

Mossy Shooter

Game Design Document

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Game Design

Summary

Mossy Shooter is a platformer shooter game where players are set into the mystical forest dungeon to climb the highest levels that they can. They must collect power gauges in order to be strong enough to enter and challenge higher floor levels while defeating enemies that come their way, and they must strategically utilize their abilities and resources to overcome the challenges as they ascend.

Gameplay

The main goal of this game is to reach the highest level that the player can reach. There are infinite floors and for each level, an enemy can randomly spawn. The player can choose to ignore these enemies or eliminate them by shooting. Killing these enemies also have a chance to drop health items to further prolong survivability, but a single touch from these monsters will eat away at your life points. Use the platforms effectively to move around and avoid these monsters.

Technical

Rules of play

❖ Movement:

- Use **A** and **D** or **Left Arrow** and **Right Arrow** keys to move left and right.
- Press **W** or **Up Arrow** key to jump (press twice to double jump).
- Perform a low jump by pressing the jump key; hold the jump key for a high jump.
- Jumping and moving towards walls will result in slow descents; jump again to perform a wall jump.

❖ Shooting:

- Left-click the mouse to shoot fireballs in the direction of your mouse cursor.
- Shoot enemies (orange slimes) three times to eliminate them. They have a chance of dropping Life Points.

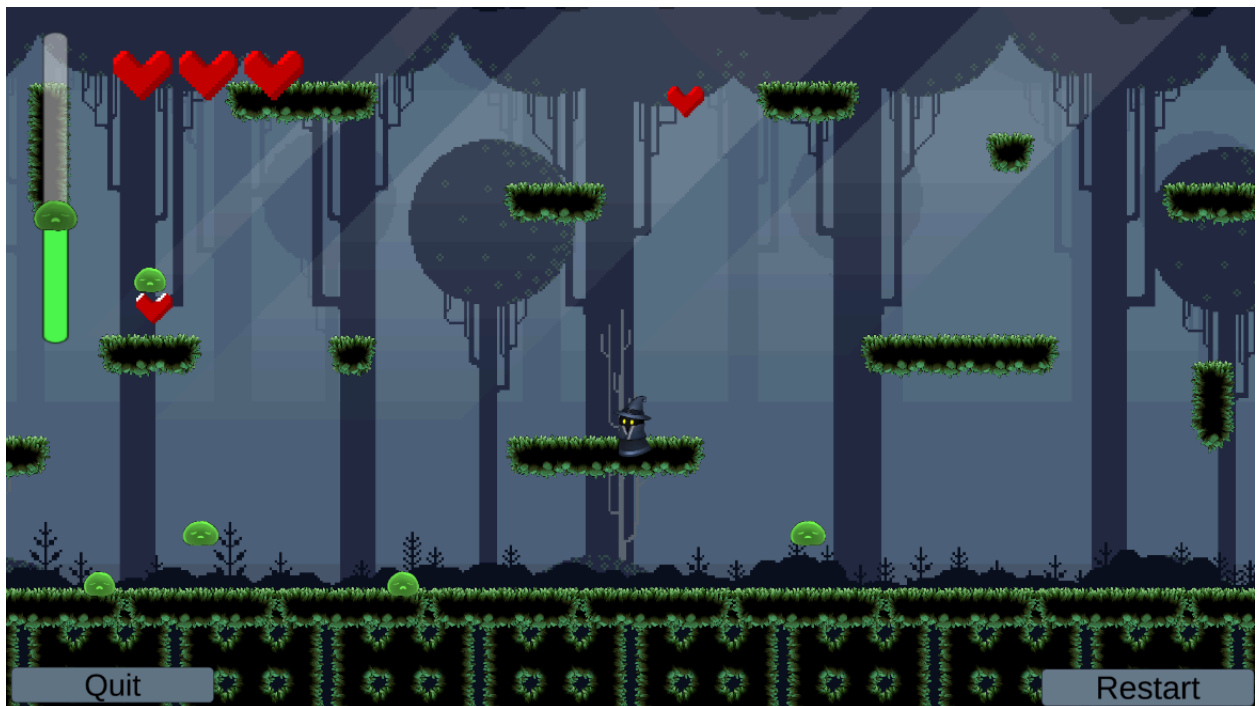
❖ Enemies & Life Points:

