

Guia 1

the Difficult Journey of a Sword

(GDD)

Pirate Software - Game Jam 16

Version 1.0.1

Table of Contents

- 1. Introduction..... 2**
 - 1.1. Game Overview.....2
 - 1.2. Objective..... 2
 - 1.3. Target Audience..... 3
 - 1.4. Platform..... 3
- 2. Game Mechanics.....3**
 - 2.1. Core Gameplay..... 3
 - 2.2. Player Controls.....4
 - 2.3. Game Physics..... 4
 - 2.4. Game Progression..... 5
- 3. Story and Characters.....5**
 - 3.1. Narrative.....5
 - 3.2. Characters.....5
 - 3.3. Dialogue..... 5
- 4. Art and Design.....6**
 - 4.1. Visual Style.....6
 - 4.2. Character Design..... 6
 - 4.3. Environment Design..... 7
 - 4.4. Level Design.....8
- 5. Audio..... 10**
 - 5.1. Soundtrack..... 10
 - 5.2. Sound Effects..... 10
- 6. User Interface (UI)..... 10**
 - 6.1. HUD (Heads-Up Display)..... 10
 - 6.2. Menus..... 11
 - 6.3. Controls and Accessibility..... 11
- 7. Technical Specifications.....11**
 - 7.1. Engine..... 11
 - 7.2. Hardware Requirements.....11
 - 7.3. Software Requirements..... 12
- 8. Development Plan..... 12**
 - 8.1. Project Timeline..... 12
 - 8.2. Team Roles..... 13
 - 8.3. Budget..... 13
- 9. Marketing and Distribution.....13**
 - 9.1. Marketing Strategy..... 13
 - 9.2. Distribution..... 14
- 10. Conclusion.....14**

1. Introduction

1.1. Game Overview

This game provides a contemplative and difficult journey of Legendary Sword, a sword forged by gods to defeat all evil.

An adventure where the player controls the sword to cross a path full of obstacles, climbs, descents and places where movements must be well planned to pass. In addition, there are several biomes that feature several unique elements. The player will save their progress when they reach a new biome. Two biomes are planned for Jam: Verdant Enclaves and The Bridge of the Fallen. These biomes will be covered in the following sections.

The goal is to make the game addictive, difficult but just right, so that the player always tries to move forward and overcome obstacles. The main features that set it apart are the reverse theme in which the sword must seek its hero and the easy gameplay that allows it to make it accessible to a larger group of people. The other game's strategy will be to reach streamers, content producers and speedrunners to engage and form a community of players around the game.

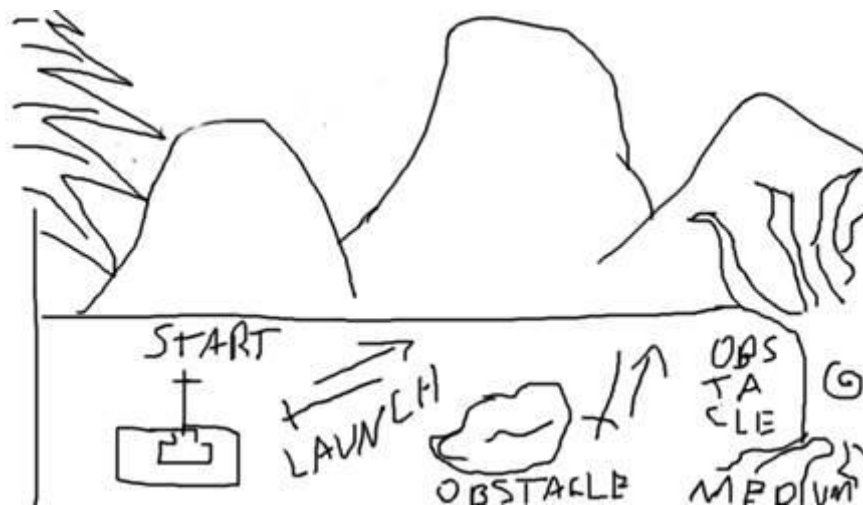


Figure 1. Fast prototype.

1.2. Objective

The main objective of this game is to challenge the player and bring the satisfaction of achieving a long and difficult journey. To accomplish this task, the course forces the player to plan their actions and improve their techniques. This will keep them constantly learning and engaged.

The objective of completing the game is to follow the path presented, which is the only one available, passing through various biomes in a function of sine difficulty. The period decreases and the amplitude increases linearly as the game progresses. This function allows the player to have moments of difficulty and relief but brings true challenges at the end of the game.

