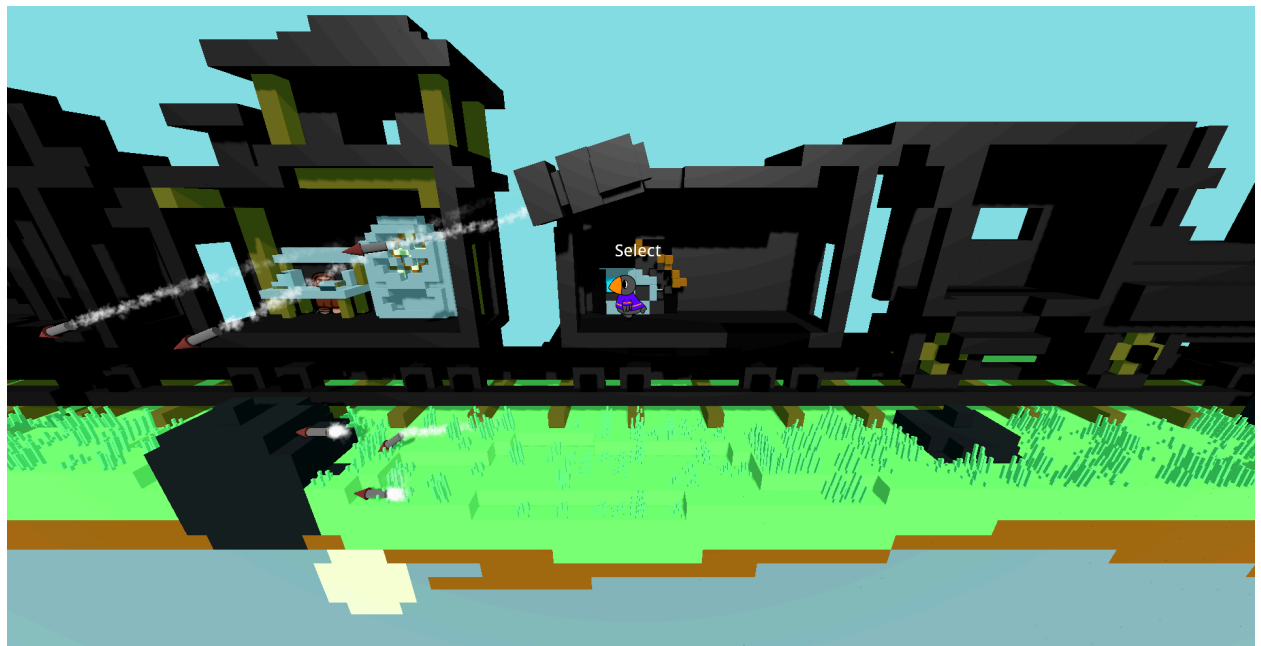


Image is only an example and does not represent all game content\*

## Audio

### Music

To emphasize the pressure and fast pace, the music will be based on the instrumental from the Contemporary Hip-Hop artist Khantrast. With jazzy instruments, but a fast tempo and big band style with a touch of latin/caribbean.

## Sound Effects

The simplicity of the game will be reflected in the sounds. For ease of production all sounds are mouth effects.

## Game Experience

### UI

Timer for how long the player has survived

Counters for resources

Every upgrade for wagons, components, etc, has four options

Main Menu is a playable train scene, where you navigate the carriages as the menu

## Visual & Auditory Tells

Hammer shakes to show the charge attack is full

Flasks emit light to increase visibility

Characters grunt for jumps and dashes

Characters groan when charging an attack and picking up resources

Characters say "Hyah" on a charged attack

Undead latch onto the train

Undead Charge all attacks and groan when performed

The void whispers when its near the Caboose

Wagon voxels are destroyed as it gets closer to being unsalvageable

Train Whistle when stopping and resuming the journey

## Controls

Normal controls

**A, D** and **Space** to go left, right and jump  
**Shift** to perform a dash  
**Arrow Keys** for upgrade and attacks  
**S** to place a bomb  
**Ctrl** to cancel an attack  
**E** to interact

State overrides:

**Space** to jump on/off the train at set sections  
**Arrow Keys** to aim when mounted to a turret  
**E** to shoot with turret when mounted  
**Ctrl to Dismount a turret**

## Progression

### Early Game

The foundational resources are Coal, Ore, and Magic Powder. At the start, the player finds a section of the caboose that appears to be missing something. Feeding resources to craft the station that belongs there reveals the Transmutor - a device that alters the properties of items to obtain more advanced resources. The player will notice they can only craft Magic Powder and Ingots. Conveniently this is used to make a Coal Tender - the only wagon the player can make at the moment.