- Players start off with a maximum amount of three Life Points.
- Orange Slimes are enemies that will constantly respawn.
- Use the platforms to avoid them as getting too close will result in a reduction of 1 health.
- Enemies defeated have a chance to drop a Life Potion, which restores 1 Life Point (Cannot exceed the maximum three Life Points).
- Depletion of all 3 Life Points will result in a Game Over!

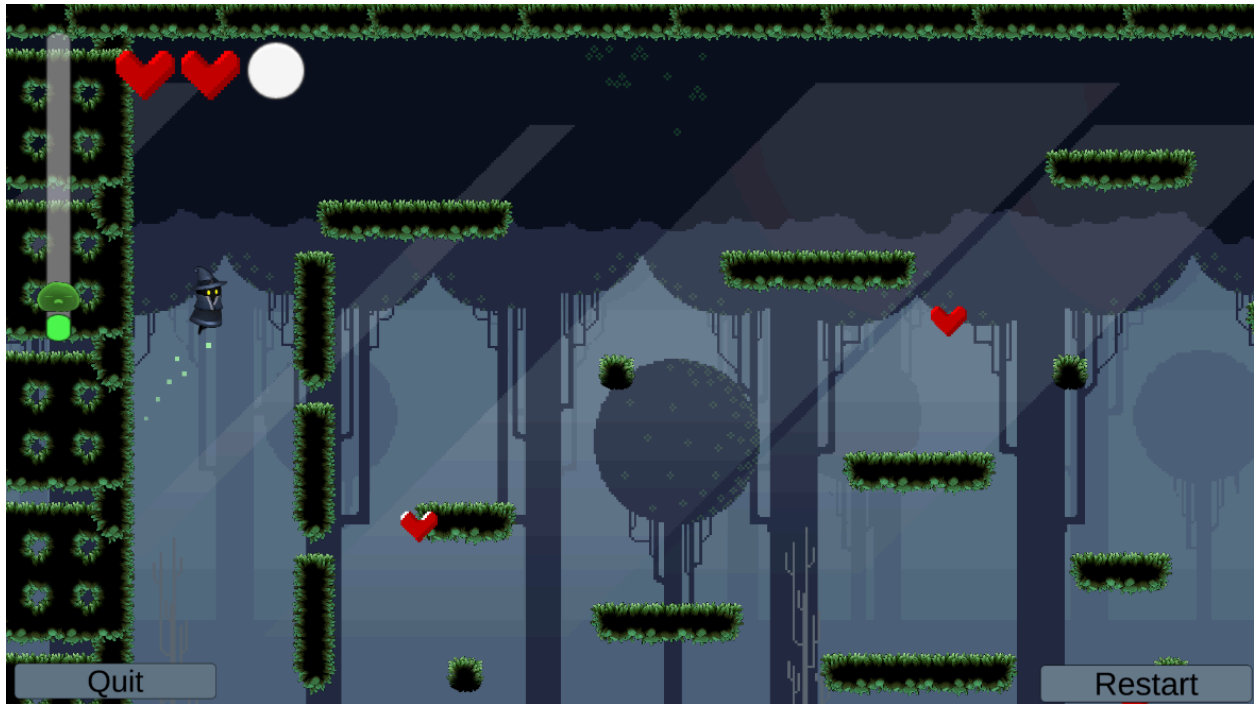
❖ **Goal:**

- Collect Green Slimes until the slime gauge is full while avoiding Orange Slimes.
- Hold **E** after filling the Slime Gauge to progress to the next level.
- Strive to reach as high a level as possible!

