

CHRONOLOGIX



GAME DESIGN DOCUMENT



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REVISION HISTORY

The complete history of revisions of this document, in reverse chronological order. After editing, please add a row to the table to indicate the changes you've made.

Rev #	Author	Date (DD/MM/YY)	Change list
37	Leona Wu	07/04/2020	-Updated Mechanisms (4.1.3.1) -Updated 4.2 and 4.3 -Updated external document, Level Overview -Add 2.5.1.2 -Add 2.5.1.3 -Add 2.5.1.4 -Add 2.5.1.5 -Add 2.5.1.6 -Add 2.5.1.7 -Add 2.5.1.8 -Add 2.5.1.9
36	Pamela Payad	23/03/2020	- Completed Game Interface (5) - Completed Menu Guide (6)
35	Pamela Payad	22/03/2020	- Updated Game Interface, added mock-ups (5)
34	Eliza Grafton	22/03/2020	- Finished Audio (8) - Finished Boss Combat Abilities (3.4.4) - Finished Boss A.I. (3.7.2)
33	Eliza Grafton	21/03/2020	- Updates to Table of Contents - Citation comments - Worked on Audio (8)
32	Pamela Payad	11/03/2020	- Added Flow Charts to Menu Guide (6)
31	Leona Wu	10/03/2020	- Created special effects asset list - Added Functions for menu guide
30	Pamela Payad	10/03/2020	- Started Game Interface (5) - Started Menu Guide (6)
29	Eliza Grafton	09/03/2020	- Started Audio (8) - Reorganized External Links (9) - Moved Bibliography to Sources (10)
28	Leona Wu	18/02/2020	- Edited Levels (4.2) - Edited Prototype Game Map (4.3.1) - Added Swamp (4.2.1)
27	Pamela Payad	18/02/2020	- Edited Locomotion (3.2.1)
26	Pamela Payad	11/02/2020	- Edited Locomotion (3.2.1) - Added Puzzles Section (3.5) - Added Camera System Section (3.6) - Changed wording of "world" to "ecosphere" for consistency
25	Shay Ly	11/02/2020	- Formatting on tables under Game Elements (4.1.2)
24	Pamela Payad	11/02/2020	- Added Gantt Chart to External Links
23	Shay Ly	10/02/2020	- Formatting between Art Direction and Project Scope - Added work on Game Elements (4.1.2) - Added work on Missions (4.4)

22	Shay Ly	09/02/2020	<ul style="list-style-type: none"> - Added work on Game Elements (4.1.1) - Added Boss Fights (4.5)
21	Leona Wu	09/02/2020	<ul style="list-style-type: none"> - Added Switches (4.1.3.1) - Created beat chart in google sheets for game level and linked it into document (4.8) - Created game map and level layout document and linked into document (4.2 and 4.3.1) - Added achievement (4.7.1) - Added manual save (4.6.1) - Added auto save (4.6.2)
20	Pamela Payad	09/02/2020	<ul style="list-style-type: none"> - Added Player Controls (3.1) schematic - Edited Player Character (3.2) - Edited tables to match theme
19	Eliza Grafton	08/02/2020	<ul style="list-style-type: none"> - Began work on Game World (3.3), Combat (3.4) and AI (3.6)
18	Eliza Grafton	04/02/2020	<ul style="list-style-type: none"> - Formatting for first submission
17	Shay Ly	04/02/2020	<ul style="list-style-type: none"> - Added work on Characters (2.5.1) - Edits to Character Backstories (2.5.2)
16	Eliza Grafton	04/02/2020	<ul style="list-style-type: none"> - Resolved open comments - Formatted cover page for legal information
15	Shay Ly	04/02/2020	<ul style="list-style-type: none"> - Added cover art - Reformatted cover page
14	Pamela Payad	03/02/2020	<ul style="list-style-type: none"> - Added studio logo - Edited Project Risks (1.6)
13	Pamela Payad	02/02/2020	<ul style="list-style-type: none"> - Edited Project Vision and Purpose (1.1)
12	Shay Ly	02/02/2020	<ul style="list-style-type: none"> - Added Game Logo to cover page
11	Eliza Grafton	01/02/2020	<ul style="list-style-type: none"> - Added editing comments - Continued work on Story Progression Overview (2.3)
10	Shay Ly	31/01/2020	<ul style="list-style-type: none"> - Edited Software (1.2.1) - Edited NPC Biographies (2.5.2)
9	Eliza Grafton	28/01/2020	<ul style="list-style-type: none"> - Added External Links Heading - Edits to shorter passages for readability - Added target resolution and framerate (1.2.2) - Changed legal copyright company name - Added premium pricing to Monetization (1.7) - Added Heading Setup for remainder of document - Added Sources Heading
8	Shay Ly	27/01/2020	<ul style="list-style-type: none"> - Added work on Character Backstories (2.5) - Added work on Art Direction (1.3)
7	Eliza Grafton	25/01/2020	<ul style="list-style-type: none"> - Fixed issues of heading formatting - Basic readability content edits
6	Eliza Grafton	24/01/2020	<ul style="list-style-type: none"> - Added work on Story Progression Overview (2.3)
5	Pamela Payad	24/01/2020	<ul style="list-style-type: none"> - Completed general information (1.1-1.3) - Completed market analysis (1.7-1.9) - Completed story summary (2.1-2.2)
4	Leona Wu	24/01/2020	<ul style="list-style-type: none"> - Completed project scope for prototype - Completed user documentation - Completed world background for Swamp level
3	Eliza Grafton	23/01/2020	<ul style="list-style-type: none"> - Completed Target Platform (1.4)

			- Formatted of Margins, Columns
2	Eliza Grafton	22/01/2020	<ul style="list-style-type: none"> - Layout Redone in Word 365 - Stylized document - Improved header and footer - Copyright and legal information - Started work on Target Platform (1.4)
1	Eliza Grafton	17/01/2020	<ul style="list-style-type: none"> - Initial layout of first two chapters - Table of Contents setup

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1 Project Summary

1.1 PROJECT VISION AND PURPOSE

When a strange, enigmatic child comes into possession of a magical artefact that allows them to temporarily slow and even stop time, they choose to take the matters of the world into their own hands. Cozé, a young elf, wishes to attain control of time and space itself. The only thing that stands between them and their goal are the ancient primordial gods whose powers they aim to claim as their own.

CHRONOLOGIX is an action/adventure Metroidvania-style game with a few small RPG elements here and there.

The game lends itself to exploration and multiple playthroughs with collectibles and new areas that become open once the player gets new abilities.

1.1.1 Core Game Concepts

Exploration

The player should be focused on discovery of hidden places and returning to old spaces repeatedly with new things to do.

Empathy

The player should feel the pain of Cozé and understand the choices they make.

Unlockable Abilities

The player will discover new powers that aid them in combat and traversal regularly.

1.1.2 Game Genre/Type

CHRONOLOGIX is an Action/Adventure game with RPG mechanics and a “Metroidvania” style map and skill unlock system.

1.1.3 Play Time

The target time to story completion (from booting up the game to the appearance of the credits) for the final version of CHRONOLOGIX is 10-12 hours.

Estimated time to story completion for the prototype is 1-2 hours.

1.2 TARGET PLATFORM

CHRONOLOGIX will be released on the Epic Games Store for PC, and on the Nintendo Switch and Switch Lite online store.

1.2.1 Game Engine and Software

CHRONOLOGIX is developed using the following software:

Unity 2019.2.0f1

Visual Studio 2019

GitHub

FMOD

Reaper

Adobe Photoshop 2020

Adobe Illustrator 2020

Paint Tool SAI

Spine

1.2.2 System Requirements

CHRONOLOGIX has a target framerate of thirty (30) frames per second when played at a 1080p resolution.

CHRONOLOGIX is also developed focusing on the following hardware requirements:

1.2.2.1 Epic Games Store and PC

Epic Games Store Recommended System Specifications:

OS: Windows 7 and up

CPU: Intel i5 / AMD A4

RAM: 4GB

GPU: NVIDIA GT 540 1GB / AMD 5550 1GB

DirectX 11

1.2.2.2 Nintendo Switch Capabilities

CHRONOLOGIX is developed with the Switch Lite in mind. The game must be fully functional in the Handheld Mode to accommodate for the cheaper version of the console. As such, individual Joy-con motion controls and local multiplayer are not supported.