1.3. Target Audience

The game is recommended for people aged 13 and over. The game will not contain violence or anything else that would violate the proposed age rating. In addition, the game is easy to play, allowing younger people who have had little access to games to enjoy it.

The game does not represent any specific location, historical moment or religion of humanity. This metric aims to reach a wider demographic of people.

Finally, the game aims to appeal to people who enjoy harder games to be rewarded, first the satisfaction of completing a difficult task and achievements in the form of cards when the player performs certain actions in the game. These cards can be seen in the game's initial menu.

1.4. Platform

The platforms are PC and Web (limited).

The game is made in Godot Engine. To export in Web format, it uses compatibility rendering method which brings limitations. In the case of this game, 3D rendering, the compatibility method results in lower color precision and visible banding. Other limitations in: https://docs.godotengine.org/en/stable/tutorials/export/exporting_for_web.html

2. Game Mechanics

2.1. Core Gameplay

The fundamental gameplay mechanics is throwing the sword using mana and sticking it into surfaces. To throw these elements are necessary:

- **Activate Aim Mode:** when activating this mode, the player can choose the direction of throwing by rotating the sword. If, when rotating, the sword is inside another object, an error occurs with the text "Blocked!" and the sword turns transparent red. When exiting the aiming mode in the blocked state, the sword will self-destruct and will automatically return to the last respawn point.
- **Aim:** choose the angle for a throw free of obstacles or to stick it into an object, called from now on a stickable object.
- **Sword Mana:** a meter that represents the amount of force which can be used for throwing. After the throw, mana is consumed, automatically recovering

after a while. Preventing the player from operating the sword all the time. if the player requests more mana than he has then an error occurs with the text "Overloaded".

- **Sticking in surfaces:** In this Jam The surface that can be stuck will be wood only. In the future, more surfaces will be added and a way to distinguish what is and what is not stickable. The sword sticks with the tip only.

To advance in the game it is necessary to view all the elements presented on the screen and choose the best route, avoiding obstacles and sticking in better positions, to go to unexplored places. The player performs these operations until reaching the end of the game, in this Jam it will be at the end of the bridge.

2.2. Player Controls

The only control is the use of the mouse, as explained below:

- To enter Aim Mode the player must click and hold the left click mouse.
- Mouse movement centered on the sword to rotate it, thus choosing the throwing direction. And the distance between the sword and the pointer is used to choose the throwing force.
- When releasing the left mouse button, the sword will be thrown with the chosen force.

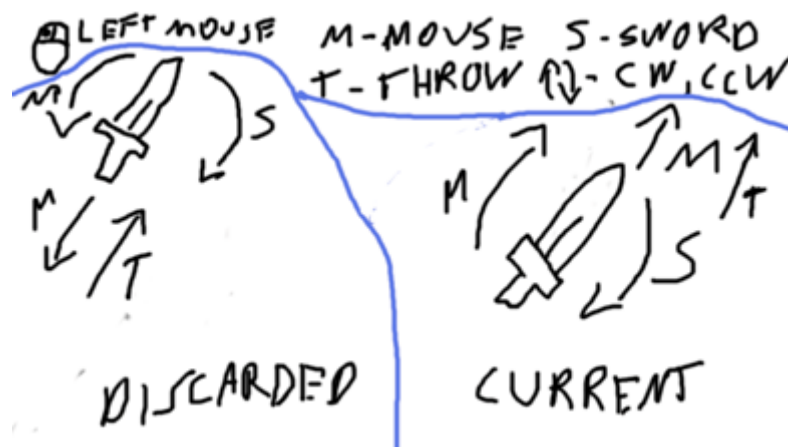


Figure 2. Prototype gameplay.

2.3. Game Physics

Physics is composed of static bodies and a rigid body, the sword. Static bodies are applicable to immutable scene objects. The sword is a rigid body influenced by acceleration of gravity, throwing and collision forces except when it is in Aim Mode, stuck in an object or returning to respawn point. In the last two cases, physics is frozen and the sword is no longer influenced by it.

The sword has 1.8 kg of weight and 1.842 of length, the center mass is calculated automatically by engine. The body's bounciness is 0.39.

Stickable objects have an area a little greater than your static body to detect if the sword is stuck.