Mechanics



- Players can jump through under the platforms for easier maneuvers.



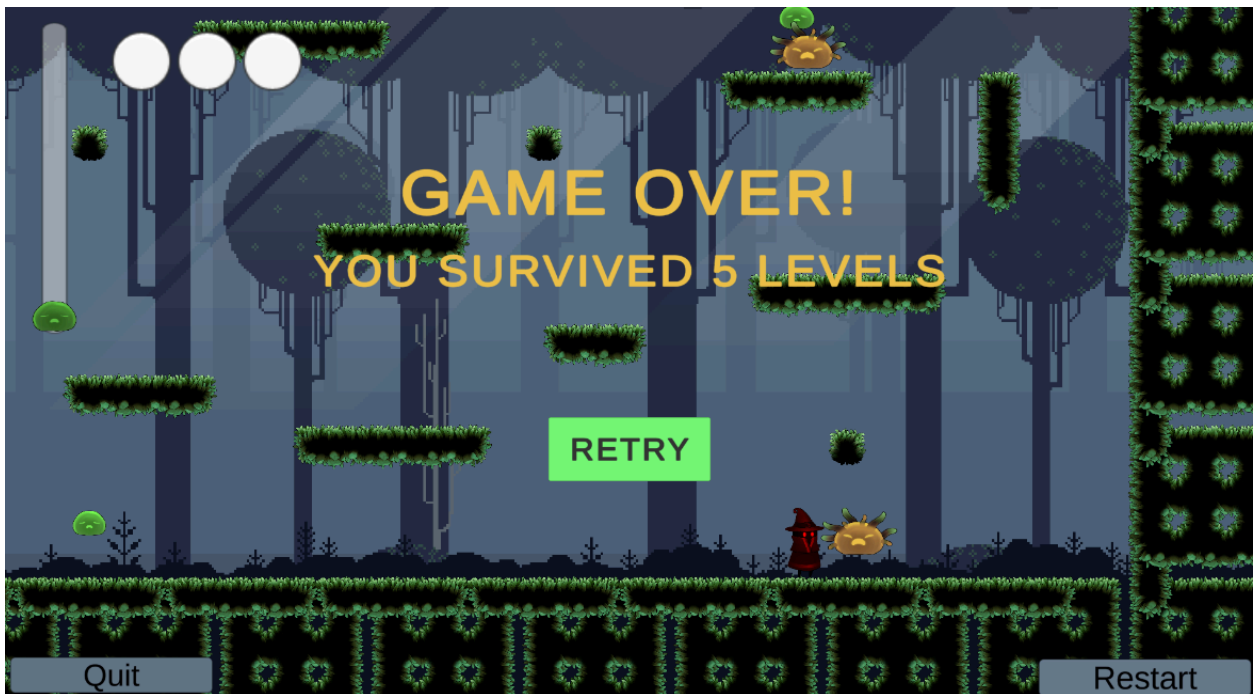
- Jump off walls



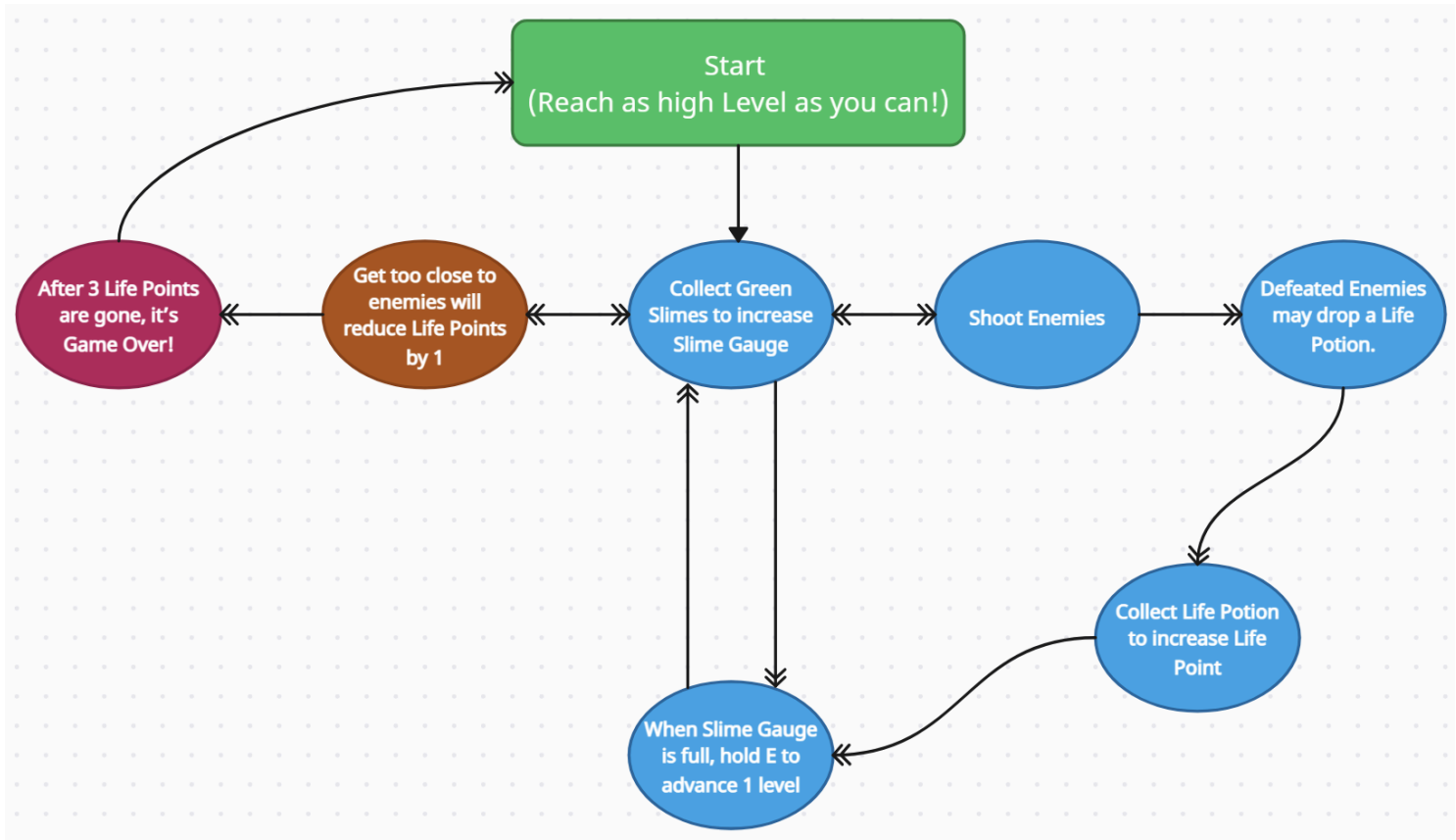
- Mouse click to shoot a red fireball towards the direction of the mouse cursor.



- Hold E when Slime Gauge is full to advance to the next level. It will take a second (timer above your head) to hold E before you can advance, so plan accordingly.



- Losing all Life Points will result in a Game Over.



- Game Flow Diagram

Design

Setting

Mossy Shooter takes place in a mystical forest dungeon, characterized by lush, overgrown foliage. The environment is designed to feel both enchanting and perilous, with moss-covered platforms and old trees with barely any light passing through. The design theme centers around the concept of moss, influencing both the aesthetic and the gameplay elements such as shooting Fireballs to slimes.

Objects



Platforms: Mossy, stone platforms that players can jump onto. The mossy texture of the asset makes it so that the surface has little bumps on it.

Green Slimes: Collectible items that fill the Slime Gauge. Essential for progressing to the next level.

Orange Slimes: Enemies that constantly respawn, posing a threat to the player. Defeating them may drop Life Potions.