1.2.3 Game Format

CHRONOLOGIX game builds are to be created using the Unity build settings for PC Standalone (.EXE file) and the Nintendo Switch (.NSO file).

1.3 ART DIRECTION

The game will feature 2D art assets pieced together in a 3D environment to give off the illusion of a multiplane camera at work.

The main character, Cozé, is comprised of simple shapes and low amounts of detail across the character. Their aesthetic will resemble the lower-left image featured in Figure 1.3.3, and their palette is confined to a small set of colours (less than ten).

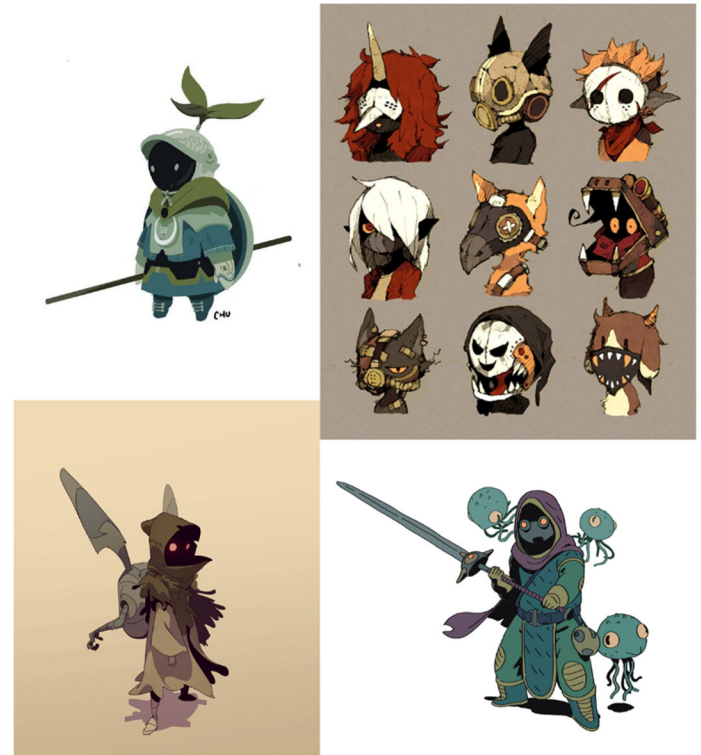


Figure 1.3.1: Cozé's Moodboard.

The enemies that Cozé will come to face along their journey will be primarily formless in a way that they are all silhouetted with very few details as well. Their palettes are even further limited as they have even less detail than the main character. Figure 1.3.2 displays images of somewhat ghastly-looking creatures that are imposing and enigmatic. The boss of the prototype, the Ghastly Gator, will carry the same sort of energy as such creatures.



Figure 1.3.2: Enemies' Moodboard.

Overall, the atmosphere is mystifying, often featuring cold colours and bluish undertones. For the prototype, however, the environment will be less saturated as the swamp setting does not lend itself to vibrant colours. The third image within Figure 1.3.3 is closer to the general palette and visual look that will be present in the initial prototype of CHRONOLOGIX

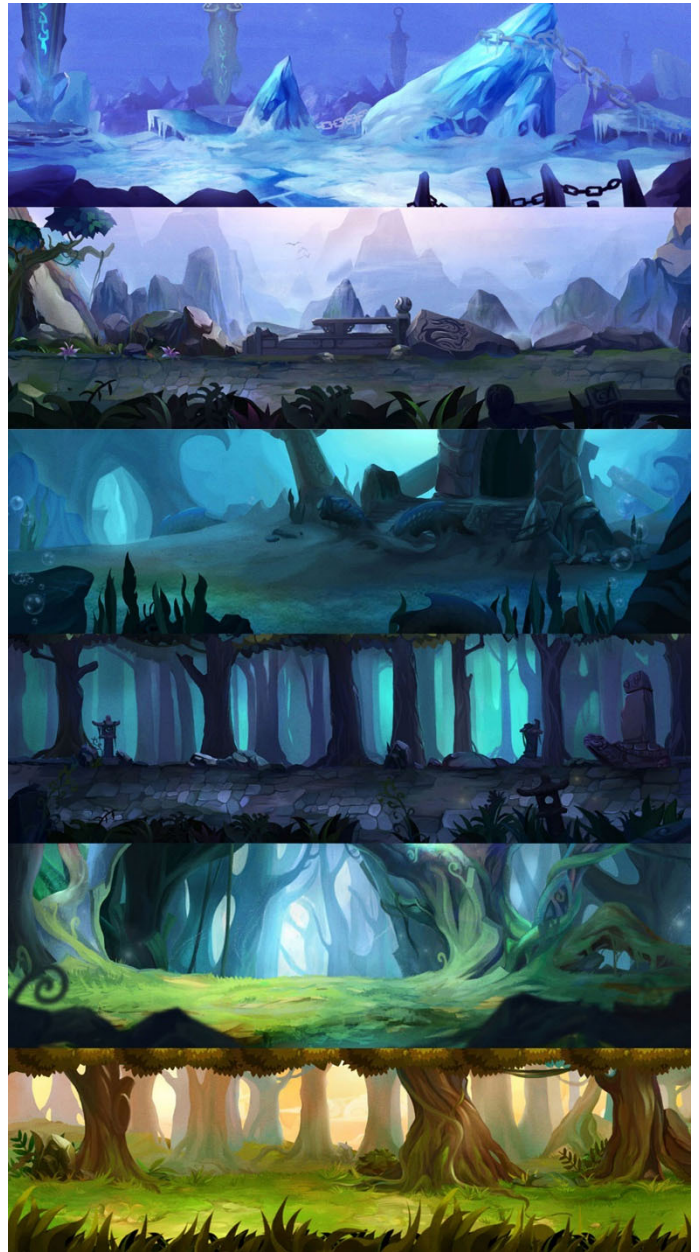


Figure 1.3.3: Environment Aesthetics.

1.4 PROJECT SCOPE

1.4.1 *Prototype Mechanics List*

Movement:

- Walk
- Jump

Combat:

- Attack

Special Abilities:

- Slow time

1.4.2 *Prototype Assets List*

Game Characters:

- Main character – Cozé
- 3 NPCs

Enemies:

- Boss – Ghastly Gator
- 3 Melee-based monsters – Swamp monsters

Levels:

- Swamp – 5 levels in 1 ecosphere

1.5 MARKET ANALYSIS

1.5.1 *Target Demographics*

CHRONOLOGIX has a target ESRB rating of T for Teen. Due to the amount of combat that exists in the game, lower ratings are unfeasible.

1.5.2 *Sales Comparison*

CHRONOLOGIX is inspired by and can be compared to some of these recently successful games:

- Hollow Knight (2017)
 - Over 2 million owners
 - Hollow Knight: Silksong expected release soon
 - Metascore: 87
- Bloodstained (2019)
 - Over 600,000 owners
 - Metascore: 82
- Dead Cells (2018)
 - Over 1.3 million owners
 - Metascore: 89
- Ori and the Blind Forest (2016)
 - Over 700,000 owners
 - Ori and the Will of the Wisps projected March 2020 with over 10,000 followers
 - Metascore: 88

1.5.3 *Localization Plan*

Current development of CHRONOLOGIX only plans for a North American English localization. Further plans for localization are dependent on the success of the production, and will prioritize Spanish, Japanese, Chinese, and French language releases, and focusing on South America, Europe, and Asia for digital distribution.

1.6 PROJECT RISKS

Strengths	Weakness
All members of the team are experienced in multiple disciplines	Team size too small for the full scope of the game
Current scope is easily scalable	Team has limited experience in releasing a full game
Opportunities	Threats
Easily expandable in terms of new areas, bosses, and enemies	Difficult to stand out in an oversaturated Metroidvania market
General familiarity with the Metroidvania genre allows for anyone to easily pick up the game	2 big Metroidvania games will be releasing sequels driving away potential attention to CHRONOLOGIX

1.7 MONETIZATION

CHRONOLOGIX will be premium priced on the Epic Games Store at \$19.99.

Additional sources of income are as follows:

Additional story content (DLC): Adds new areas, bosses, and enemy variants to the game as well as new items in Tsuji's shop.

Cosmetic microtransaction (DLC): Adds new cosmetics for the player to equip to Cozé.

