

Legacy of the Rift

Beta Code Design Document

Dec. 07, 2021

Trailer, Video Walkthrough, and Gold Code Project File:

<https://drive.google.com/drive/folders/13xJBKwuw9WmotDBsCwBUqi7UX7m76CQh?usp=sharing>

Hanna Luu 301331007

Mark Robles 301328182

Erika Wang 301382748

Control Scheme Table

Key	Action
Left click	Basic attack
Space	Jump
W	Jump
A	Run left
D	Run right
Right click	Character ability
E	Ultimate character ability
1	Switch to Lokir
2	Switch to Halvar
3	Switch to Ursa

Level Objectives, Winning, & Losing Conditions

Tutorial:

Objectives:

- For the tutorial level, players must defeat 2 waves of basic melee Shadow Mare enemies and pick up their siblings before Khajiit will allow the player to proceed to the next scene.

Winning Conditions:

- Defeat all 2 enemy waves
- Pick up Hjallna, Eerika, and Morkvar

Losing Conditions:

- Player Health reaches 0

Dock Level:

Objectives:

- Players must defeat 3 waves of basic melee Shadow Mare enemies before Dickon Seamensson will allow the player to board the Rift Piercer

Winning Conditions:

- Defeat all 3 enemy waves

Losing Conditions:

- Player Health reaches 0

Shore Level:

Objectives:

- Players must defeat 3 waves of basic melee Shadow Mare and fast pouncing Botchling enemies before the Spirit of the Shore will allow the player to proceed to the next scene.

Winning Conditions:

- Defeat all 3 enemy waves

Losing Conditions:

- Player Health reaches 0
- Player falls into water

Spirit of the Shore Dialogue Interaction:

Objectives:

- The Spirit of the Shore will question the player. The responses that the player chooses will impact the narrative. Due to this mechanic, there is no true "win" or "lose" condition for these scenes.

Forest Level:

Objectives:

- Players must defeat 3 waves of evolved melee and ranged Shadow Mare and flying Gorewing enemies before the Spirit of the Forest will allow the player to proceed to the next scene.

Winning Conditions:

- Defeat all 3 enemy waves

Losing Conditions:

- Player Health reaches 0

Spirit of the Forest Dialogue Interaction:

Objectives:

- The Spirit of the Forest will question the player. The responses that the player chooses will impact the narrative. Due to this mechanic, there is no true "win" or "lose" condition for these scenes.

Mjoll Boss Level:

Objectives:

- If Players choose to fight Mjoll, they must defeat her to win the game.

Winning Conditions:

- Defeat Mjoll

Losing Conditions:

- Player Health reaches 0

Bjorn Boss Level:

Objectives:

- If Players choose to fight Bjorn, they must defeat him to win the game.

Winning Conditions:

- Defeat Bjorn

Losing Conditions:

- Player Health reaches 0

Gameplay Variation

Tutorial:

For our tutorial section, we found that the most effective approach to teaching players our game controls and mechanics were to give them the freedom to choose if they wanted a more structured approach to learning, or if they wanted to learn the controls and mechanics on their own. At the start of this level, Khajiit will ask the player if they would like a guided tutorial or not. If the player accepts, then Khajiit will tell the players the controls and functionalities of each character's basic attack as they progress through the level. If the players prefer to learn the controls and functionalities on their own, Khajiit will go and wait for the player by the end of the level so that the player can freely defeat the 2 waves of enemies on their own. This choice allows the player to choose a style of tutorial that best fits their own gaming and learning style.

Dock Level:

Similar to our tutorial section, we give players the choice to allow Khajiit to guide them through the acquisition of each character's special ability. We also treat this level as an extended "tutorial" level by ensuring that this level is not too difficult to defeat, as we want players to continue exploring how each character's basic and now special abilities can be combined in various ways to create unique and engaging gameplay. Due to this, the main source of variation in this level comes from players exploring different combinations of attack and ability usage that best suits the player's own player type. If the player prefers more defensive strategies, Halvar can place his Legendary Monolith, then switch to Lokir to place a ranged clone, then switch to Ursa to place a healing wolf spirit while she deals ranged damage from behind Halvar's rock.

