Threshold

Game Design Document

Version History

Time/Date	Author	Changes
2/3/21, 11:06 a.m.	Kathryn Friesen	Adding basic elements; formatting
2/14/21, 7:43 p.m.	Kathryn Friesen	Adding things from my journal
2/22/21, 1:21 p.m.	Kathryn Friesen	Being more detailed about dungeon delving and inventory
2/26/21, 4:32 p.m.	Kathryn Friesen	Adding our new title; other tweaks
3/3/21, 1:10 p.m.	Kathryn Friesen	Combat mechanics!
3/14/21, 2:34 p.m.	Kathryn Friesen	Happy Pi Day! (Also adding to combat mechanics)
4/26/21, 9:51 p.m.	Kathryn Friesen	Adding other documents to the GDD; notably, the script document and the paths document.

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Game Overview

Class, Team, & Requirements

This project was developed by a small team of students at Texas A&M University during the Spring 2021 semester. The course was an online 16-week game development vertical studio with Professor Hadeel Ramadan.

Our Team

Alex Babineaux – Artist, Rigger
Reagan Biediger – Audio Design, Modeling
Alyssa Cassity – Programmer
Kathryn Friesen – Game Designer, Project Manager, Generalist
Amelia McCarthy – Artist, Animator

Requirements

As part of the studio, we were given parameters for the project prior to development. These included:

- Must use Unreal Engine 4
- Must create a 3D game
- Must have at least two 3D characters:
    - One character has an idle, walk cycle, and an action animation
    - One character has an idle and an action animation

The first two weeks of the semester were spent forming teams and presenting game pitches. The remaining fourteen weeks were divided into three milestone deadlines. Milestone 1 was early in the semester to finalize our game concepts; milestone 2 acted as our midterm presentation; and milestone 3 was our final presentation on the last day of the semester. It should be noted that at least one full week, if not more, was lost to the historic winter storm in February as some team members were without power or internet.

Executive Overview

Threshold is a casual adventure where the player explores rooms that open randomly. The player combats enemies using a hack-and-slash mechanic where clicking strikes the enemy. Items in the dungeon give hints to the player character's past. Equipping these items advances the storyline and differentiates multiple endings.

Genre

- Casual adventure, hack n' slash

Features

- Randomly generated exploration
- Item collection defines the narrative
- The player can discover multiple endings
- Casual hack 'n slash combat

Target Audience

Everyone 14+

Pillars

- *Casual.* No matter the situation, the player feels at ease.
- *Exploration.* Peeking into every corner is not only possible but encouraged.
- *Expression.* Equipping items and delving into the storyline is at the player's discretion.
- *Variety.* Each playthrough of the game will feel different as rooms open in new patterns.

Gameplay and Mechanics

Play Flow
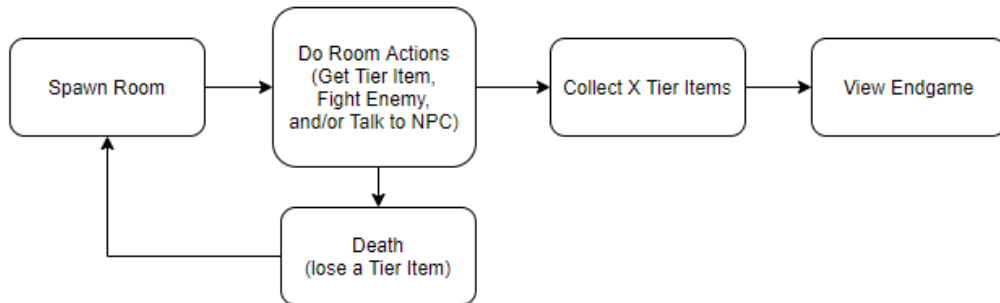
1. Enter a room. (Spawn room.)
   a. Collect item in the room.
   b. Talk to NPC in the room.
   c. Defeat enemy in the room.
   d. Use the basin in the room to heal.
2. Die, respawn, and lose an item.
3. Enter rooms until all Tiers are filled with items.
4. Defeat final path enemy.
5. View ending.

Mechanics

General Mechanics

- Point-and-click movement
- Isometric camera
- Hack-and-slash clicker combat
- Dialogue boxes for interacting with NPCs and enemies
- Inventory and equipped items

Controls

- Left click and hold – Moves the player through the world
- Right click – Interacts with NPC, picks up an item, uses a basin, or interacts with an enemy
- Right click an item in the inventory – Equips/unequips an item
- Left click – Depresses/activates buttons within menus and UI
- Left click over an enemy – Strikes the enemy with a physical attack that damages the enemy's health

- Right click over an enemy – Strikes the enemy with a spiritual attack that drains the enemy's defense to heal the player
- Tab – Opens and closes inventory HUD
- Escape – Closes the game

Exploring Rooms

- The first room and the final path rooms of the dungeon are predetermined. All other rooms are spawned by random chance.
- The player only has access to one room at a time.
- Each room has one exit and one entrance.
  - This is excluding the first room, which only has an exit, and the final path rooms, which only have an entrance.
- A room will have one of the following features:
  - An NPC to interact with
  - An item to collect
  - An enemy to fight
  - Some rooms have a basin in addition to one of the above.
- Room exits have a door that prevents the player from advancing until the room's tasks are complete.
  - If the player clicks on the door to leave before they have finished the room's task, a warning dialogue will popup suggesting they complete the task. The player cannot exit a room until the task is complete.
- When the player completes the room's task, a new room spawns. The player can now click on the door to open it and reveal the new room.
- The player cannot return to a previous room.

Interacting with NPCs & Enemies

Interacting with NPCs follows this convention:
- Hovering over an NPC will highlight them.
- Right-clicking an NPC will open a dialogue box.
- The player can click the "next" button in the box to advance the script.
- The player can close the dialogue box at any time by selecting a "done" button.
- Following the script, an NPC has no further action.