2.4. Game Progression

The game is separated into biomes and a start area which serves as a tutorial. The player must find free and unexplored paths, avoiding or hitting objects to continue in the game. Each biome has special characteristics that influence the movement of the sword.

3. Story and Characters

3.1. Narrative

The gods foreseeing the arrival of evil, they put the sword in an isolated location that was difficult to access, with many trials and obstacles along the way. Whoever wielded it had to go through this difficult path to be worthy. Normally the hero should take this path to acquire the powerful sword, but centuries have passed, and no hero reached his altar.

3.2. Characters

Legendary Sword - forgotten in time now searching for its hero to wield it.
Character the player controls.

The path to be conquered (environment) - It will not make the sword's journey, that is, the player's, easier, with several obstacles, climbs, empty spaces and places that require high precision to progress.

3.3. Dialogue

Dialogue in game introduction:

“In a land far, far away, a sword rested on its pedestal, waiting for its hero to wield it.

A long time passed, but the hero did not appear.

...

...

...

Tired of waiting, the Legendary Sword goes to meet its hero!”

No more dialogues.

4. Art and Design

4.1. Visual Style

The overall visual aesthetic of the game is a 3D world seen only from the front how a platformer. Most of the textures used are from a real environment and some are customized, and hand drawn. The elements are arranged to indicate to the player a single direction to progress through the game.

The lighting is done globally, with some exceptions that have local lighting to highlight a certain moment of gameplay. Choices made to convey the feeling of a real environment and immerse the player in the world. Since it is a magic sword, Mana is added to it, which is used to move around. The Mana adds some visual effects to the sword.

In addition, we have the presentation of two biomes that contrast with the previous biome and change the color palette presented to the character.



Figure 3. Start area.

4.2. Character Design

The art of the sword was made to represent a legendary sword, for this purpose golden tones were used on the hilt and pommel. On its blade the texture of rust-free iron is in perfect condition. On the handle there are leather bands rolling from the hilt to the pommel. A large but light sword.



Figure 4. Legendary Sword.

4.3. Environment Design

The environment is separated by the starting area and biomes. In the starting area there are only a few elements so as not to confuse the player and serve as a tutorial for learning the main mechanics of the game. It consists of grass, flowers, trees and some stones.

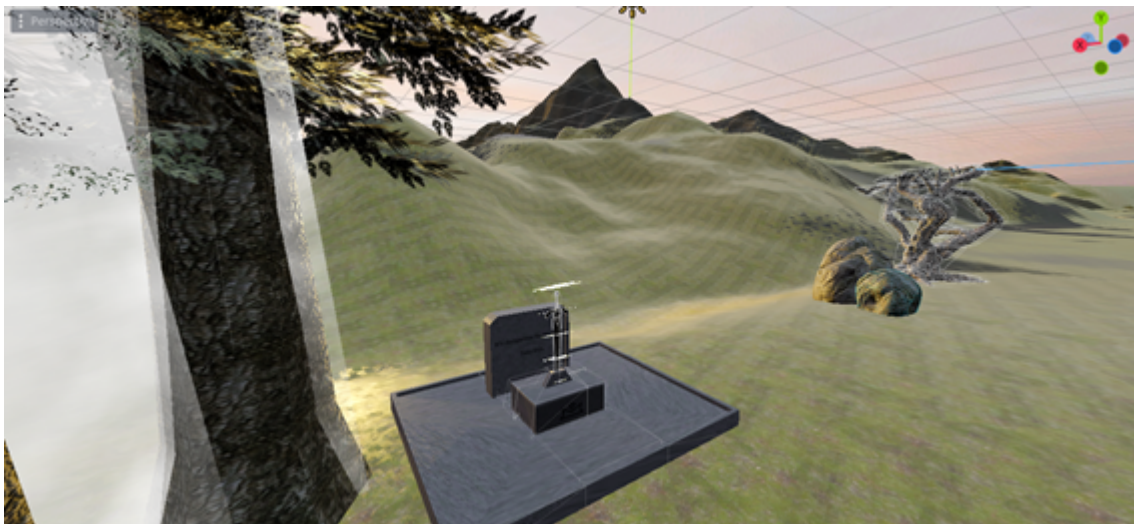


Figure 5. Start area.

The first biome is a vertical forest, the Verdant Enclaves installed on a large mountain that the player will have to get around.



Figure 6. Verdant Enclaves.

The second biome is the Bridge of the Fallen. Several boards are missing and behind it there is a waterfall.