1.8 USER DOCUMENTATION

1.8.1 *Instruction Manual*

- Instruction accessed from menu
- Basic movement instructions
- Basic attack instructions
- Time stop instructions

1.8.2 *In-game Notes*

- Monster List – Short backstory of monster. Lists out weaknesses, resistances, and loot drops
- Weapon Combos – Attack combos for each weapon
- Ecosphere Information – Brief backstory. List of monsters

2 Story Overview

2.1 STORY GENRE

The story CHRONOLOGIX is a high fantasy tale. Magic, the gods, and creatures of many shapes and sizes exist, explore, and participate in the world.

2.2 LICENSE CONSIDERATIONS

The CHRONOLOGIX narrative is an original intellectual property.

2.3 STORY SYNOPSIS

The world of Vestige is protected by the elder primordial gods, each taking charge of an ecosphere. The gods are daunting, gargantuan creatures who wear masks embedded with special crystals holding their core essences, and are worshipped across Vestige by humanoid races inhabiting the world. Cozé is a young elven child from a settlement that worshipped these gods. The village fell to catastrophic storm that left Cozé the only survivor due to a special artifact: The Timestopper. Angry with the gods for doing nothing, Cozé sets out to kill them all and take their powers. They believe that doing this will let them control time itself and fix what has been done to their village.

2.4 STORY PROGRESSION OVERVIEW

2.4.1 Setting

The primordial gods of CHRONOLOGIX are ancient and wise beings, and together they have done what they can to protect the world for generations. As Cozé begins killing the gods in his quest for revenge, the balance of power between the gods begins to shift.

Every time the player defeats a god, Cozé gets stronger and gains new powers, while the world gets

more chaotic, as the essence crystals feed off of the rage in Cozé's heart.

By the end of the game, Cozé and the player will be shown that their actions have brought the world out of balance, and that they have caused the very fate of the world they hoped to avoid.

2.4.2 Complete Player Character Arc

Cozé's story follows the traditional Hero's Journey as described by Joseph Campbell. For the initial prototype, CHRONOLOGIX will only feature content up to **Meeting the Mentor**.

2.4.2.1 Ordinary World

Cozé is sent by Améa, their mother, to gather supplies in preparation for a ritual to the gods. Améa explains that the ritual will protect the village from an upcoming storm, and that the supplies Cozé must gather are vitally important to the ritual. The player takes control of Cozé, and ventures out into the village, where they are taught the basic controls of the game by listening to their neighbours. Once Cozé has explored the village, they venture out into the surrounding area for supplies.

2.4.2.2 Call to Adventure

While out gathering supplies, Cozé stumbles upon an overgrown temple to the gods. Curious and hoping to send their own offerings to the gods, Cozé ventures inside. At an altar in the center of the building, Cozé finds the Timestopper, and when they pick it up, Cozé is shown a vision of a world abandoned by the gods, overrun with pain and torment.

When Cozé awakes from the vision, they leave the temple to discover the storm has already hit the area, and wild creatures have overrun the places near the village once considered safe. Cozé rushes home, only to discover the villagers and Améa are gone, and the village has been destroyed.

2.4.2.3 Refusal of the Call

Overwhelmed with grief and shock, Cozé ventures out to find the gods and demand answers. Cozé first attempts to gain an audience with the god of the Swamp domain, as it is the closest to where Cozé lives. When they arrive at the home of the primordial god, the guards refuse Cozé the right of entry.

Cozé fights the guards, but upon defeating them, the god of the Swamp arrives, strikes Cozé, and casts them deep into the earth. Weakened and alone, Cozé swears to gain vengeance for what the gods have done.

2.4.2.4 Meeting the Mentor

As Cozé attempts to make their way out of the caverns they find themselves in, they are attacked by a group of enemies far too powerful to defeat. Before Cozé is killed however, a Vagabond steps in and defeats the beasts.

The Vagabond takes Cozé, now delirious and barely conscious, out of the Caverns and into the Forests, where they can safely recover from their wounds.

2.4.2.5 Crossing the Threshold – Return with the Elixir

This content is not covered in the CHRONOLOGIX prototype.

2.4.3 List of Cinematics

The initial prototype of CHRONOLOGIX will not include any cinematics or cut scenes.

2.5 BACKSTORY

2.5.1 World

2.5.1.1 Swamp

A swamp that is home to the teal crystal, which spawned the Ghastly Gator. The area is covered by a light layer of toxic fog, causing a lack of wildlife. Most creatures living there are elemental beasts that resembles ghosts.

2.5.1.2 Forest

The forest is the home to the green crystal. The Horned Owl resides in this ecosystem as the crystal's guardian. The forest is abundant with wildlife and vegetation.

2.5.1.3 Jungle

The jungle is the home to the purple crystal. The Feathered Serpent lurks in the dense jungle, fending off anyone that approaches near its den. The jungle is overgrown with trees and vegetation. Some areas are clouded in darkness from the density of vegetation. Many exotic beats can be found within this ecosystem.

2.5.1.4 Plains

The plains are the home to the blue crystal. The Kitsune acts as the blue crystal's guardian. The plains stretch across a wide and flat piece of land. Various Yokai wander across this ecosystem.

2.5.1.5 Desert

The desert is home to the grey crystal. The Basilisk Lizard has hidden the crystal somewhere underground in these barren lands.

2.5.1.6 Caverns

The caverns are the home to the red crystal. The hellhound and various mythological creatures were summoned by the red crystal to protect it. The caverns feature tight areas with extreme darkness.

2.5.1.7 Tundra

The tundra is the home to the white crystal. The Arctic Jackalope was spawned to protect the crystal.

2.5.1.8 Mountains

The mountains is the home to the yellow crystal. The lightening hovers on the peak of the highest mountain, fending off any intruders that stumble upon this ecosphere. The mountains feature steep paths and dangerous cliffs.

2.5.1.9 Sky

The sky is the home to the pink crystal. The seraph Griffon guards the temple where the crystal resides. Many celestial beings are found in this ecosphere.

2.5.2 Characters

Character	Description
Cozé	The game's protagonist and the player character.
Améa	Cozé's mother and the game's primary quest-giver.
Vagabond	A drifter who informs Cozé of what they need to do to progress.
Jor'aj	An elderly man who tells the player about the world.
Ghastly Gator	The game's primary antagonist and final boss.

2.6 CHARACTER BIOGRAPHIES

2.6.1 Player Character: Cozé



Figure 2.5.1: Cozé's placeholder concept.

Cozé is a young elf child sporting short brown hair, brown skin with light dotted freckles, and amber eyes. They wear a green poncho and cloak combination with a hood, reddish-brown attire, and wear the Timestopper pendant on a chain around their neck. The Timestopper itself is a glassy, bluish hourglass filled with silver sand.

To the other characters within the world, Cozé is a mystery. They tend to appear stoic and silent, and seldom anything else as they bottle up their feelings of frustration and anger at the world. They are a victim of unfortunate circumstance, having lost mostly everything they have ever known, and acts violently when presented with roadblocks keeping them from their ultimate goal: slaying the elder primordial gods.

2.6.2 NPCs

There are supposed to be three NPCs scattered about the various levels: Cozé's mother (Améa), an elderly drifter whom gives vague advice to the player ("Vagabond"), and a man who gives exposition on the game world (Jor'aj).

2.6.3 Enemies

The three generic enemy variants featured in the initial prototype are the bear, the snapping turtle, and the frog.

All of the elemental creatures that roam the swamp appear almost incorporeal and spirit-like. Ghostly wisps rise from their forms, though they are still solid enough to be subject to the physics of the world and to be struck. Their colour palettes are muted somewhat, but still stand out against the dreary colours of the swamp environment. The enemies all resemble their real-world counterparts otherwise.

The elementals are a part of the ecospheres themselves. While the Ghastly Gator has dominion over the swamplands and its godlike powers, the elementals are smaller branches of that power that have naturally integrated into the habitat. They do not disturb any normal wildlife that is present, however, the Swamp itself is rather toxic and prevents most life from thriving; hence the ghostly appearance of the various enemies.

The Ghastly Gator itself is the ruler and protector of the Swamp. Its body is almost entirely black and seemingly made of shadowy essence. The parts of its body that aren't shrouded in shadow are muted and translucent. The Gator's mask is white and embedded with a rough-cut teal crystal. Its mask makes up its entire upper jaw and covers its face up to shortly above its eyes.