Interacting with enemies follows this convention:
- Hovering over an enemy will highlight them.
- Right-clicking an enemy will open a dialogue box.
- The player can click the "next" button in the box to advance the script.
- Following the script, the player must make an opening attack against the enemy. This initializes combat.

Each time the player interacts with an NPC or an enemy, the script advances to the next conversation. This way, the player is encountering new dialogue in every room they unlock. When the player reaches the end of the available script, the script will loop starting with the next interaction, where the first dialogue will play again.
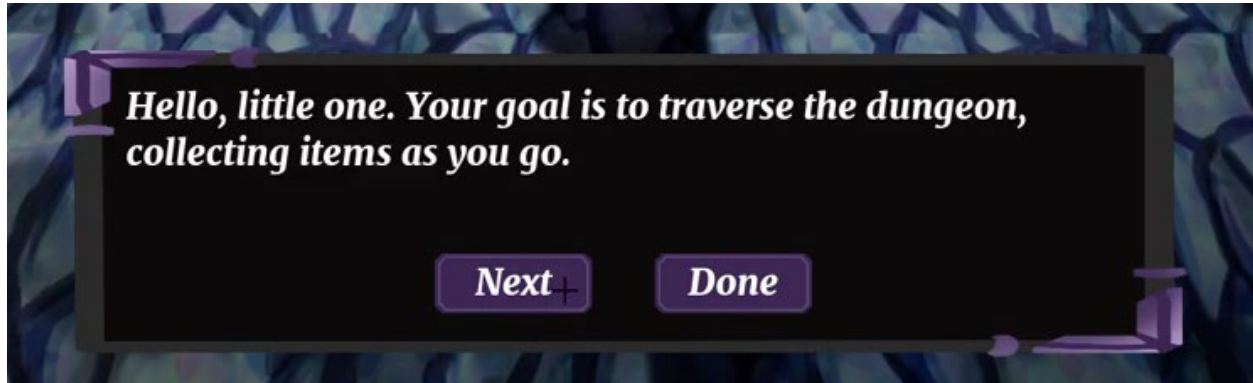
Inventory & Items

Inventory has two elements:
- Tier Slots
- General Inventory

Tier Slots are where equipped items reside. The first room in the game is a room with three tier one items. Once the player has equipped their tier one item, that item cannot be removed from its place. It is immutable.

An item must be of the tier of the tier slot it is equipped to. A tier three item cannot be equipped to a tier two slot and vice versa. The player can collect multiple items of a single tier and swap them out for varying play styles by equipping/unequipping those items. This excludes, of course,

the immutable first tier item. The player can only collect items of a tier that is adjacent to the maximum tier they have equipped. For instance, a player with a tier three item equipped cannot find a tier five item in a room, but they may find tier two or tier four items.

When the player equips all but one final item, a special room spawns with a final boss and their last tier item. The last item received is determined by a tally of their tier items equipped; the majority of one path will determine their final item and the ending.

For example:
1. A player selects the Imp initial item when they enter the game. They cannot change the item in this tier.
2. Along the way, they pick up more items. By the end of the game, they've equipped more items of the Elder path than the Imp or Pharisee paths.
3. When they have equipped all but the last tier item, the next room that spawns will be a boss room containing that item.
4. Before defeating the boss, they can equip the final tier item at the front of the room.
5. This item, since the player has prioritized Elder path items, will be the final Elder path tier item.
6. When they defeat the boss, they will view the final cutscene for the Elder path.

All items are represented by the same scroll 3D model, so the only difference between them is their names, descriptive text, attribute points, and inventory icons. For the minimum viable product, there are four tiers. This allows for an initial item chosen by the player at the beginning of the game, a final item determined at the conclusion of a path, and two items the player chooses during gameplay to define the path. Three items would leave the player to only choose one defining item, therefore removing the possibility of other paths beyond the initial item's path. Additional middle-tier items would be a key part of continued development, allowing the player to pick and choose from many items, stepping in and out of each path before coming to the end of the game. For this reason, it is important for the backend to allow easy additions to the item list/inventory slots.

The player can pick up items outside their path while exploring. If the player chooses, they can unequip an item from a middle tier and equip another item of the same tier from a different path. This way, the player can choose to fight enemies with a certain "build" defined by their item attributes. The general inventory space is where all unequipped items reside. For the minimum viable product, this would be a minimum of 12 item slots in the general inventory.

All items have these attributes:

- Name (e.g., Prayer Beads)
- Descriptive text
- Combat attributes (Defense, Wisdom, and Attack)
- A path (not visible to the player)

Combat

Combat in *Threshold* is a hack-and-slash system. To meet our casual design pillar, it is important for our combat to be easy-to-understand. Health and defense should be visible and simple to grasp.

The player character will not level up. Instead, they receive power from their equipped items. The player is limited in how many items they can equip at one time, forcing them to adopt a particular playstyle.

Attributes & Attribute Points

Items hold a value equal to their tier number. This value is divided among the three attributes. For instance, a tier three item could have a +2 to DEF and a +1 to ATK. When the player equips an item, these attributes are added to the player's current attributes.

Defense (DEF) is the amount an attack must overcome to deal damage to their target.

Attack (ATK) is the physical action of striking an enemy and is bound to the left mouse click.

When left-clicking an enemy, this occurs:
- Enemy's DEF is subtracted from the player's ATK.
- Player's DEF is subtracted from the enemy's ATK.

Wisdom (WIS), is a spiritual assault on an enemy's defenses and is bound to the right mouse click.

When right-clicking an enemy, this occurs:
- 20% (in integers, rounding up, minimum of 1) of the player's WIS score is removed *permanently* from the enemy's DEF.
- The Player heals for twice the amount removed from the enemy's DEF.
- There is a minimum DEF for all creatures, so DEF cannot become negative.