Figure 7. Bridge of the Fallen.

4.4. Level Design

The player starts by seeing a sword on a pedestal, after watching the prologue dialogue. Then, it is necessary to click and hold the left mouse button to start the game, thus entering the aiming mode where the player can throw the sword and continue the game.

In the first part of the game, there are some objects that serve as a tutorial for the game, see Figure 1. The stone, the first object, has an easy difficulty to pass, followed by the tree, which has a medium difficulty. After passing through the obstacles there is a new check point. The player will proceed to the Verdant Enclaves. Here is a 100-meter high backwards

inclined climb, where the player will have to hold on and stick the sword in the trees. Then there is a smooth path to the next checkpoint.



Figure 8. Prototype Verdant Enclaves.

The second and last biome, for this Jam, is the Bridge of the Fallen. A 100-meter-long bridge is in front of a huge waterfall. In this biome, the player must stick the sword into the planks to cross the bridge. The first obstacle is a large tree that is across the bridge. The player can go over it through the canopy or under it through the trunk. After a quiet section of movements, there is a big jump. Next, a section of planks attached to only one side of the bridge and finally, the last challenge, planks with gaps in between.

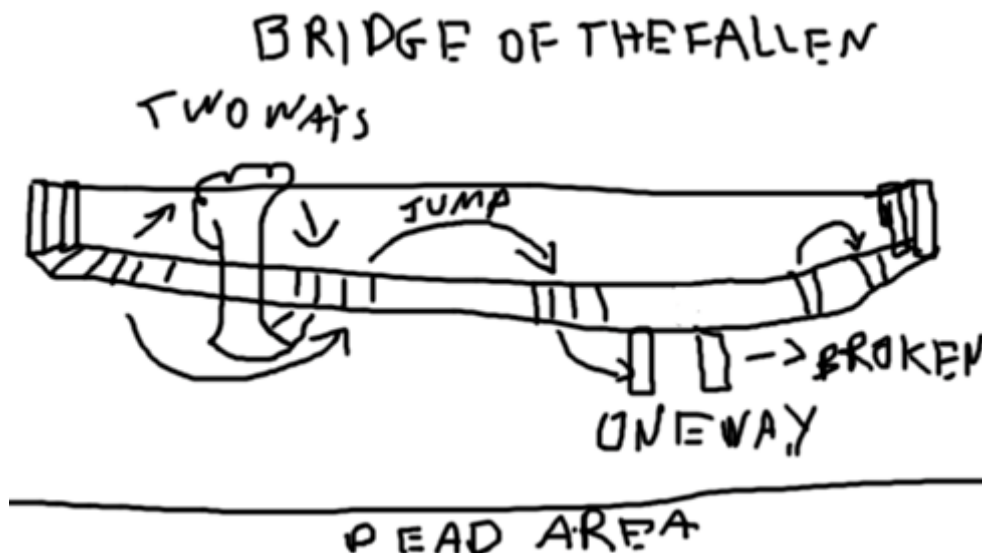


Figure 9. Prototype Bridge of the Fallen.

The player will find the last checkpoint at the end of bridge and the game ends, revealing the last achievement.

5. Audio

5.1. Soundtrack

The game's soundtrack consists of only two songs: the introductory song that is played at the beginning of the game when the player first enters, and an ambient sound from an open field location.

Here are the sound references:

Sound	Effect	by
https://pixabay.com/pt/users/soundsforyou-4861230/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=156704 , Mikhail.		

5.2. Sound Effects

The sound effects used in the game:

Waterfall	-	Sound	Effect	by
https://pixabay.com/pt/users/tramp963-3529620/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=259625 , John Tramp.				

Sound	Effect	by
https://pixabay.com/pt/users/u_xjrmmgxfu-47169417/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=266310 , u_xjrmmgxfu.		

Sound	Effect	by
https://pixabay.com/pt/users/gustavorezende-1488336/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=272990 , Gustavo Rezende.		

Sound	Effect	by
https://pixabay.com/pt/users/voicebosch-30143949/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=174976 , Otto.		

Sound	Effect	by
https://pixabay.com/pt/users/freesound_community-46691455/?utm_source=link-attribution&utm_medium=referral&utm_campaign=music&utm_content=36210 , freesound_community.		

