

Lunatic's Resolve

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Revision: 4/8/22

Introduction:

In a tattered world littered with monsters, traps, and bosses, the summoned heroes and their rival battled to the brink of existence. In the final, unfruitful search for life, meaning, and glory, the two stand at the base of the opponent's remaining tower. Unforgiving to their previous rivalries, the two each scale the tower from another side. With an insatiable thirst for vengeance, their unforgivingness to their previous rivalries, to two mercilessly disassemble the tower each on a different side. Which hero will evade all the traps, defeat all the enemies, and kill this so-called foe first?

Our program features a 1v1 style up-scrolling bullet hell dungeon-type shoot-em-up game similar to the style of Touhou. Each player will move up the tower while dodging a sea of bullets approaching in a myriad of different patterns. Besides surviving their own path, they must foresee **traps and other projectiles the other hero sends** in their direction. Each **section** of the map features a **different boss**. By surviving and killing the final adversary standing in their way, can you progress to the next floor. The hero to complete all the floors and **reach the pinnacle first** will be crowned the victor in this futile race. They will also receive bragging rights for the rest of their short lives inhabiting the deserted wasteland. A hero will also win if the counterpart **perishes** in this unforgiving world. Those willing to brave the unrelenting force to kill you and confront the true enemies of this world shall look no further than the glory of *Lunatic's Resolve*.

Lunatic's Resolve is a thrilling PvP style game between two players, featuring a similar concept to temple run with our own twist. The stage forces the characters to progress forward with a scrolling effect. While the characters move forward, goons will appear and shoot projectiles in the general direction of the player. The projectiles shot will vary in patterns. The player will reach the boss of the stage once the player defeats a number of goons in the stage. When fighting the boss, the player will try to defeat the boss while dodging the "bullet hell". After defeating the boss, the player gains a boost to their maximum health and moves on to the next stage. Each player will see a display on their screen that notifies them about their current HP, as well as their skills and clear percent. This game will provide the players with a new, thrilling experience that they will remember for the rest of their lives.

The rules are to have fun and compete with your friend in the game with a goal of trying to reach the final boss and complete the game.

The highlight of this game is that it is a shoot 'em up style PvP game that scrolls up. It is our own spin on multiple successful concepts of games.

Instructions:

The menu the player is greeted with is the start menu.

This menu will be a selection screen of some options to turn off before the game starts.

Once the game is started, there will be a short introduction with some text.

After the introduction, the gameplay will be a set of stages. Each stage will last for approximately 5 minutes.

Players will be able to control their character in each of these stages, with the aim of clearing it.

The controls are as follows:

Esc - Open menu/pause the game

P1:

Movement: WASD, LSHIFT for slower movement

Shoot: F

Power Up (is activated instantaneously)

Skills/Trap: E, R(respectively)

P2:

Movement: IJKL, RSHIFT for slower movement

Shoot: ;

Power Up (is activated instantaneously)

Skills/Trap: O, P(respectively)

The players won't need to click the mouse, but rather use keyboard keys to play the game.

Features List:

Must-have Features:

- There will be 4 stages, (3 normal, 1 final), each with a custom background that resembles climbing a tower. In each stage, there are different sections in which the player must clear to proceed. Once the player finishes all the prerequisite sections and defeats the final boss, they can move up to the next floor and begin the next stage. Upon completion of a stage, the player will receive a boost in max HP. The HP bar of the player will increase according to the max HP gained.
- Goons function as a common type of enemy in the tower that appears in every stage. Depending on the difficulty of the stage, the number, formations, and styles vary. They shoot in the general direction of the player. Goons deal low damage values and have low HP, but "higher ranking" goons in the same stage will deal more damage and have more HP.
- A final boss appears at the end of each stage. During this section of the stage, players must evade a multitude of "bullet hell" patterns. Examples of a bullet hell are a spiral-like formation of bullets, or bullets that move together in a circle-like formation. Each of these patterns scale differently in damage, the more common patterns dealing the least damage. The boss will

have significantly more hp than the goons, their health bar showing on the top of the gameplay area. Defeating the boss will thus take longer. This forces the player to formulate strategic approaches to damaging the boss while dodging the “bullet hell”. The final boss of each stage will vary in terms of patterns and style to force the player to take different approaches in each stage.