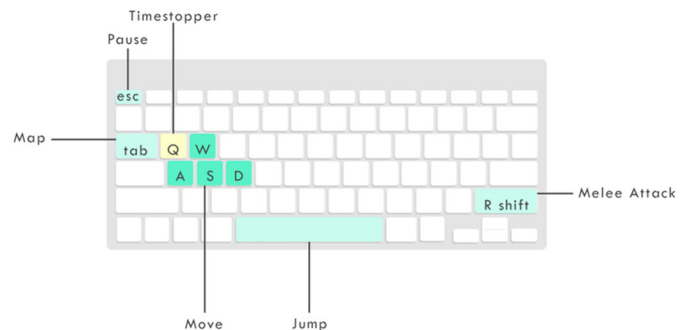
3 Game Mechanics

3.1 PLAYER CONTROLS

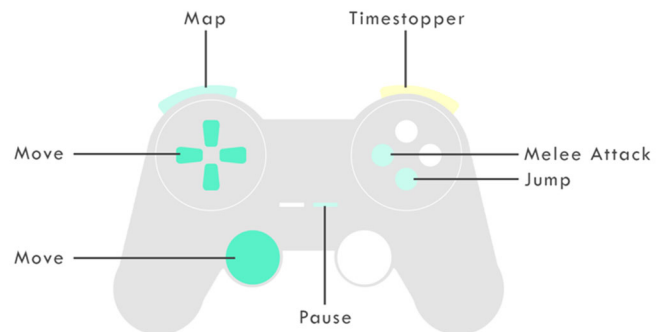
CHRONOLOGIX control bindings are all capable of being rebound to any other input of the same type.

3.1.1 Default Controller Layout

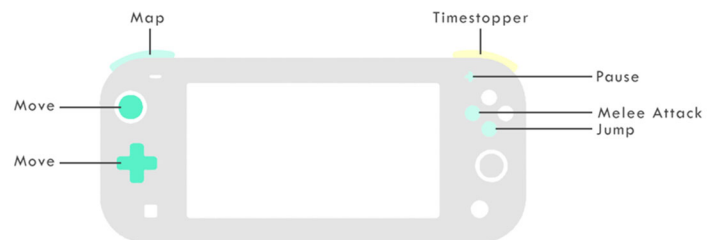
3.1.1.1 PC – Keyboard



3.1.1.2 PC - Universal Controller



3.1.1.3 Switch



3.2 PLAYER CHARACTER

3.2.1 Locomotion

3.2.1.1 Running on the Ground

Cozé's ground velocity is controlled by the following variables:

Maximum Speed	4 units/second
Time to Max Speed from Standing	0.2 seconds
Time to Stop from Max Speed	0.1 seconds

3.2.1.2 Quick Turn

Time from switching to opposite side	0.1 seconds
Time to Max Speed from Quick Turn	0.1 seconds

3.2.1.3 Jumping

Maximum Height (vertical)	2 units
Maximum Distance (horizontal)	2 units
Time to Max Height	0.7 seconds
Time from Max Height	0.7 seconds
Recovery from landing jump to run	0.7 seconds

3.2.1.4 Moving in the Air

Air Control	0.5 units/second
Max Falling Acceleration	0.5 units/second

3.3 GAME WORLD AND SPECIAL ABILITIES

3.3.1 Time and the Timestopper

When the Timestopper is activated, a circular volume expands around Cozé, and for all things that move that exist in that volume while it is active, with the exception of Cozé, time is slowed down.

3.3.1.1 Power Level and Experience

For the full game, Cozé's ability to use the Timestopper will improve as the character levels up. Four factors of the Timestopper's ability can be expanded: it's **maximum size**, its **timescale factor**, the length of **time it can remain active**, and the **time it takes between uses** to "recover".

The following table explains the effects of each possible upgrade:

	Tier 1	Tier 2	Tier 3
Maximum Size	1/3rds of screen width	2/3rds of screen width	Full screen width
Timescale Factor	0.75 times speed	0.5 times speed	0.25 times speed
Maximum Time Active	5 seconds	10 seconds	15 seconds
Recovery Time	30 seconds	20 seconds	10 seconds

3.3.1.2 Activation

Upon activation, the volume created by the Timestopper should be spawned at Cozé's location at its starting diameter. The volume should then **expand to its maximum diameter** at a rate matched by an animation curve **over 2 seconds**. The current **scale of the volume also dictates the percentage that time is slowed by**, up to a maximum percentage. Note: the maximum activation time does not start counting down until the volume is at maximum size.

Activation Numbers

Starting Diameter = Cozé's Height

Final Diameter = Maximum Size as dictated by power level

Current Time Scale Factor = $1 - ((\text{current diameter} - \text{start diameter}) / (\text{final diameter} - \text{start diameter})) * (1 - \text{Timescale factor as defined by power level})$

3.3.1.3 Entering and Exiting

Upon entering or exiting the volume, any object affected by the Timestopper will ease in and out of the slowed time factor.

This transition is defined with the use of an eased in and out animation curve. When entering, it should take an object **2 seconds to slow** to the current timescale, and when exiting, it should take **1 second to return to standard timescale**.

3.3.1.4 Deactivation

The Timestopper is deactivated automatically if the player uses the complete activation time, or it can be turned off early manually by using the same button as activation.

Upon deactivating, the time affected volume will **scale down along an animation curve** to a scale of zero **within 1 second**, and **then destroy itself**.

While scaling down, the current time scale for all objects within the volume is defined as:

Current Time Scale Factor = 1 - (current diameter / start diameter) * (1 - Timescale factor as defined by power level)

3.4 COMBAT

3.4.1 General Combat Elements

All agents of the game that participate in combat have a **Health** value and deal a specific amount of **Damage** when they hit an opponent. Damage directly correlates with a loss in health.

When dealt damage of any kind, a combat agent is **knocked back** with an impulse force that separates the two combat agents by at least one unit, and **gains immunity to damage** for a brief 2 seconds.

3.4.2 Player Combat Abilities

The player has **10 health** at the start of the game.

The player has one simple **sprite-based melee attack**. When the player hits the attack button, a sprite animation is spawned in front of them, broken down into the following timing:

Anticipation Time: 3 frames / 1/10th a second

Striking Time: 10 frames / 1/3rd a second

Recovery Time: 10 frames / 1/3rd a second

During the striking time, if an enemy collides with the sprite, they are **dealt 2 damage**.

3.4.3 Generic Enemy Combat Abilities

All enemies in CHRONOLOGIX will damage the player if they come in contact with them.

For any collision between the player and **any sprite** that's part of a generic enemy, the player is dealt damage.

Generic enemies have a range of damage and health values dependent on their **size** when compared to the player character.

	Size	Health	Damage
	Small (half Cozé's size)	4 Health	1 damage
	Medium (Cozé's size)	6 Health	1 damage
	Large (1.5 times Cozé's size)	6 Health	2 damage
	Huge (2 times Cozé's size)	8 Health	2 damage

3.4.4 Boss Combat Abilities

The prototype of CHRONOLOGIX only features the Ghastly Gator boss. As a boss, the Ghastly Gator's actions are based around predictable patterns.

The Ghastly Gator can:

- **Lunge** forward and bite at the player
- **Swipe** its tail when the player is behind it
- **Dive** under the water to avoid damage
- **Jump** into the air and slam down on the player
- **Roll** across the ground to squash the player

3.5 PUZZLES

Puzzles are all over the ecosphere presented by the classic “Lock and Key” design pattern as a way to progress. The prototype will feature one mechanism, [Locked Gate and Switches](#), which allows the player to progress through the ecosphere.

3.6 CAMERA SYSTEM

3.6.1 Player Camera Follow

The camera will follow the player. The camera will pan left to right, up and down following wherever the player is. The player will always be in the center and bottom third of the screen. The arrows in Figure 3.6.1.1 show the directions in which the camera can move while following the player as well as the player’s placement in the world.