COMBAT OVERALL

1. Player right clicks an enemy to interact with them.
2. The enemy speaks prior to combat.
3. Player makes the first strike against an enemy at the end of the dialogue.
4. Enemy attacks the player in retaliation.
   - The enemy may use either ATK or WIS, depending on its type.
5. Blows are traded until the player or the enemy runs out of health.
6. When an enemy dies, it no longer attacks the player.

Player Death

The player's death and respawn follows this progression:

1. When the player dies from combat, they appear in a unique respawn room with full health.
2. The highest tier item acquired at the time of death will be destroyed. *
3. A dialogue box warning from the Elder Figure opens upon respawn.
4. Once the player has clicked through this dialogue, they will be able to open the door to the next room, which will be randomized.

* Destroying an item is the maximum penalty for death in *Threshold* aside from time lost to respawning. The destruction of an item upon death follows this convention:

- IF the player has one item of their most recent tier, THEN
    ○ That item is destroyed.
- ELSE, IF the player has multiple items of their most recent tier, THEN
    ○ The equipped tier item is destroyed, but the others remain.
- ELSE, IF the player has multiple items of their most recent tier BUT none of them are equipped, THEN
    ○ One of the items at that tier is destroyed at random.
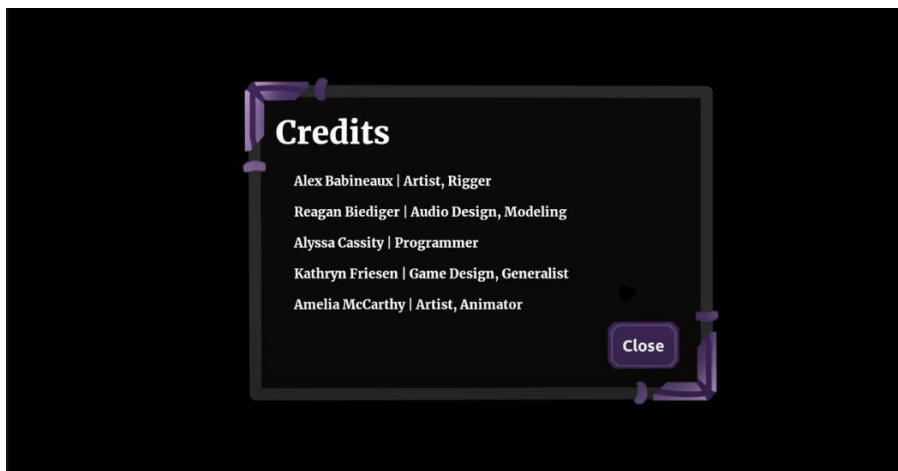
Interface

Screen Flow
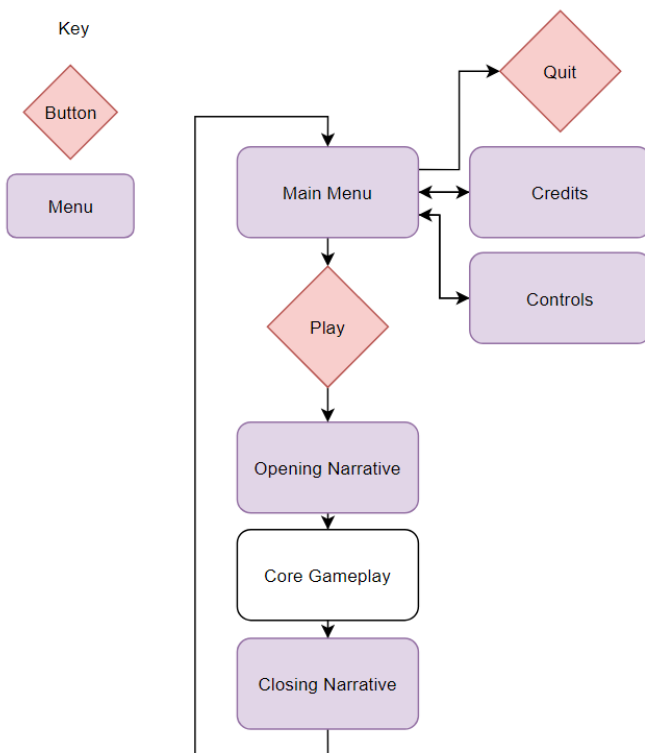
Menus
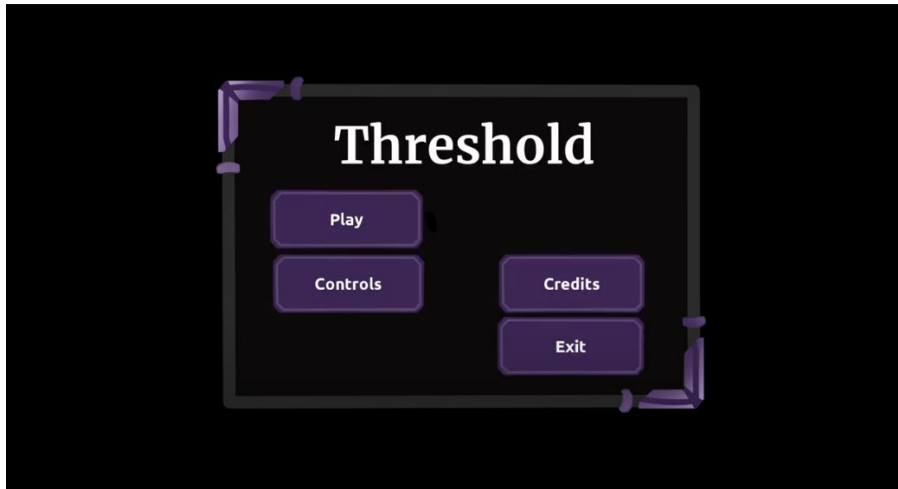
Main Menu
   The game opens to this screen after the user initializes the game file. The Title of the game is clearly visible.
   Buttons: Play (Leads to opening narrative and then full game.), Credits, Controls, Quit (Exits the program.)