After the tender is made, the wave of shade rushes in and the player must now fuel and start the train to depart. If the player fails to start the train in time, the train will be consumed by shade and will slowly disintegrate to nothing. The train almost begs for coal (if not already loaded full) so the train can outrun the shade (Later on the player can also attack the shade to stop it/slow it). Once out run, the train arrives at a station where recipes can be obtained. From here, the player is exposed to the decisions they must make for the rest of the game.

## Development Timeline

### MINIMUM VIABLE PRODUCT

#	Task	Department	Status	Finish By	Notes
1	Design Document	Other ▾	Partial ▾	July 17	Need to add more gifs and maybe make it prettier
2	Player Movement	Coding ▾	Finished ▾	July 17	
3	Player Art and Animations	Art ▾	Finished ▾	July 17	
4	Player Attack and Animations	Art ▾	Finished ▾	July 17	
5	Destructible Environment	Coding ▾	Finished ▾	July 17	
6	Train and Wagon Assets	Art ▾	Finished ▾	July 17	
7	Component Building	Art ▾	Finished ▾	July 17	
8	Slot Upgrade UI	Coding ▾	Finished ▾	July 17	
9	Camera Follow for Multiplayer	Coding ▾	Finished ▾	July 17	
10	Destructive Wagons	Coding ▾	Finished ▾	July 17	
11	Mounted Machine Gun	Coding ▾	Finished ▾	July 17	
12	Resource Drop and Storage	Coding ▾	Finished ▾	July 19	Just need a place to drop off
13	Undead and Player Health & Damage	Art ▾	Finished ▾	July 19	
14	Item Counter UI	Art ▾	Finished ▾	July 19	UI to show how many for each item the players have stored
15	Component Functionality	Coding ▾	Finished ▾	July 19	Crafting systems @export array of item enum for ingredients and a list of item counts.

16	Wagon Building	Coding ▾	Finished ▾	July 20	Looking good 😊
17	Flask Synergies	Coding ▾	Finished ▾	July 20	
18	Train Move and Terrain Generation	Coding ▾	Finished ▾	July 21	Might add functionality for hills and such so that the train isn't always going horizontally
19	Undead Horde Chase	Coding ▾	Finished ▾	July 22	Area collider that checks for any other bodies/areas that do damage. Moves the hoarder further back and changes the sprites based on the "undead count"
20	Undead Horde Art	Art ▾	Finished ▾	July 22	
21	Undead Art	Art ▾	Finished ▾	July 22	
22	Undead Attack + Train Destroy	Coding ▾	Finished ▾	July 24	Just need an area shape and a timer
23	Fix Player Death	Coding ▾	Finished ▾	July 25	If all players are dead, go to the respawn scene for a few seconds and go to the menu.
24	Undead Destroys Wagons	Coding ▾	Partial ▾	July 26	To keep it simple, an the bomb script will be reused but it will not damage the Undead
25	Train Stops	Coding ▾	Finished ▾	July 28	Have a timer that lasts longer after each stop. Just need to implement "once horde is dead" bool
26	Train	Coding ▾	Partial ▾	July 31	Maintenance can

	Maintenance				reuse the crafting script. Just need the function to rebuild the blocks from the original scenes. Could build a new scene and delete the old one after.
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### BEYOND (if ahead of schedule / extra time)

#	Task	Department	Status	Notes
1	More ingredients	Coding ▾	Not Started ▾	Give the player more possibilities for interesting flask synergies
2	Multiplayer Support	Coding ▾	In Progress ▾	This will be disabled in the Jam submission build. If it is completed before the deadline.
3	Music	Audio ▾	Partial ▾	
4	Intro story	Other ▾	Finished ▾	An intro story that teaches the player the base game mechanics
5	Meta progression	Coding ▾	Not Started ▾	the player unlocks new ingredients, more wagons, more wagon weapons types etc on each playthrough
6	Custom VFX for each ingredient	Art ▾	Partial ▾	Each embedded ingredient in the flask will change the visuals when thrown. Example toxic weed will create a purple skull clouds
7	Biomes	Art ▾	Not Started ▾	Include different biomes that spawn randomly as your train progresses through the lands
8	Character Choices	Art ▾	Not Started ▾	Add multiple playable characters to choose from before every game.

9	Enemy type	Other ▾	Not Started ▾	Create multiple enemies that each have their own attack pattern and weaknesses
10	Extra Wagons	Other ▾	Not Started ▾	have more than 4 wagon types so that each time you build a wagon the exact types will be random. You must choose between the 4 given - like playing your hand with cards