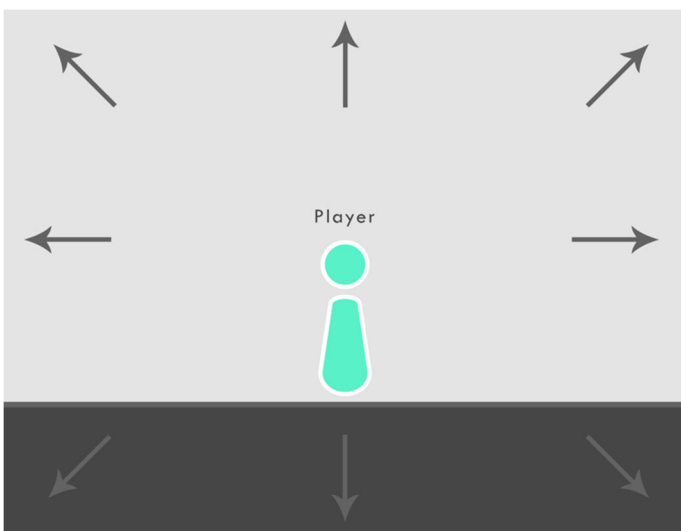


Figure 3.6.1.1 Player placement and camera follow.

3.7 ARTIFICIAL INTELLIGENCE

Artificial Intelligence within CHRONOLOGIX is developed using ReGoap, an open source Unity Asset package that handles Goal Oriented Action Planning. This method of A.I. implementation allows for the creation of artificial intelligence agents that have varying levels of predictability, as determined by the designer.

ReGoap AI is developed using a series of **Actions** and **Goals**. Actions have **Prerequisites** and **Results**, and goals only have prerequisites. Additionally, the ecosphere state can affect the state of prerequisites through **Sensors**. The following is a breakdown of each available Action, Goal, and Sensor for the Generic Enemies and Bosses in CHRONOLOGIX.

3.7.1 Generic Enemy A.I.

All generic enemies, regardless of size, follow these principles in their AI behaviours.

3.7.1.1 Actions List

Name	Prerequisites	Results
Wander	none	Exploring
Chase	Player has been seen	Chasing Player
Attack	Player is in melee range	Attacking Player

3.7.1.2 Sensors List

Name	Results
Sight	Player has been seen
Melee Range	Player is in melee range
Is Player Dead	Player is Dead

3.7.1.3 Goals List

Name	Prerequisites
Find Player	Exploring
Hunt Player	Chasing Player
Kill Player	Attacking Player
Eat Player	Player is Dead

3.7.2 Boss A.I.

The Gator boss follows a **looping pattern** of Lunge/Swipe -> Dive -> Jump -> Roll -> Repeat. As the gator takes damage, its pattern speeds up at the following rate:

Pattern Phase Time = ((Current Health + Half Max Health) / Max Health) * 30 Seconds

4 Game Progression

4.1 GAME ELEMENTS

4.1.1 Characters

There is one player character with the basic ability to walk and jump as a means of movement. In the prototype, they are capable of simple melee combat and using an Ultimate-like ability that slows time on everything that is present on the screen at the time of activation ("Time Stop").

Scattered throughout the game's levels are various non-player characters that can be interacted with either via proximity or by button prompts. Most of the NPCs serve to deliver exposition and lore, some give the player tips or hints on how to progress, and there is one special character who serves as a reoccurring shopkeeper and a friend to the main character.

4.1.2 Items

Item Name	Use(s)
Timestopper	Key Item. Allows the player to use the Time Stop mechanic.
Wooden Sword	Weapon. The first weapon the player acquires; very weak.
Fragments (Coins)	Currency. Used to buy items at shops.
Health Potions	Consumable. Used to restore player health.
Elemental Crystals	Key Item. Allows the player to use unlocked abilities from boss fights.

4.1.3 Mechanisms

4.1.3.1 Locked Gate and Switches

Gate Activation: Opened when all switches are on

Switch Activation: Using basic attack on switch once to turn on

Some areas will feature a locked gate, which stops the player from passing through. To open the locked gates players will have to find the switches scattered around that ecosphere. Once they find the switch they must attack and break it to activate the switch. The number of switches and type of switch that the player must activate will be displayed near the gate.

4.2 LEVELS

This chapter is an overview of each ecosphere within CHRONOLOGIX. For detailed breakdowns of individual rooms, see [External Links – Level Design Documents](#).

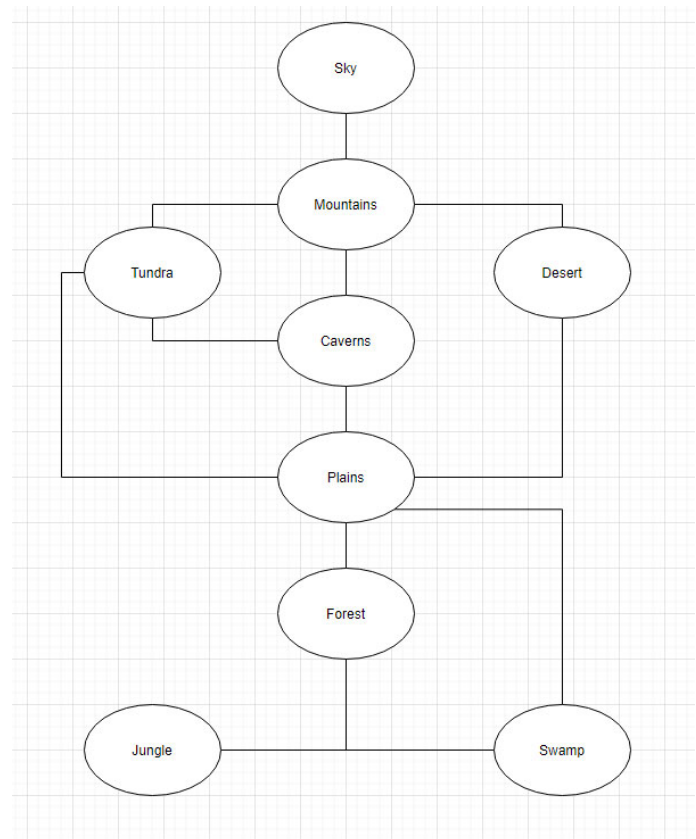


Figure 4.2.1 Overview of how ecospheres are linked together.

Ecospheres are linked together through routes. Some of the routes may be blocked off or can only be accessed when new abilities are unlocked. New routes may open up as Cozé progresses through the story by defeating the boss of each ecosphere.

Each area will feature their own story that relates to the main story of the game.

4.2.1 Swamp

God: [Ghastly Gator](#)

Enemies: [Elemental beasts](#)

4.3 GAME MAP

4.3.1 Prototype Game Map

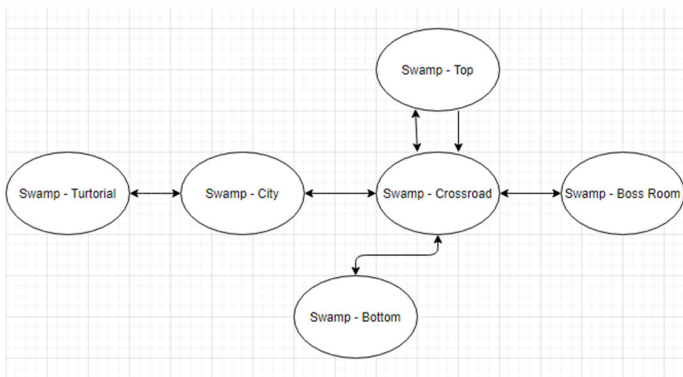


Figure 4.3.1.1 Shows how the levels for Swamp ecosphere are connected.

Levels within an ecosystem connect to each other through portals. For a detailed view of the game map and individual levels, see [External Links – Level Design Documents](#).

4.4 MISSIONS

The prototype will feature a total of two missions, each with tasks that must be achieved before moving on.

The first mission serves as a tutorial that introduces the player to both the artefact that will allow them to utilize the Time Stop ability and the inner workings of the ability itself.

Sands of Time

- Investigate the surroundings
- Use the hourglass

The second mission is what the player must accomplish in order to reach the final stage of the prototype, where they must battle and win against the Ghastly Gator. To access the boss room, the player must find three gates scattered throughout the map that will grant them access to the final level.

The Grass and the Sky

- Find the Crossroads gate
- Find the Upper Swamp gate
- Find the Lower Swamp gate
- Slay the Ghastly Gator

4.5 BOSS FIGHTS

There is one boss fight in the prototype and nine in the finished game. Each boss fight takes place in a single, large room that the boss maneuvers around. Each boss is a gargantuan creature based on myth or fantasy fiction. They are only found in specified environments (the ecospheres) and are associated with a different coloured crystal that, when looted, grants the player a new ability.

