Mandira

SVGames

Change History

Revised 2/15/2025

Revised 3/12/2025

Revised 5/1/2025

Table of Contents

Game Concept

The main concept of the game is that the player is an adventurer who goes out to explore a dangerous temple found deep within a mountainous, forest area. Within the temple, the player must solve puzzles to advance further within the temple and find the treasure hiding at the very end. The player must be careful, as the environment within the temple is not friendly and could end all hopes of finding riches.

Game Mechanics

Main Mechanic: Grappling Hook

The main game mechanic involves the use of a grappling hook. The hook will be attached to a gun and can be shot at different objects throughout the map. The main idea is that when the hook is shot, it can attach to whatever object it collides with. With this, the player can use it to push or pull the object, if possible, and can ultimately use it as a swinging point to traverse the area the player is in. Included in the swing mechanics are momentum physics. With each swing, speed buildup is involved and may be used to help players traverse even larger gaps.

Secondary Mechanic: ~~Fire Arrow Attachment~~ Fire Grapple

~~In addition to the grappling hook, there is an additional attachment that can be swapped out. The other attachment is an arrow attachment that you can light on fire. These arrows are consumable drops that can be found all throughout the map. When a player picks one or more up, they have the option to switch to the arrow. They can use it to light distant objects on fire to open different areas and progress.~~

Instead of making a separate attachment that the player can use, the grapple itself can be lit on fire for later use. The flames can be used to light unlit objects on fire which, in turn, can open doors for exploration. The flame can be extinguished by the player and the grapple would need to be set on fire again for later use.

Trap Mechanics

Throughout the temple, there are different traps implemented that the player must get around to progress through the level. Each of these traps can hurt the player and can force a game over if the player is hurt too much. There are various traps involved including:

- ## Spike Traps

   These are placed around the map and are a hinderance to the player. There are different versions, such as retractable spikes or spikes that can be deactivated when a button or pressure plate is stepped on. They cause a lot of damage to the player

- ## Fire Traps

   ~~Throughout the map, there are various flamethrowers that block off different areas for progression. They can periodically activate and, just like the spike traps, can be deactivated. The player can take a lot of damage with these traps.~~

   Fire traps were not included in the final delivery due to time restrictions.

- ## Arrow Traps

   ~~There are various crossbows placed that fire arrows automatically in a designated direction. The player could pick up these arrows and use them if needed.~~ The player can deactivate them but can also take damage.

   Rather than having crossbows shoot automatically at a constant rate, if the player gets too close, they'll trigger the trap, and an arrow will be shot. The player is also unable to pick up the arrows that are shot.

Sticky Wall

Within the temple, there is an object that slows the fall of the player. If the player collides with the object, they can slide down at a slower rate than gravity. This is meant to allow the player to reach harder to reach spots throughout the levels.

Inventory

The player has the ability to pick up highlighted items they find around the world. These items can be used to open doors and unlock different areas to explore. The player can switch between items in their inventory and use whichever item is most fit for the situation.
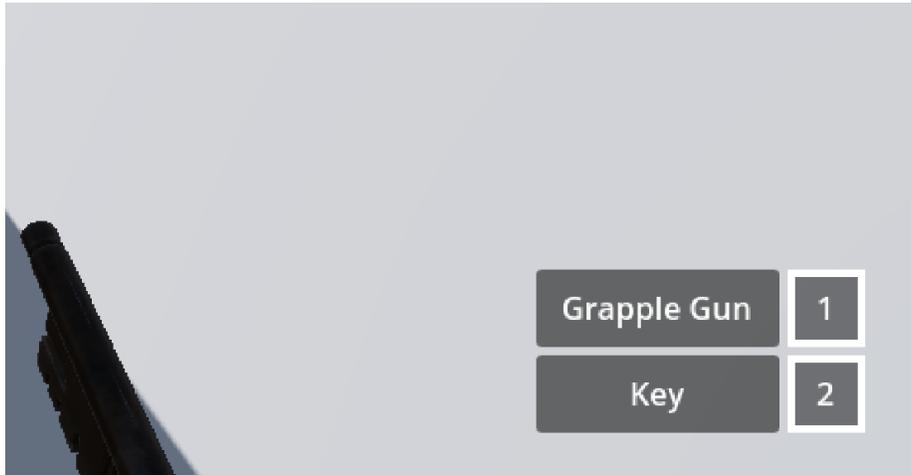
Story

The story follows a player named Ian.