Shore Level:

Again, we give players the choice to allow the 3 youngest Ironhand siblings to give insight as to what the player's newly acquired ultimate ability is. While this ultimate ability can introduce some gameplay variation, due to the fact that we decided to simplify the ultimate mechanic to behave the same way across all 3 characters, it does not create the same variation that the other attacks/abilities do. The main source of gameplay variation that we've found during playtesting of this level is due to the addition of terrain ramps and the environmental hazard of water. Some players used Lokir's Dash on the ramps to dash up and over a small horde of enemies to escape. We found that some less experienced players did in fact die on occasion from not being able to correctly time their jumps over the water hazards. We found that some players began to use the water to their own advantage by leading enemies towards the water as the enemies cannot swim either. The addition of the new enemy type, Botchlings, also add some gameplay variation to the previous levels as their swift movement behaviour makes Ursa's arrows a lot harder to hit. However, if the player is able to hit a Botchling with Ursa's arrow, the botchling's movement speed is greatly reduced and renders them very easy to kill.

Forest Level:

The main source of gameplay variation that we've found during playtesting of this level is due to the addition of platforms, the evolved Shadow Mare and new Gorewing enemies. Some players used the platforms to be able to reach the flying Gorewing enemies with Lokir's Dash and Ursa's Arrows, while some players did not use the platforms as much and preferred to stay on the ground where Halvar's Rock ability is more effective. Due to the fact that the Shadow Mares can now also throw ranged spears, this prevents players from standing on top of platforms for extended periods of time to try and escape the melee enemies below. These ranged Shadow Mares also created variation in how players dealt with this new mechanic. Some players preferred to try and dodge the ranged attacks with Lokir's Dash while some players preferred to try and block them with Halvar's Rock.

Mjoll's Boss Level:

Compared to previous levels, the core objective of this level is to defeat Mjoll herself. Her attack set excels at keeping the players away from Mjoll herself with attacks such as being able to spawn previous enemies, initiate a gas attack at the player's position to prevent players from staying in a singular location for extended periods of time, and a lightning attack which also pushes the player backwards. We saw players take various strategies when trying to defeat Mjoll, some preferred to use the distance that Mjoll creates to their advantage by mainly using Ursa to deal ranged damage to Mjoll, while some preferred to still try and quickly get up close to Mjoll with Lokir.

Bjorn's Boss Level:

Compared to previous levels, the core objective of this level is to defeat Mjoll herself. His attack set creates a "bullet hell" boss battle. He spawns asteroids from the sky, a homing asteroid, and he has a shotgun spread bullet attack. Bjorn also teleports to various locations around the player and the map. We saw players take various strategies when trying to defeat Bjorn. Some players preferred to actively seek close quarter combat with Bjorn utilizing Lokir's Dash attack, while others preferred to try and block Bjorn's attacks with Halvar's Rock and use Ursa's bow to shoot him from afar. Both boss battles provide players with a different gameplay experience as each boss's attack set is completely different from the other.

Level Checkpoints:

Our game provides players with a checkpoint at the beginning of each playable level if they happen to die during a level. This means that when players click the "Restart" button after they die within a level, they will restart back at the level they were just attempting to defeat. Due to our game's narrative, we felt that this was the most effective way to deal with player death within a level as we want players to be invested in our game's narrative and dialogue and do not want it to feel like it becomes a nuisance to have to repeat the same dialogue sequences and choices over again just because they died.

Wish List Features

Finite State Machines:

- All of our enemies and bosses utilize Finite State Machines to control their behaviours. For example, when our flying Gorewing enemy is first spawned in, they will fly between 2 set points on the map. If they “see” a player at any point during this time, they will increase their speed greatly and dive upwards towards the player. If the player does not escape this, the Gorewings will then drop their legs onto the player. The Top section of the Gorewing then switches to another Idle state in which they constantly chase the player as they attempt to melee attack the player.
- Both of our Bosses also utilize a more complex use of FSMs to control their behaviour as Mjoll will run away from the player if they get too close and/or initiate her lightning attack along with her intervals of gas and spawning attacks. Bjorn also teleports around the player/map and attacks at random intervals. Both bosses also have “Low Health” states, where their attacks become more frequent and/or more damaging towards the player.