Creature	Ecosphere	Crystal
<i>Horned Owl</i>	Forest	Green
<i>Ghastly Gator</i>	Swamp	Teal
<i>Feathered Serpent</i>	Jungle	Purple
<i>Kitsune</i>	Plains	Blue
<i>Basilisk Lizard</i>	Desert	Grey
<i>Hellhound</i>	Caverns	Red
<i>Arctic Jackalope</i>	Tundra	White
<i>Lightning Dragon</i>	Mountains	Yellow
<i>Seraph Griffon</i>	Sky	Pink

The only boss fight present in the prototype is the Ghastly Gator fight. It is a massive alligator with heavy, but slow, melee attacks. It disappears occasionally from view by diving underwater, and later reappearing out in another area of water somewhere on the screen.

4.6 CHECKPOINT AND SAVE SYSTEM

4.6.1 *Manual Save*

There will be save posts scattered around the ecosphere, usually found in towns or hubs of and ecosphere. The player will have to interact with that point to save. Upon death, game load, or game start up they have the option to load from their manual save point or from an auto save point.

4.6.2 *Auto Save*

Before bosses or after completing a mission, the game will save automatically. This creates an auto save point where the players can load into upon death, game load, or game start up.

4.7 ACHIEVEMENTS

4.7.1 *Steam Achievements*

When a player completes a certain task, they can unlock achievements on Steam.

4.8 BEAT MAP DOCUMENT

To view the complete beat map document, view [External Links – Beat Map](#).

5 Game Interface

5.1 UI REFERENCE MOOD BOARD

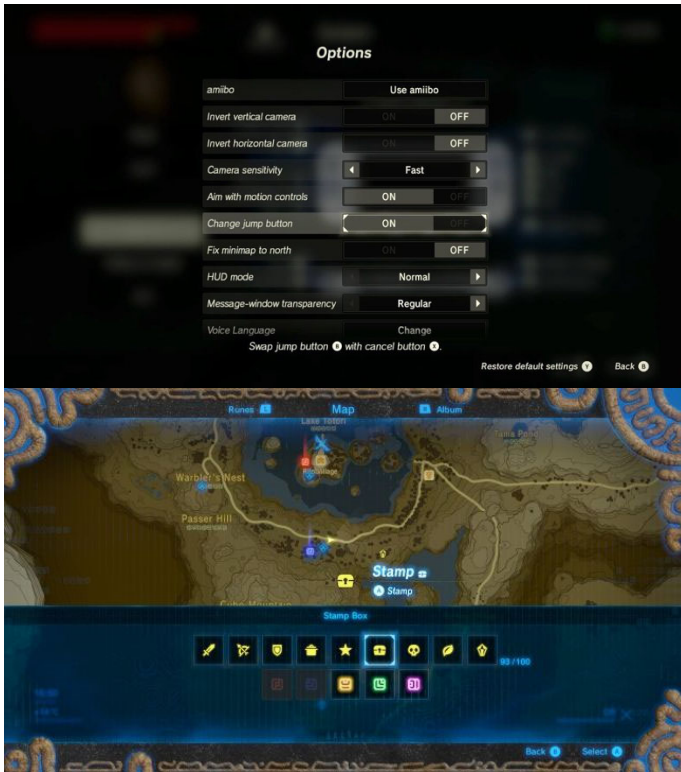


Figure 5.1.1 Breath of the Wild: Menu UI, Buttons

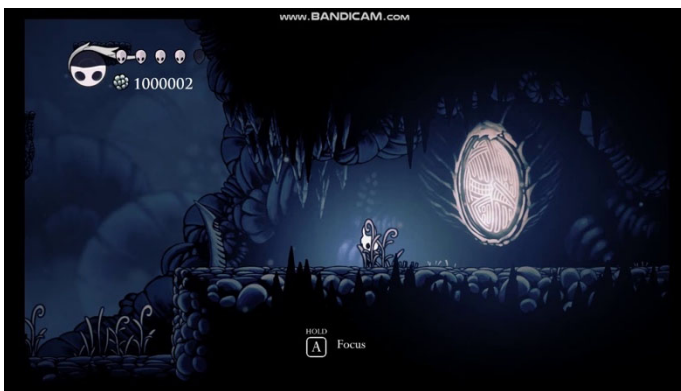


Figure 5.1.2 Hollow Knight: HUD Layout

5.2 GUI AND HUD ELEMENTS

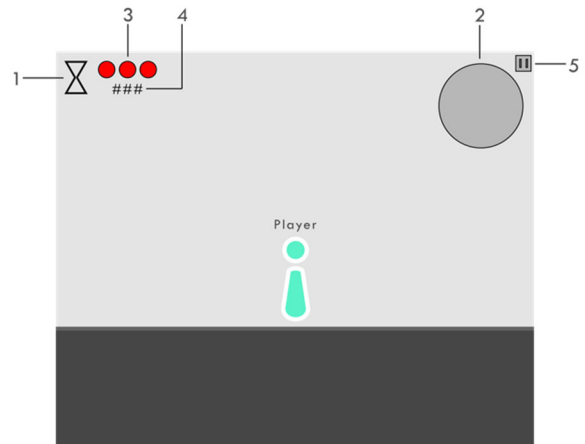
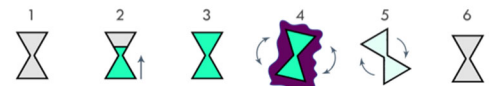


Figure 5.2.1 Basic Layout of HUD elements

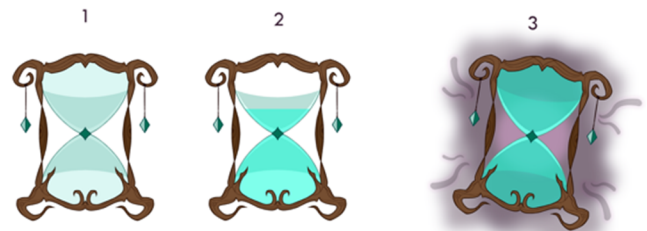
5.2.1 Timestopper [1]

Function Progress bar for the Timestopper mechanic. Indicates when the mechanic can be used/in use.

Animation Basic “fill-up” animation when in progress. [1]
Shaking, glowing, and slightly rotating when ready to use. [3,4]
Spin when finished using. [5]



Mock-up Empty [1], Filling [2], Filled [3]



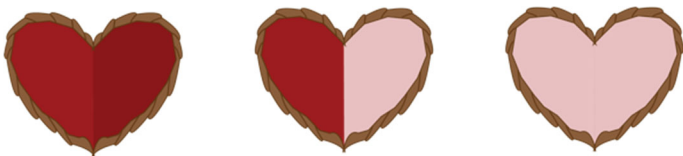
5.2.2 Minimap [2]

Function	Shows the players location in a thumbnail.
Animation	No animation.
Mock-up	Minimap Frame



5.2.3 Health [3]

Function	Displays player health. Single heart/health system similar to Legend of Zelda's health display.
Animation	Pulse when health is gained. Dissolve and shrink when health is lost. Gain
	Lose
Mock-up	Full, Half, Empty



5.2.4 Score [4]

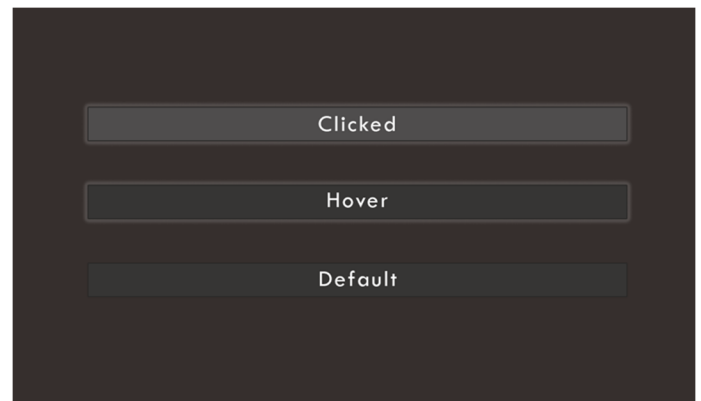
Function	Displays the player's score.
Animation	No animation.

5.2.5 Pause Button [5]

Function	Sends player to a pop-up Pause Screen.
Animation	No animation.
Mock-up	Refer to Basic Menu Buttons

5.2.6 Basic Menu Buttons [6]

Function	General buttons used to get from screen to screen.
Animation	No animation.