At the end of the story, the player may choose to escape with the temple with the gold the player has accumulated or head deeper into the temple to the source of the REDACTED.

Ending 1: Escape the temple

The player leaves the temple

Ending 2: Close the temple ruins

The story was ultimately discarded due to overall time restrictions. We had instead focused on creating a game that was fun and visually pleasing, creating levels and implementing mechanics specific towards that goal. As a result, the story was unable to be fit into the game in a manner that made sense with how the game mechanics were introduced to the player.

Art and Sound

Art

The design of the game is meant to feel similar to The Legend of Zelda: Breath of the Wild. The inside of the temple is meant to feel dark and ominous. With a budget of $0 and a time frame of 3 months, this could not be realized in its entirety. Various asset packs were used in combination to meet the requirements we had initially set out.

Outside World

To create the nature of the outside world, the Stylized Nature MegaKit by quaternius was used. Included in this asset pack were various trees, plants, and rocks that could be used. These were used to build the forest like environment surrounding the temple.

In addition, to build the terrain surrounding the temple, a plugin called Terrain3D was installed. This allowed the creation of mountains and valleys and was used to surround the temple.

Temple

The temple was built using the Modular Temple pack by Fertile Soil Productions. Included were many different temple building pieces that fit together for construction. The files were initially in FBX format, so Blender was used to convert them to GLTF format.

Inside Temple

For the inside of the temple, the Low-Poly Modular Dungeon Pack by MrScientist was used. Contained within it were wall and decorative assets that helped depict the dark and ominous tone.

Player Model

The character model used was a free Low Poly Character Pack by Adam Hajdu. This character was the one that looked the most like an adventurer and fit our idea. There is a character shadow created with it as well.

Sound

The background music in the game is meant to make the player feel tense when moving throughout the temple. The music we used is Fantasy Exploration by alkakrab. The music fits the idea of exploration but also creates a kind of soft pressure that rings throughout the player's gameplay.

Levels

Level 1

The first level serves as the introduction/tutorial level to the player. The player learns about the different mechanics that are involved within the game. They learn how to use the grapple, pull and interact with objects, and fire usage.

Level 2

The player is given their first test of the undergrounds of the temple. They are meant to grapple and use objects within the temple to activate different pressure plates. Once completed, the player must then solve a maze and light the braziers throughout to open the door to the next level.

Level 3

The last available level requires the player to complete four different areas to open the main level door. They must avoid various traps and obtain clues that will help them later in the level. Once the main door is open, the player must use the clues obtained to solve the final puzzle of the level. Once solved, the player will have completed the game.


Playground

A playground showcasing all the different level mechanics is also included in the game as a playable level. The player can push and pull objects as well as test main mechanics seen in the previous levels. Playground mechanics include the following