Credits
   Attributions for all developers.
   Buttons: Close (Returns to the Main Menu.)
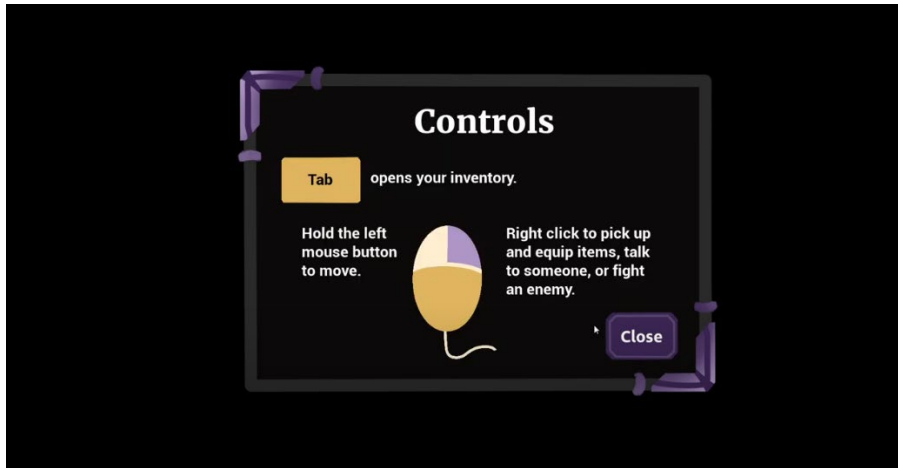
Controls

A menu that shows how to interact with the game, notably opening inventory, moving around the world, and interacting with items/NPCs.

Buttons: Close (Returns to the Main Menu)

Opening Narrative

A slideshow players click through prior to gameplay to set the scene.

Buttons: Next (Advances the slideshow until it is complete, whereupon the main catacombs level opens.)

Closing Narrative

A second slideshow players click through to see the ending they received, defined by their path.

Buttons: Next (Advances the slideshow until it is complete, whereupon the Main Menu opens.)

HUD

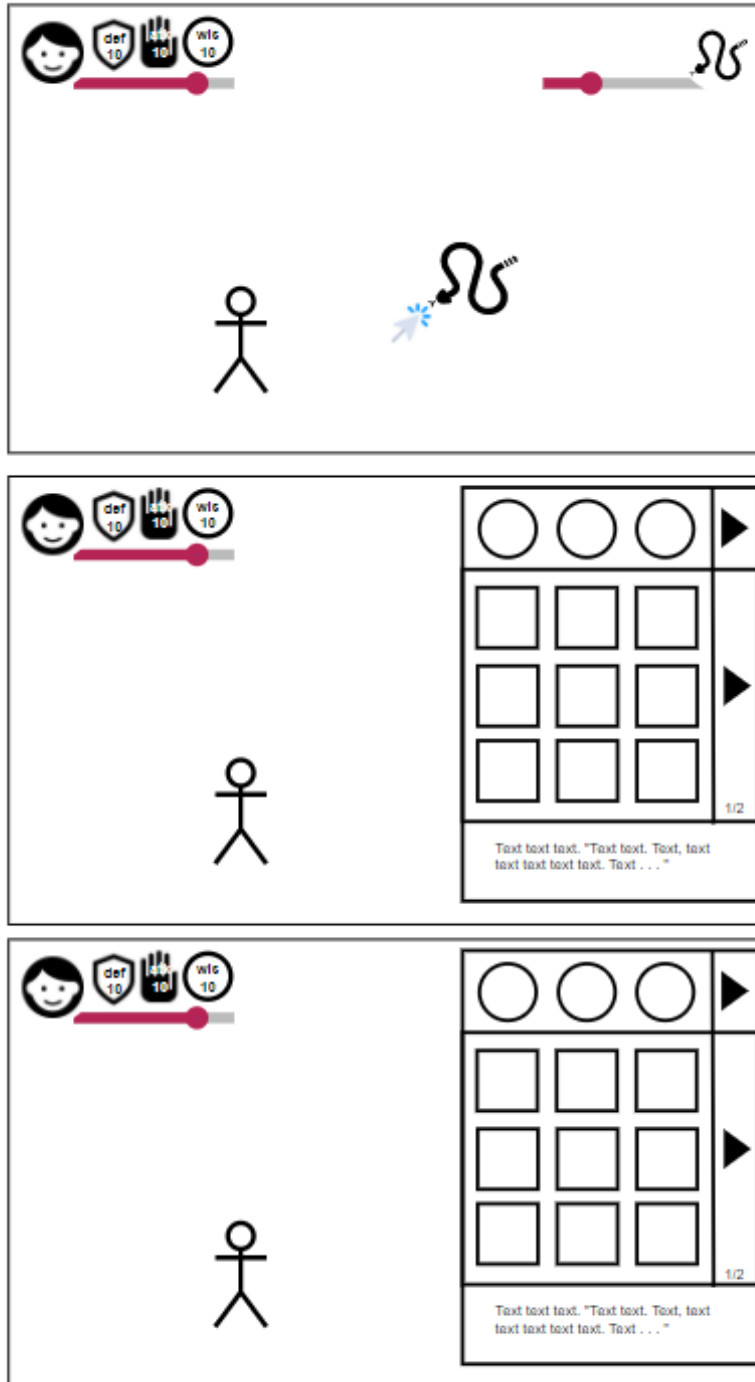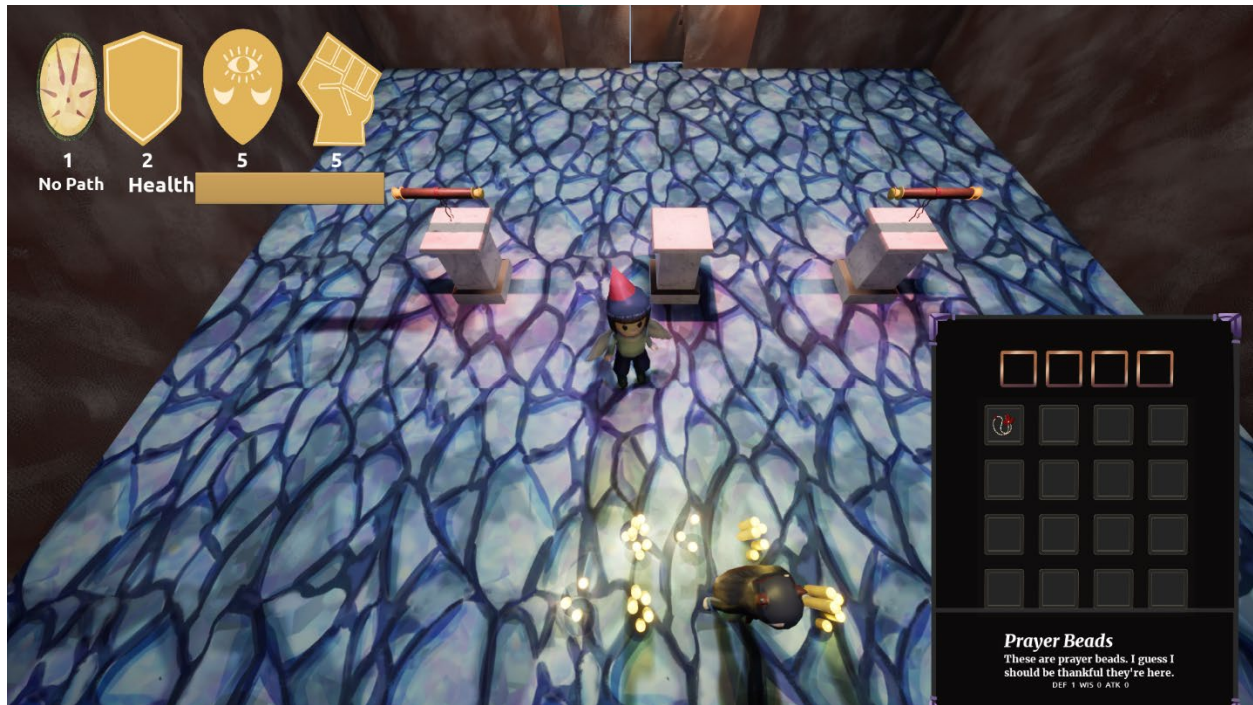Our HUD includes two major elements: combat statistics and inventory.