6. User Interface (UI)

6.1. HUD (Heads-Up Display)

On-screen information displayed to the player during gameplay is the mana a label in to of screen and under a progress bar, both called "Sword Mana". Tell the player how much

strength he has left to throw the sword. In Aim Mode a progress bar red, above and same position of other progress bar, will indicate to the player how much mana he will spend on this throw.

Another label is located inside of label “Sword Mana”, its text is red and serves to indicate an error that the player is making, otherwise empty.

6.2. Menus

Before starting gameplay has a menu containing a start button, configuration button, achievements button and credits button.

In the Configuration screen, in this Jam, it has general volume, ambient volume and field of view (FOV). For speedrunners, show times and reset save. The timers are a total run and sectional biome run. In the Achievement screen the current achievements of players.

In Credits screen, in addition to the developers' reference, the reference to the freely licensed assets used in the production of the game

6.3. Controls and Accessibility

The game has easy-to-learn gameplay and can be adapted to different types of controls. More options on how customizable controls, subtitles, and other accessibility options will be addressed in the future.

7. Technical Specifications

7.1. Engine

The Game Engine being used is Godot Engine 4.3. It was chosen because it is already used to working with it, in addition to its simplicity, the ability to work in 3D and because it is open source. A good engine for working on simple and complex projects capable of exporting to multiple platforms.

In addition, the addon Zylann.hterrain is being used, from this tool the entire game terrain was created. Reference: https://github.com/Zylann/godot_heightmap_plugin

7.2. Hardware Requirements

Minimum requirements for PC:

- Operation System: Windows 10 or 11, Linux coming soon.
- Processor: 2.4 GHz.

- RAM: 4 GB.
- Graphics card compatible with OpenGL ES 3.0.

Recommended requirements for PC:

- Operation System: Windows 10 or 11, Linux coming soon.
- Processor: 3.0 GHz.
- RAM: 8 GB.
- Graphics card compatible with Vulkan.

7.3. Software Requirements

For PC operation system Windows 10 or 11, Linux is coming soon.

For Web, browser that supports: WebGL 2.0 and WebAssembly with SharedArrayBuffered.

8. Development Plan

8.1. Project Timeline

Phase	Task	Start Date	End Date	Status
Initiation	Define project goals	21/01/2025	23/01/2025	Completed
	Define scope	21/01/2025	21/01/2025	Completed
	Create fast prototype	21/01/2025	21/01/2025	Completed
Planning	Create initial structure GDD	22/01/2025	22/01/2025	Completed
	Define game mechanics	22/01/2025	23/01/2025	Completed
	How the player will interact	23/01/2025	23/01/2025	Completed
	Scenery and objects	22/01/2025	22/01/2025	Completed
	Level design	22/01/2025	27/01/2025	In Progress
Execution	Model sword and texture	21/01/2025	22/01/2025	Completed

	Create, texture, configuration of the terrain	22/01/2025	24/01/2025	Completed
	Create assets for the map	22/01/2025	29/01/2025	In Progress
	Implement sword mechanics	22/01/2025	27/01/2025	In Progress
	Implement Level design	28/01/2025	30/01/2025	In Progress
Monitoring	Feedbacks	22/01/2025	-	In Progress
	Correct bugs	22/01/2025	-	In Progress
Closing	Final Review	31/01/2025		Not Started
	ost	31/01/2025		Not Started

8.2. Team Roles

This game is being developed by just one person now.

Nickname: billrockx - programmer and 3D modeler. Creative director of the game.

8.3. Budget

No has costs associated with development, marketing, and distribution. However, a lot of time and energy has been invested in this project, which is being developed with a view to future potential.

9. Marketing and Distribution

9.1. Marketing Strategy

The plan to promote the game before release is to attract a considerable number of players and promote it at the Pirate Software Jam, trying to achieve a good position.

After release attract more players and create a community, as well as trying to contact streamers and speedrunners to play and help promote the game. Finally, good partnerships with large communities like Pirate Software.

9.2. Distribution

The game built in the Pirate Software Jam will be distributed on the page of Itch.io for PC and web. Page: <https://billrockx.itch.io/>.

After the Jam, when more content is added to the game it will be released on Steam.

10. Conclusion

Although it is a game that seems to be simple, it has an advanced complexity.

The player will have to develop several skills to reach the final areas of the game. To overcome the various obstacles and throw his sword accurately in small areas, he will spend many hours on his first experience.

This game aims to be a highly challenging and addictive game, but also very rewarding with new areas, biomes and challenges. Always making the player go further.

Thank you for reading and thank you for playing, billrockx.