6 Menu Guide

6.1 MAIN FLOW CHART

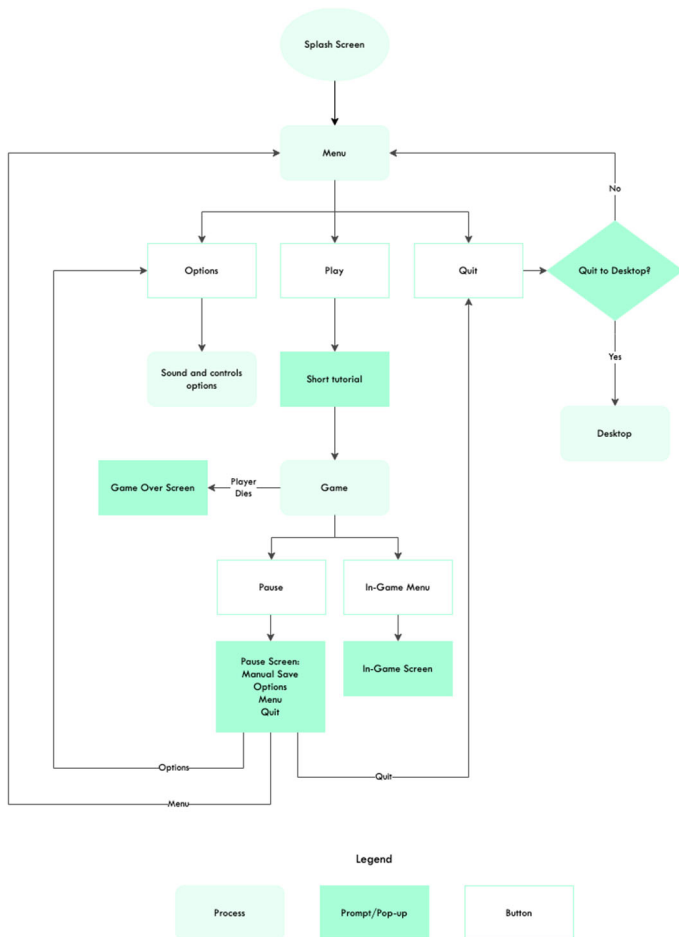


Figure 6.1.1 All connecting screens flow chart.

6.2 CONCEPTS AND FLOWS

6.2.1 Splash Screen

Function Displays the developer name and logo. Also shows the game name and logo/icon.



6.2.2 Main Menu

Function Allows the player to choose between various screens. Includes starting the game, instructions, options, and quit.



Information

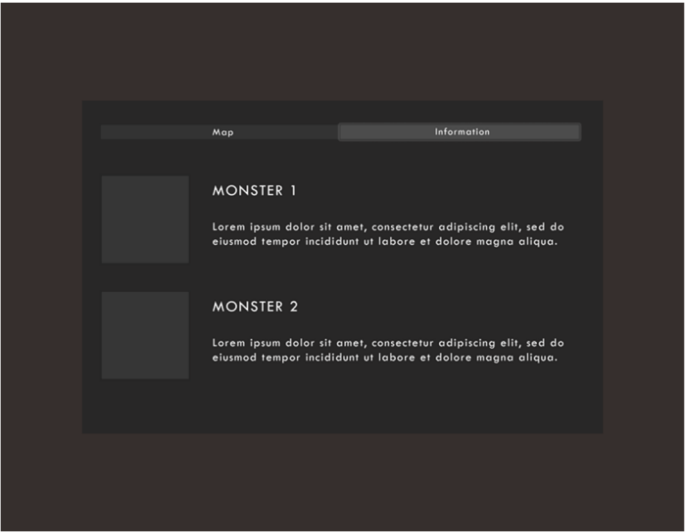


Figure 6.3.4.1 In-Game Menu Flow Chart.

6.2.5 Pause Screen

Function Pauses the game and allows the player to choose between various screens, such as manual save, options, back to menu, and quit.

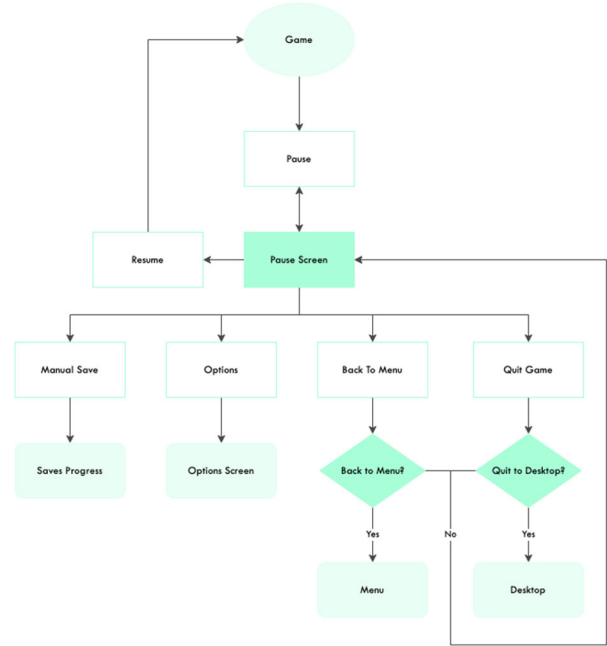
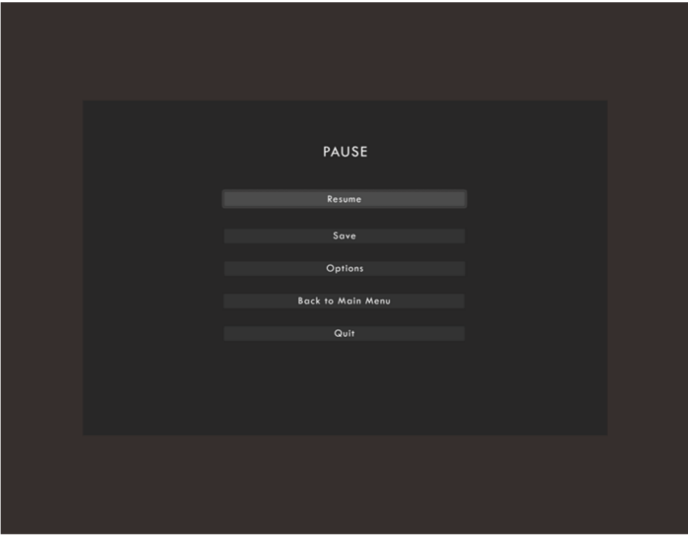
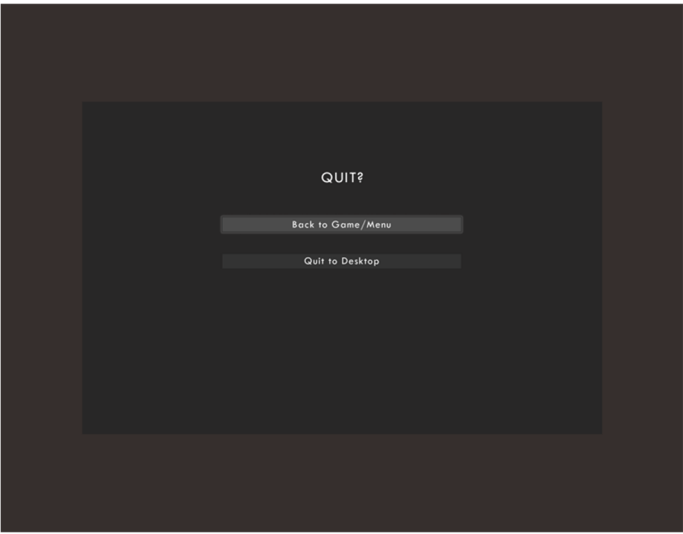


Figure 6.3.5.1 Pause Screen Menu Flow Chart.

6.2.6 Quit Screen

Function Game quit to desktop confirmation.