Early HUD development

HUD as seen in the final game

Combat Statistics are always visible. They include:

- Profile Image – A circular icon specific to the player character and each enemy type.
- Defense – Defines the player's resistance to physical attacks.
- Wisdom – Encapsulates the player's spiritual (or magical) strength.
- Attack – Refers to the player's physical strength.
- Path – The narrative branch the player is currently within.
- Health – The livelihood of the character; how long the player character can last against physical attacks.

Inventory is opened and closed using the tab key. To equip an item to a tier slot, the player right clicks the item in their inventory. The inventory is separated into three parts: Tier Slots, General Inventory, and Descriptive Box.

Hovering over an item displays its characteristics. See *Inventory & Items* above for more details. Right-clicking an item in a general inventory slot equips the item to a tier slot and removes it from general inventory. Right-clicking an item in a tier slot unequips the item and removes it from the tier slot.

Tier Slots are where equipped items reside.

General Inventory is where all unequipped items are kept.

Name of Item

      Item Description across two lines . . .

    Item Stats: ATK 01, DEF 02, WIS 03
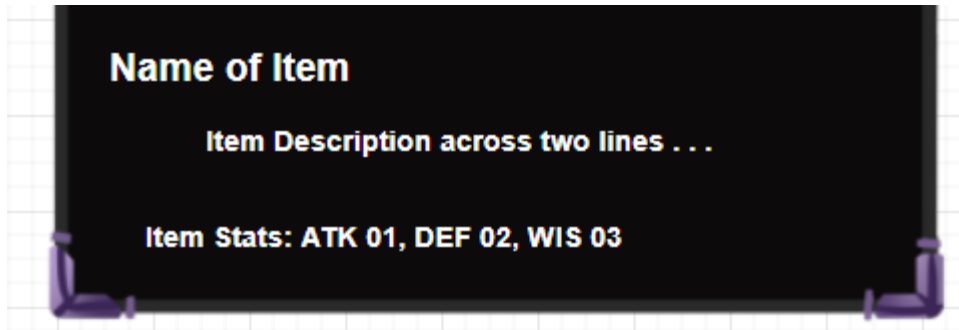
The ***Descriptive Box*** tells the player about each item in the inventory when the cursor is hovering over an item. All items have these attributes:

- Name (e.g., Prayer Beads)
- Descriptive text
- Combat attributes (Defense, Wisdom, and Attack)
- A path (not visible to the player)

Story, Setting and Character

Story and Narrative

Backstory

The Two Figures are worshippers of a goddess based on Persephone, Greek goddess of nature, springtime, and queen of the underworld. This goddess is a dyadic goddess, meaning she has two natures: order and spring, chaos and death. While never explicitly named in the game, this goddess influences the Figures as one grows up within the catacombs and the other reflects.