Collaboration:

- One of the key game design elements of our game is the emphasis on collaboration between the Ironhand siblings. This was incorporated into our game in both gameplay and narrative design aspects. Each of the 3 playable characters in our game serve a distinct role that the player can utilize to their advantage when paired together. Lokir’s Dash attack and ranged teleport point clone allows Lokir to become an extremely mobile character. Halvar’s AoE hammer and defensive wall ability allows him to create defensive safe areas for players to recover, as well as clear out an area of enemies in front of him. Ursas slowing arrows and healing wolf allows her to become the player’s ranged healer. These 3 roles were designed with each other’s collaboration in mind. For example, Lokir’s clone can be placed earlier on in the level to attack enemies from afar and provide a safe return point if the player becomes overwhelmed later on in the level. Once players teleport back to their safe point, they can use Halvar to spawn a defensive rock to buy the player more time to switch to Ursas and place her healing wolf. Ursas can then attack enemies from behind Halvar’s wall with her slowing arrows. This is just one example of the many differing tactics players can use/come up with due to each character’s specific role.
- On the narrative design, the spirits that the player interacts with after the Shore and Forest level are actually the Ironhand’s 2 deceased siblings. These spirits may also assist the player during the 7th Act of our narrative if the player was able to gain enough Spirit Favour with their deceased siblings in the previous dialogue sequences.

Diegetic UI:

- In our game, we included as much Diegetic UI that made sense for our genre and style of game. We have diegetic UI and feedback for Halvar’s Rock’s Health, visualizing enemy spawn points, and the end level blockades that clear when the level is complete.
 - For Halvar’s Rock, the rock gradually cracks and breaks down in correlation with the state of its health. As enemies attack the rock, or as time progresses, the rock will lose health.
 - Due to Mjoll’s magic, she produces a puff of green smoke a second before the Scourged appear.
 - The island spirits prevent the Ironhand siblings from proceeding further into the island before they have proved themselves able to defeat the Scourged by having rocks and/or trees blocking the end of the level. The spirits will lift these blockages away when the Ironhand siblings show the island spirits that they are capable of proceeding.

Narrative Plot (Nine Act Structure + Branching Ending)

- Act 1:
 - In an intro video, Bjorn Ironhand is introduced as the legendary Demon of the Rift. He’s a legendary Hero of Wulfgard who has defeated many evils from the world... Including himself...
 - The deadly virus that swept through Wulfgard is also introduced. This virus is known as the Scourge of the Gifted. This scourge turns Gifted magic users into monsters that crave nothing but the flesh of other Gifted.
 - At the end of this Act, it is revealed that Bjorn and his wife Mjoll journeyed to an unknown island known as Shadow’s End to try and find a rare plant that supposedly cured any disease known to ancient Wulfgardians.
- Act 2:
 - It is revealed that Bjorn and Mjoll have been gone for 3 months and that the 3 youngest Ironhand siblings, Hjallna, Eerika, and Morkvar, are beginning to feel the effects of the virus.
 - Needing to find a cure for their youngest siblings, Lokir, Halvar, and Ursas Ironhand set out on a journey to try and find their parents and the cure for this virus in Shadows End.
 - The next morning, the Scourged invade the Ironhand home. Having being invaded, Khajiit D’Amelio and the Ironhand siblings must leave their childhood home sooner than anticipated.
- Act 3:
 - Lokir, Halvar, and Ursas must go to the Dock and board the Rift Piercer to try and find their parents, and the cure to the Scourged for their weakening 3 youngest siblings.
- Act 4:
 - When the Ironhand siblings are about to board the ship, they witness Khajiit being ambushed by Scourged at the opposite end of the dock. With no time to return, Sir Dickon and the Ironhand Siblings must journey to Shadow’s End without Khajiit.
- Act 5:
 - As the Ironhand siblings fight their way through Shadow’s End, they meet the island’s spirits who give the siblings subtle hints as to who these spirits are and why this Island is not like any other land they’ve ever been to.
- Act 6:
 - When the Ironhand siblings reach the castle, they are met with their mother, Mjoll Ironhand. Here, it is revealed that Mjoll was behind the Scourge of the Gifted all along, and that the motivation behind her creation of this virus is due to the fact that she is still grieving over the loss of her 2 children, Bjald and Runa, and believes that the Gifted are the true source of war and bloodshed within Wulfgard. She believes with their extinction, she will bring upon a new era of world peace.
- Act 7:
 - Here, the Ironhand siblings must make a choice. Do they agree with what their mother’s motives are and do they want to assist her in her goal? Or do they believe their mother has gone mad with grief and do they want to stop her?
 - The rest of this act and the last act differs depending on what the Ironhand siblings choose to do.
- Act 8:
 - If Ironhand siblings try to stop Mjoll:
 - High Spirit Favour:
 - Bjorn teleports Mjoll to another dimension and stays there with her. Bjorn aims to persuade her that the things she has done was evil.
 - Spirits help distribute the cure across Wulfgard. The Legacies find out that the two Spirits that helped them are their deceased siblings, Bjald and Runa.
 - Low Spirit Favour:
 - Bjorn appears and teleports Mjoll to another dimension to thwart her plans. Bjorn states that he will help the Legacies distribute the cure across Wulfgard.
 - If Ironhand siblings try to help Mjoll:
 - High Spirit Favour:
 - As Bjorn is about to get killed, the Spirits of Bjald and Runa appear and give Bjorn their remaining zeal so that he can teleport to safety.
 - Mjoll then states that she had a contingency plan where she began creating Scourged that are able to swim. She then states that those Scourged will swim across the sea and infect other continents.
 - Low Spirit Favour:
 - Mjoll controls Bjorn and uses his teleportation powers to teleport more Scourged across the world to further spread the infection.
 - Mjoll then states that she will kill Bjorn once she is done using him.