6.2.7 Game Over Screen

Function Appears when player dies. Let's player choose between continue, load from save, restart from checkpoint, quit to menu

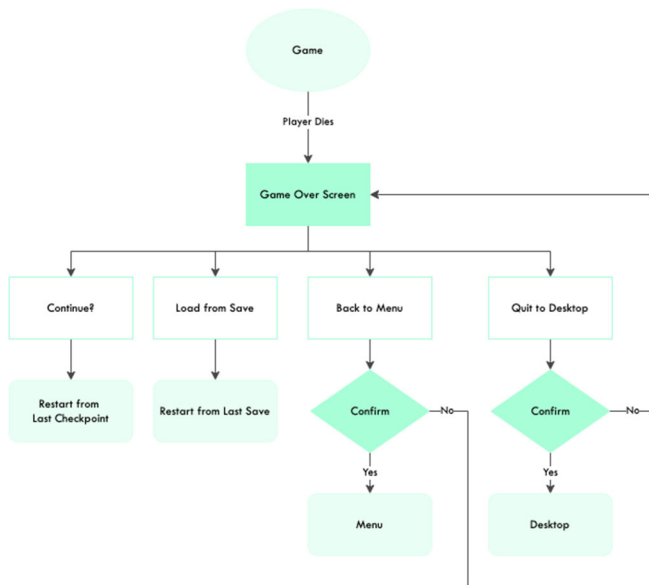
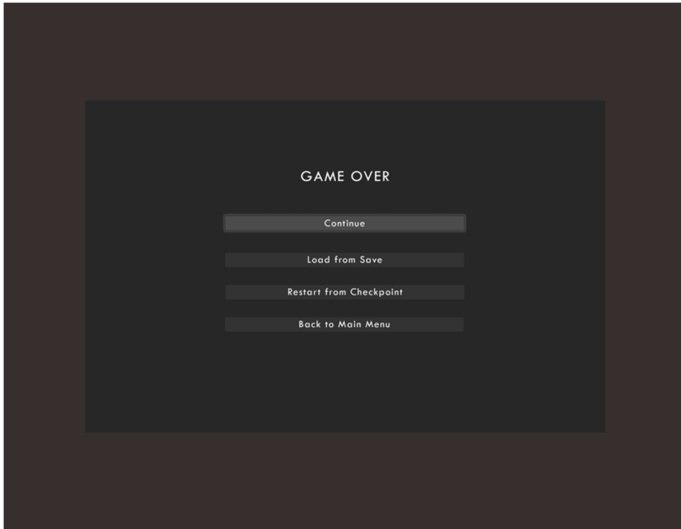


Figure 6.3.7.1 Game Over Screen Menu Flow Chart.

7 Special Effects

7.1 DIRT IMPACT

Description	A 'splash' of small dirt particles around the player's feet.
Function	Adds impact to the player's footsteps while walking or landing from a medium height fall on mud.
Event	When the player hits the ground.

7.2 WATER IMPACT

Description	A 'splash' of particles on the surface of small water bodies.
Function	Adds impact to the player's footsteps while walking, running, or landing from a medium height fall onto a shallow water body.
Event	When the player runs through or lands in shallow water.

7.3 DIRT IMPACT (HEAVY)

Description	A large 'splash' of particles emitted from where the Gator impacts the environment.
Function	Adds impact to the Gator's movements and interaction with a muddy environment.
Event	When the Gator hits the ground.

7.4 WATER IMPACT (HEAVY)

Description	A large 'splash' of particles emitted from where the Gator emerges from the water and where it dives underwater.
Function	Adds impact to the Gator's movement and interactions with a soaked environment.
Event	When the Gator emerges/dives.

7.5 HEALING

Description	A swirl of red sparkles spirals around the player.
Function	A visual indication as to when a player has used a health potion.
Event	When the player uses a health potion.

7.6 TIMESTOP (ACTIVATE)

Description	A burst of white/pale blue light is emitted from the player's center. It remains until deactivation.
Function	A visual indication as to when the player has activated the Timestopper.
Event	When the Timestop is activated.

7.7 TIMESTOP (DEACTIVATE)

Description	The white halo around the player shrinks and fades in opacity until unseen.
Function	A visual indication as to when the Timestop ability has ended/been deactivated.
Event	When the Timestop expires.

7.8 FRAGMENT GLOW

Description	A tiny red glow that is emitted from the fragment counter on the UI.
Function	A visual indication as to when the player has acquired a fragment.
Event	When a fragment is picked up.

7.9 ACID IMPACT

Description	A 'splash' of particles on the surface of acid bodies.
Function	Adds impact to the player's interaction with acid.
Event	When the player hits acid.

7.10 ACID BUBBLE

Description	Sickly green bubbles rise from the acid pools and pop after a certain height.
Function	Aesthetic animation that work as a visual tell for a deadly environmental effect.
Event	Idle animation for acid pools.

8 Audio

8.1 AUDIO OVERVIEW

8.1.1 Implementation

Audio within CHRONOLOGIX is implemented with FMOD Studio and its Unity plugin.

For a guides and tutorials on implementing audio using FMOD, see <https://www.fmod.com/learn>

8.1.2 Asset Progress Log

To check in on the production progress of audio assets, to view the Audio Asset List spreadsheet, see [External Links – Audio Asset List](#).

8.2 AUDIO ASSET LIST

For further information on any music within this list, see [External Links – Audio Asset List](#).

8.2.1 Music

8.2.1.1 Main Menu Theme

Mood	Mysterious, Adventurous
Characteristics	Intro/Loop/Outro

8.2.1.2 Pause Menu

Mood	Subdued, Subtle
Characteristics	Looping

8.2.1.3 Credits

Mood	Orchestral, Passionate, Victorious
Characteristics	One off

8.2.1.4 Village Theme

Mood	Happy, Bouncy
Characteristics	Looping

8.2.1.5 Swamp Theme (Exploring)

Mood	Mysterious, Adventurous
Characteristics	Looping

8.2.1.6 Swamp Theme (Combat)

Mood	Aggressive, Adventurous
Characteristics	Looping

8.2.1.7 Temple Theme

Mood	Subdued, Subtle
Characteristics	Looping

8.2.2 Sound Effects

8.2.2.1 Footsteps

Sources	Dirt, Water
Variants	Light (Player Walk), Medium (Player Jump), Heavy (Boss Jump)

8.2.2.2 Healing

Sources	Pickup
Variants	Instant, Sustained

8.2.2.3 Take Damage

Sources	Player, Enemy
Variants	Light, Medium, Heavy, Sustained

8.2.2.4 Deal Damage

Sources	Player, Enemy
Variants	Light, Medium, Heavy, Sustained

8.2.2.5 Timestopper

Sources	Activation, Idle, Deactivation
Variants	None

8.2.3 User Interface

Sources	Confirm, Cancel, Change
Variants	Pitch shift on selection change to match music.

8.2.4 Dialogue

The prototype of CHRONOLOGIX will not feature character dialogue.

8.2.5 Ambient Sound

8.2.5.1 Swamp

Description	Insects, water running, trees shifting
Characteristics	Looping

8.2.5.2 Town

Description	People bustling
Characteristics	Looping

8.2.5.3 Temple

Description	Creaking boards, birds fluttering
Characteristics	Looping

9 External Links

The following is a list of all external links used in the CHRONOLOGIX Game Design Document.

9.1 ASSET DEVELOPMENT LISTS

9.1.1 *Audio Asset List*

<https://docs.google.com/spreadsheets/d/1MLBTiqSi43UZfMZFp2jRVf0yNffFpWKjI7RjEwz6Sow/edit?usp=sharing>

9.2 CONCEPT ART AND STYLE GUIDES

9.3 LEVEL DESIGN DOCUMENTS

https://docs.google.com/document/d/1WJOqn0_E0ZOLfUB2LeIGKbpBL8UK4UqdnWoRg0zFfAU/edit?usp=sharing

9.4 GAME PROGRESSION

9.4.1 *Beat Map*

<https://docs.google.com/spreadsheets/d/1mDJE72Z3ivT4wwMSKigzKB3EvOBgC3Y8hQwOCzg9uh8/edit?usp=sharing>

9.5 DIALOGUE SCRIPTS

9.6 PROGRAMMING BEST PRACTICES

9.7 PRODUCTION

9.7.1 *Gantt Chart Schedule*

https://docs.google.com/spreadsheets/d/1AKtNJ_smt7ol40makAzMj2s7qAzZWR82z1-awyvtZ34/edit?usp=sharing

10 Sources

10.1 ART REFERENCE

10.2 BIBLIOGRAPHY

The following is a list of cited reference material used in the development of CHRONOLOGIX:

Campbell, Joseph. *The Hero with a Thousand Faces*. Third edition. Novato, California: New World Library, 2008. Print.