Plot Elements

Prior to the game, the Younger Figure experiences unknown abuse by clergy in the Lighthouse Temple. Players see the Younger escape from the temple into the catacombs at the beginning of the game. While seeking refuge underground, they encounter temple guardians–creatures blessed by the Goddess and charged with keeping the holy site pristine. But some of these guardians have been corrupted, so the Younger Figure must fight to restore balance to the catacombs and protect themselves.

Meanwhile, another figure wanders the catacombs: an Elder member of the religion (denoted by their dress). But it is not a figure the Younger recognizes. The mystery of the Elder Figure and the resolution of the turmoil within the Younger Figure creates the foundation of the story.

Themes

Organized religion vs. personal relationship, escaping religion vs. escaping within/to religion, forgiveness vs. vengeance, personal growth, fear, and self-love.

Game World

Look and Feel

The game world evokes calm and simplicity with its low-poly models and bright, soothing colors. The island is a wintry Taiga biome, so characters are dressed warmly.

Overworld

General Description

The Overworld is where we see the Younger Figure escape. This is a bright seaside forest environment that makes the player wonder why the Younger would leave. It sets the stage for a mystery within the character.

Physical Characteristics

Taiga island environment; cold, blustery, but green and blue with marine elements. Notable location is the lighthouse temple.

Levels that use area

N/A—the overworld only appears in 2D cutscenes.

Connections to other areas

The Overworld is connected to the Catacombs via a cave entrance down the road from the lighthouse temple. This entrance is not part of the 3D space.

Catacombs

General Description

The Catacombs are where the player spends most of their time. They serve as an allegory for the Younger's internal conflict.

Physical Characteristics

The Catacombs are regularly tended to and feel welcoming. Symbols of the goddess are chiseled here and there to denote her territory. This is a holy site, so the décor denotes its importance. As it is a series of caves by the sea, the walls and floors resemble elements of the overworld—sandy walls and glittering blue tile floors.

Levels that use area

All levels exist in the Catacombs.

Connections to other areas

The Catacombs are connected to the Overworld via the singular cave entrance. This entrance is not part of the 3D space.

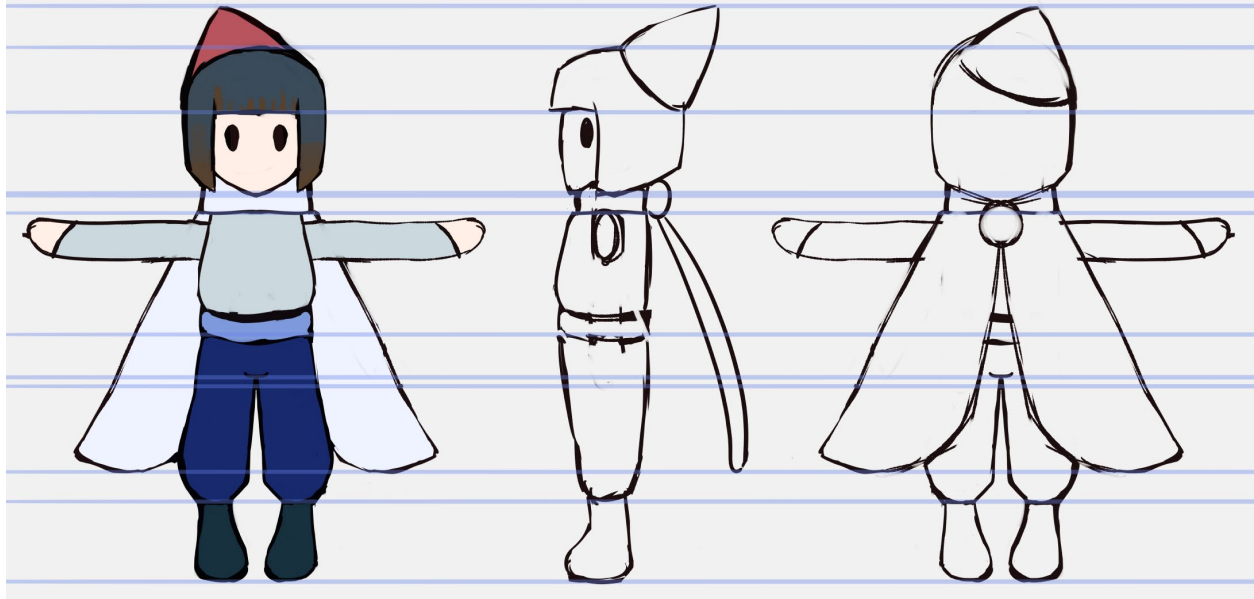# Characters

Younger Figure

Backstory

The Younger Figure escapes the lighthouse at the beginning of the game. Fleeing a cheery overworld environment to enter a dimly lit catacomb system is the initial mystery surrounding the Younger figure.

Enthusiastic, excitable, and emotional as their struggles within the temple clash with their beliefs.

Look

Has characteristics of a rabbit to emphasize their young nature, enthusiasm, and nervousness.

Special Abilities

The player character (i.e., the Younger Figure) has the ability to carry items imbued with emotions or memories and use the energy within them to fight back corrupted temple guardians.