Reflections

Throughout the entire design and development process of this game, our team learned that we were much more capable programmers than we previously thought. The development of this game allowed our programmers to greatly improve upon our previous game development abilities. Before this game, and even during the early stages of this game's development, we relied heavily upon tutorials in order to implement most mechanics and features. At some point during the early stages of developing our Beta code, we realized that we were able to start writing scripts to implement gameplay mechanics without the need to follow a tutorial. We also learned that playtesting is a crucial step in game development. While we knew that playtesting was an important and valuable process of game development before, due to our game's complex mechanics, playtesters provided us with invaluable feedback that improved our gameplay experience greatly in the long-run. Playtesting results revealed that players kept forgetting the utility that the abilities and ultimates provided; and as such, the team made changes to follow suit. Abilities were reduced to one per character, and ultimates were combined into one. Future playtesting sessions then revealed that players more clearly realized the utility and role that each character provided in combat.

References

Code:

Brackey's 2D Character Controller: (Used for all player movement)

<https://github.com/Brackeys/2D-Character-Controller>

Cinemachine: (Used for Camera Movement)

<https://unity.com/unity/features/editor/art-and-design/cinemachine>

Parallax Code: (Used for Parallax Camera Effect)

<https://ldmoonstudio.itch.io/parallax>

Fungus: (Used for Dialogue System)

<https://github.com/snozbot/fungus>

Sound Effects:

Boom Library Magic SFX: (Used for all Magic Attacks, 16-bit effects were added and edited by Hanna)

<https://www.boomlibrary.com/sound-effects/magic/>

Mjoll Voice Lines & Hit Sounds Recorded By Lindsay Rhodes

All other Voice Lines & Hit Sounds Were Recorded By Mark

All other SFX were created and edited by Hanna. All Voice Lines edited by Hanna

Music:

Dungeons and Dragons By Alexander Nakarada: (Menu Song)

<https://youtu.be/8DCvn484bXw?t=99>

Born From Ashes By Eternal Eclipse: (Intro Song)

<https://youtu.be/lrn7linFA84?t=1320>

Treason By Elephant Music: (Tutorial & Dock Level Song)

<https://youtu.be/VAZhYIfdGfU?t=1949>

Path to Darkness By Adrian von Ziegler: (Shore Song)

<https://youtu.be/WUhMLw6vq8g?t=5547>

Crypts By Adrian von Ziegler: (Forest Song)

<https://youtu.be/WUhMLw6vq8g?t=10446>

Grief By Adrian von Ziegler: (Meeting Mjoll/Bjorn at Castle Song)

<https://youtu.be/WUhMLw6vq8g?t=7402>

The Game By Elephant Music: (Mjoll Boss Level Song)

<https://youtu.be/VAZhYIfdGfU?t=374>

Cloak and Dagger By Eternal Eclipse: (Bjorn Boss Level Song)

<https://youtu.be/lrn7linFA84?t=1736>

Before the End By Twelve Titans Music: (Mjoll Defeated Song)

<https://youtu.be/O-qz-5o2qYI?t=3429>

Approaching Doom By Adrian von Ziegler: (Bjorn Defeated Song)

<https://youtu.be/WUhMLw6vq8g?t=9168>