Life Potions: Items that restore Life Points when collected. They are dropped randomly by defeated Orange Slimes.

Challenges

Obstacles: The rough mossy texture of the ground may stop the player from moving, this is to encourage always jumping.

Enemies: Orange Slimes that pursue the player. Touching them results in a loss of Life Points.

Life Management: Players start with three Life Points and must manage their health by avoiding enemies and collecting Life Potions.

Progression: Players must fill the Slime Gauge by collecting Green Slimes to advance to the next level. Players must familiarize themselves with the layout of the platforms.

Development

When brainstorming about the project, I thought that it's time to try something that is new but one that does not completely deviate from what is thought throughout the course; mainly the unity labs. And so I chose to do a platformer game where players can shoot, have enemies that follow the player, and collectibles that players can collect to advance. This way, I make use of the techniques taught in the courses while also learning new ones, effectively improving and expanding the scope of skills that I have. I then looked up some guides on how to implement these and followed along with them while also going back to the unity labs for stuff that was showcased there.

Next is finding assets that I can use, which I mostly did on itch.io. I tried finding ones that fit in one overall theme, and decided the mossy theme to be very good with a decent amount of assets available, so I ultimately decided to go with the mossy theme.

After I got my ideas and assets down, I started making the actual game in Unity. I first created the left and right player movements then the tile maps using a guide. I then did the jumping, gravity, and wall jumps using both Unity lab and tutorials. Afterwhich, I worked on the animation, particle effects, and camera effects of my character. I then worked on item collections, progress bar, spawning of green slimes, and creating an additional level map. Following that, I worked on the enemy code that follows the player around, which I learned a lot from. Then I did item spawn (life points), health bar, game over screen, and shooting. Lastly, I finished off with adding sound effects and different scenes for the main menu and the rules screen of the game using primarily the Unity labs in the course.

Playtest Evaluation

The playtesting occurred when only half of the game was finished, so no enemies, additional level, nor shooting was available yet, only the first level, jumping mechanics, collecting green slime, and slime gauge were available at the time. Despite that, I received good feedback from those existing mechanics.

Jumps and Gravity: The jumps are a little small and gravity is too high, making the jumps such as double and wall jumps a little bit sloppy.

Platforms: Because of the way platforms were designed, they suggested that being able to jump through the platforms from underneath would provide a smoother traversal.

Goal: Because only collecting slimes was available during the playtesting, most of my pod mates were confused as to what the goal of the game was, so I included a goal section on the Rules part of the game.

Changes that I want to Implement or Add:

- The spawn location of the green slimes is not very good and needs some improvements.
- The platform locations are currently positioned in a way that players may not find it advantageous to move around the entire space of the game and just stay on the ground level, so that can use some improvements.
- The enemy spawn rate does not increase per level, so difficulty stays the same all throughout the game. Maybe change it so it gets harder for higher levels
- Maybe add additional obstacles such as traps and other movement options such as dashing.

Conclusion

Creating "Mossy Shooter" has been an exciting and enlightening journey. I have learned a lot about various game mechanics, design principles, and Unity controls by blending elements from different inspirations and the Labs and infusing unique twists to what was already thought before. There are various challenges that I encountered during the development of the game:

- **Simplicity and Depth:** Simplifying the rules and mechanics to make the game accessible to a wider audience while keeping depth and complexity for a richer gaming experience.
- **Gameplay Balance:** Ensuring that the game is fair and balanced, giving equal opportunities for all players to progress and enjoy the game.
- **Unity Troubleshooting:** Encountered a lot of errors that I had to learn about and troubleshoot to continue making the game, especially prevalent in the coding part of the project.
- **Thematic Consistency:** Ensuring that the gameplay aligns seamlessly with the theme of the game, and that all gameplay elements make sense within the settings which is the mystical forest dungeon.

Overall, the development of "Mossy Shooter" has been a rewarding experience, and I look forward to seeing how it evolves and expands in the future.

Assets Used / Credits

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