Relationship to other characters

The Younger Figure is vaguely related to the Elder Figure; throughout the game, it is questioned whether they are siblings, unrelated entirely, or one and the same.
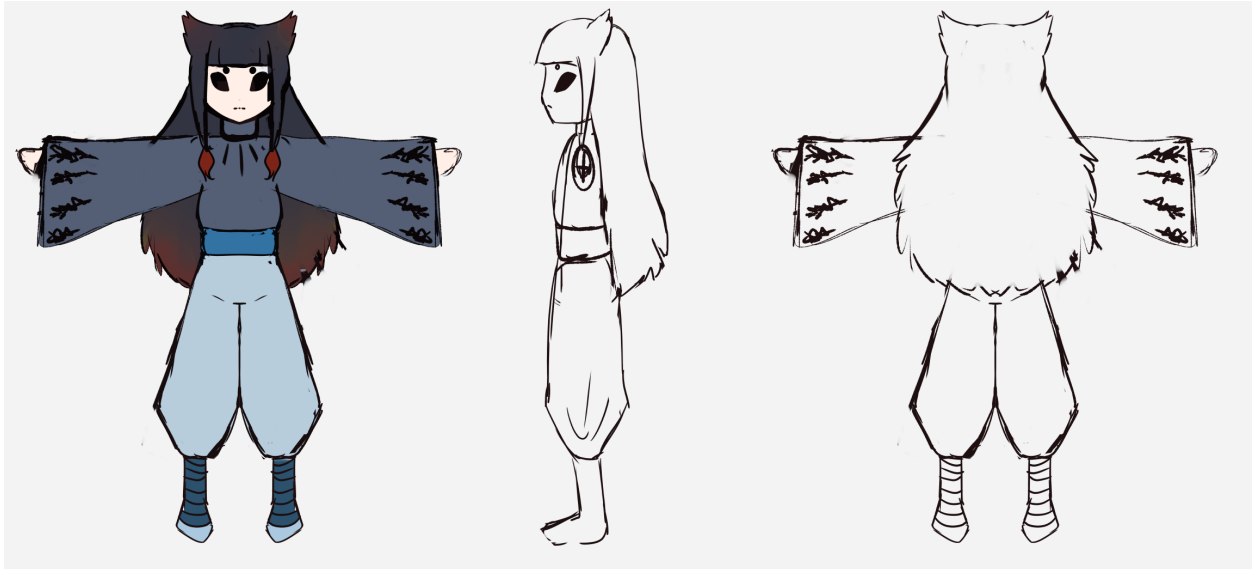
Elder Figure

Backstory

The Elder Figure is revisiting their past. The catacombs are near their childhood home—the lighthouse temple.

Personality

A touch standoffish, takes themselves too seriously, but warm and wise once known.

Has characteristics of an owl to symbolize wisdom, and sharper lines to suggest age/wit.

Special Abilities

The Elder Figure can control their spiritual and physical selves, allowing them to be a fierce combatant.

Relationship to other characters

See previous entry on the Younger Figure.

Game Progression

Game and plot progression occurs when the player acquires items in the catacombs. Each item has descriptive text and an effect on the player's combat abilities. These items frame the story and progress the game. Whichever category of items the player equips more of will determine the ending.

Paths

Path of the Elder

      The path represents a complicated and non-linear growth into an adult. The Elder figure has sometimes chosen to cling to their faith and sometimes let it go by the wayside. The Elder figure finds their "footing", and by the end of their path, have created a strong foundational faith that is more like a relationship. This path is portrayed as neutral; the figure learns over the course of their life that they live in a complicated world with complicated answers, but they have a god to rely on.

Path of the Imp

Represented by the "spirited" version of the Younger figure; this path represents the desire to live freely and throw off the chains of an organized religion. It shows the Younger figure's daily life here and there, and the Younger figure has the opportunity to destroy what hurts them. This path is portrayed as a chaotic neutral route.

Path of the Pharisee
Represented by the "spirited" version of the Elder figure, this path is the desire to follow organized religion for better or for worse. They have the same opportunities as the Imp, but the choice is made to forgive or repent instead of seeking vengeance. This creates a pattern of complacency and fear rather than nurturing a healthy relationship with their god. This path is portrayed as lawful neutral.

Cutscenes

All cutscenes will be 2D slideshows. These are navigated by clicking a "Next" button to advance the slideshow.

Cutscene: Introduction

- Presented: At the beginning of every playthrough.
- Followed by: Game launches with the first level.

The Elder Figure glances from the lighthouse to the catacomb gateway and beckons off screen. The Younger Figure rushes from the lighthouse to the catacombs in fear. The two hold hands and enter the catacombs. Fade to black.

Cutscene: Ending Elder

- Presented: At the end of the game if the player defeats the Elder.
- Followed by: Main Menu opens.

The Elder Figure leaves the catacombs and fades away. The Younger Figure exits the catacombs, looks to the lighthouse, and goes to meditate at a shrine.

Cutscene: Ending Imp

- Presented: At the end of the game if the player defeats the Imp.
- Followed by: Main Menu opens.

The Elder Figure leaves the catacombs and fades away. The Younger Figure exits the catacombs, looks to the lighthouse, and walks away from the temple.

Cutscene: Ending Pharisee

- Presented: At the end of the game if the player defeats the Pharisee.

- Followed by: Main Menu opens.

The Elder Figure leaves the catacombs and fades away. The Younger Figure exits the catacombs, shyly brings their eyes to the temple, and walks directly to it, head bowed.

Scripts

Each initial index refers to a specific conversation. Each secondary index, depending on the script, refers to the lines of text in that conversation. Special cases apply.

Initial NPC speech
Spoken by: Elder
1. Hello, Little One. Your goal is to traverse the dungeon, collecting items as you go.
2. But you must choose your items carefully, as they will have an effect on your Path.
3. Many enemies abound. You may have to fight them to continue.
4. Move with left click. Select an item and fight an enemy with right click. Open your inventory with tab.

Death NPC speech
Spoken by: Elder
1. It seems you have died, Little One.
2. She has given you another chance.
3. Best not squander it. Keep going . . .

Door speech
Spoken by: Younger, to self
1. If enemy room:
   a. (This door is locked. I need to get past that snake first.)
2. If NPC room:
   a. (This door is locked. Do I have to talk to them first?)
3. If item room:
   a. (This door is locked. Is there something I'm missing?)

Basin speech
Spoken by: Younger, to self
1. If full health:
   a. (I don't need any refreshment.)
2. If below full health:
   a. (Ahhh, that feels better.)