o   Pressure plate and door interactions
o   Key and door highlight interactions
o   Torch indicators
o   Sticky wall interactions
o   Dynamic blocks with weight applications
o   Static blocks in the sky for grappling
o   Spike and arrow traps
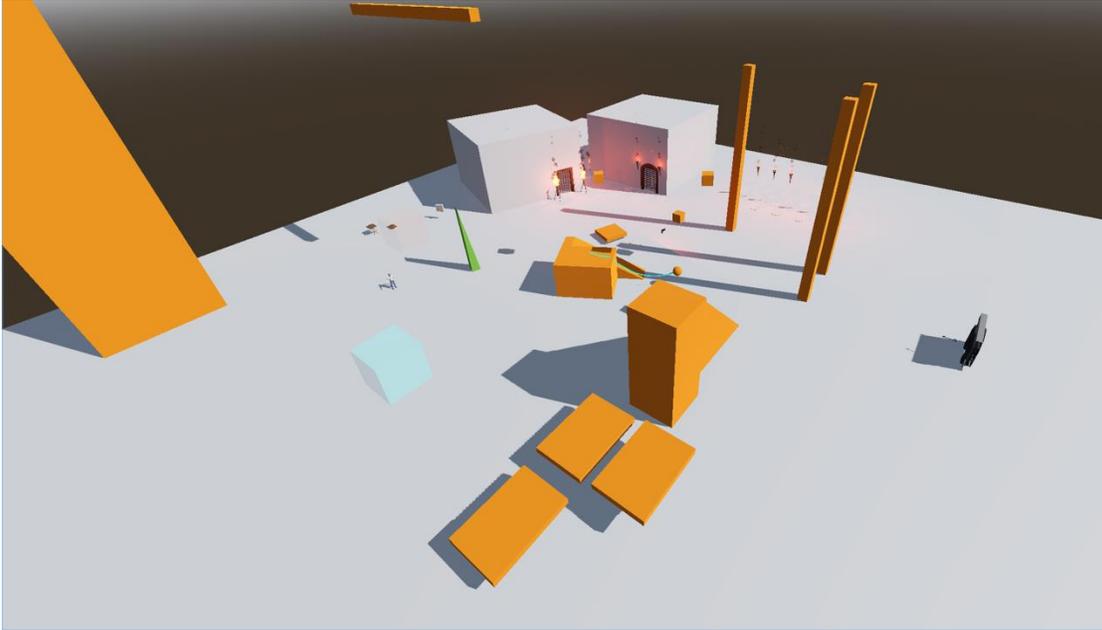
Accessibility

An options menu is also included in the game for better accessibility to the general market. The player is able to modify the audio of both music and SFX, modify the graphics to change the resolution, and modify the gameplay through input key remapping.
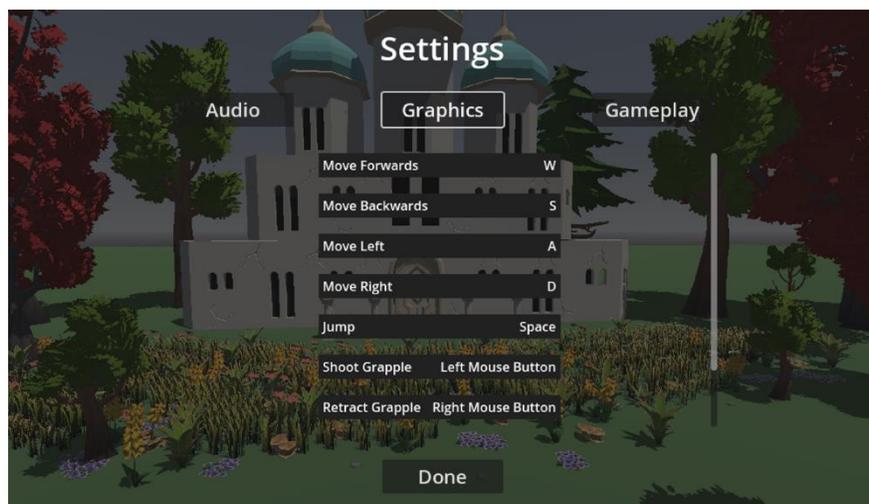
Market Overview

Mandira was developed to be played on PC and is planned to be distributed via the Steam platform. PC games have shown to have increasing market share and value over the video

game market. Additionally, the PC platform has been shown to be more stable compared to other platforms which require consistent version updates with each new release.

We intend to target the E10+ (Everyone 10+) ESRB rating. The game introduces mild fantasy violence in the story as well as limited blood on various assets used in the game.

Team

Sovann Sam – Software Engineer, Game Design and Creative Director

Joey Vongphasouk – Software Engineer, Engine and Tools Programmer

Product Backlog

Trello Board