Imp NPC speech
Spoken by: Elder
1. Speech 1
   a. You're bold, Little One, to claim the destructive object.

        b.   Maybe I would have chosen the same. Maybe I did choose the same.

        c.   We'll see where this path leads . . . for now.

   2. Speech 2

        a.   You claim many objects used in offense. Tell me, are you successful in protecting yourself?

        b.   I suppose you must be if we're speaking again.

        c.   It's funny, that in choosing an offensive stance, you're really defending yourself.

        d.   I suppose that can't be so bad.

Spoken by: Imp, in the final path room

   3. Final Speech

        a.   You've caught up to me! I didn't think you'd make it this far.

        b.   Oh? The snakes? Yeah, they were no match for me.

        c.   You're not thinking of going back out there, are you?

        d.   I hate the temple. I don't care about Her values.

        e.   And what's up with that other follower? The tall one?

        f.   You don't know? Figures. They didn't tell me anything, either.

        g.   I can tell they still cling to Her. But you seem promising.

        h.   Let's see how far you've come!

Elder NPC speech

Spoken by: Elder

   1. Speech 1

        a.   Ah. The journal. Could this be a wise choice?

        b.   I suppose I'm biased.

        c.   . . . Stop asking questions. You know I can't tell you how this ends.

   2. Speech 2

        a.   These candles are kind, in a way. Devotional.

        b.   A different way to discard my thoughts.

        c.   Hmm? Oh, I'm not sure what She'd say.

        d.   I hope She is similarly kind.

        e.   We'll find out, won't we?

Spoken by: Elder, in the final path room

   3. Final Speech

        a.   You've come far, Little One.

        b.   Faster than I. But maybe with the same worries on your mind.

        c.   I . . . I wonder if I can dispel them.

        d.   . . .

        e.   Don't resist. Don't make this difficult for me.

Pharisee NPC speech

Spoken by: Elder

   1. Speech 1

        a.   She watches, She guides. Good. You're learning.

        b.   Follow the Path to Her. Stay close in Her care.

        c. She watches, She guides.
2. Speech 2
        a. Repent of your impish ways. We can only be close to Her that way.
        b. They can't hurt you if She is on your side.
        c. They worship Her? No, I remember. Don't tell me.
        d. All is part of Her plan. She watches, She guides.

Spoken by: Pharisee, in the final path room
3. Final Speech
        a. You're safe now. I can feel Her drawing closer to us.
        b. You must be afraid to return to the surface, if he is still there.
        c. . . . I remember. And I remember Her provision, Her care.
        d. Let me show you how to defend yourself one last time.
        e. She watches, She guides, Little One.

Enemy speech
Spoken by: Snake Enemy
1. Speech 1
        a. Hello. This is a very nice cave, yessss?
        b. Do you worship Her or ssssomething?
        c. What, not going to ssssay anything?
        d. Ugh, fine. Let'ssss fight, then.
2. Speech 2
        a. She watches, She guides. I am to clean the cavesss, but there are ssssnakes.
        b. Yes, I am a ssssnake. What of it?
        c. I don't have to like the other ssssnakesss if I don't want to.
        d. Oh. You were wondering how I clean the cavessss?
        e. . . .
        f. That'ssss a good quessstion. I'll have to asssssk Her that later.
3. Speech 3
        a. Hello, Little One. Hee hee. That issss what She callsss you, yessss?
        b. No, no. Not the older one. The Lady.
        c. You're in Her catacombsss and you don't know Her name?
        d. Thingssss have really ssssliped in the time I've been away from the sssurface.
        e. Let me teach you ssssome mannerssss!

Items

This spreadsheet contains item names, item attributes, their associated path, and narrative text for the inventory box.

Items included in the Paths table.

Type	Name	Path ++	Description	Effect
Init	Worn Journal	Elder	This is my journal, but it's worn, and the entries go past today . . .	Wis + 1
Init	Baseball (or other thrown obj)	Imp	How did this get here? I thought he took it when I broke the window . . .	Attack + 1
Init	Prayer Beads	Pharisee	These are prayer beads. I guess I should be thankful they're here.	Def + 1
2	Leather Bracelet	Imp	There's a verse written on the inside. "She watches, she loves." Yeah. I *definitely* feel loved right now.	Attack + 1, Def + 1
2	Silver Censer	Pharisee	This might protect me if I use it right. I should remember the chant . . . Ugh, why can't I remember?	Def + 1, Wis + 1
2	Dying Candle	Elder	There's a lot of these. This one isn't unique. It's the same as the rest. I guess I know how that feels.	Wis + 2
3	Arcane Chalk	Elder	This chalk has magic in it for drawing ritual circles, but I always thought it might make pretty drawings . . .	Def + 1, Wis + 2

3	Lovely Pomegranate	Pharisee	A sacrifice that hasn't molded. This must be a sign. Can she help me, too?	Attack + 1, Def + 2
3	Holy Short Sword	Imp	A real weapon! I can sense her magic in it. About time she actually helped me.	Attack + 2, Wis + 1
Final	Elder's Hat	Elder	I think I understand now. You did the best you could.	Wis + large amount
Final	Imp's Crown	Imp	How can they stop me? I'm fine on my own. I'm finally free . . .	Attack + large amount
Final	Legalist's Hood	Pharisee	She watches, she guides. With her words I am safe, with her love I am free . . .	Def + large amount

Technology

Target Hardware

PC, keyboard, and mouse

Development hardware and software

Unreal Engine
Discord for communication
Perforce for source control
Maya / Blender
Illustrator / Photoshop / CSP
Substance Painter

Game Engine

Unreal 4, Version 4.25

Scripting Language

C++, Unreal Blueprinting

Game Art

Included in our Art Bible, here: [Inkk Blotts Art Bible](#)