- Each player can see their statistics that consist of a symbol denoting whether their skills/traps are ready for activation. A health bar, stage number, and the clear percentage will be available for the player to view. The health bar also displays a numeric fraction and will update based on damage taken.
- Players can activate their skills to affect their rival's gameplay. They can set off different kinds to inhibit the opposing player. Such traps include a gust of wind that pushes the character in a certain direction; bigger bullets increase the chances of the opposing player running into the bullets, and a bullet that ricochets off of walls until it finally meets its target. The direction of the gust of wind will be determined by how far behind or ahead a player is from another. The wind lasts around 3-5 seconds, and will constantly push back players with a force just less than their current movement, effectively slowing them down. Bigger bullets will temporarily increase the size of incoming bullets for 30 seconds by a factor of 25%.
- Players can pick up “power ups” at certain locations during certain time intervals of each stage. Some sit in difficult spots that can result in the player taking damage and makes the player consider their current strategic approach. Each power up will last for 30 seconds. Such power ups include multishot (1 → 3 bullets), pierce (bullets can go through enemies), upgraded projectiles (damage inc.), increased firing rate, a heal (heals 25% of their max hp), larger bullets.
- Players can move up, down, left, right with their respective WASD variation. By holding their respective SHIFT key, they will be able to more carefully navigate and shoot more accurately. Players will hold down a button to shoot a constant stream of projectiles (angle changes can occur from shift in movement) that will deal damage to a sprite when it hits.
- Two win conditions exist in this game: reaching the top of the tower first or the other hero dies.

Want-to-have Features:

- Extra power ups: A target tracking powerup will be a basic addition to the gun that automatically curves towards goons and the boss.
- Fully represented storyline/ending
 - After defeating a boss, the boss will drop some items that have lore or and utter some dialogue about the overall story. With a twist at the end.
- Pixel art as sprites for goons and bosses
 - Rendered with some sort of hit animation or something to make it less boring.
- Background art for each stage and boss battle (how do we do this too)

- Probably clouds with recoloring
 - Sky will slowly be colored darker and darker - beginning is dark blue, middle sunset, boss battle - dark red clouds and a dark sky
 - Add some cracks and other stuff during the boss stage
 - Maybe some brick overlay or something to make them look like a tower
- Each background has its own theme:
 - Themes theme theme final boss
- Implement a final boss opponent that would have unique features compared to all of the previous bosses.
- Different sound effects for different types of shooting and damage sounds.
- Coin system: coins can be obtained as drops or from defeating enemies, and player skills will cost coins to use instead of on a timely cooldown.

Stretch Features:

- Add music in the background while the fighting occurs, some for boss stage and some for normal stages. They will slowly fade to another soundtrack after the stage is over.
- Add more levels to the game to make a total of 7 possibly
 - Create new levels for more content and difficulty
- Tutorial for how to play
 - Design a stage that would walk through the new players on how to play the game, with pop-ups that would have instructions and information.
- Singleplayer / other settings to turn off in the game/modes / character selection etc.
- Add player types, add more game mechanics for the user to play around with. Some examples are for example a player that shoots faster but does less damage or shoots slower but does more damage.

Class List:

- Player (shoots Projectiles and holds player properties)
- Projectile (Bullet, Wind, PatternBullet)
- Enemy - (Boss, Goon, will use Projectile)
- Traps (The traps and how it interacts with players and modifies certain fields in the Player(?))
- PowerUp (The different power ups and changing the properties in player to apply the power up)
- Coin (coin)
- Stage (The stages inside the tower with do we need this is a class)
- main(what the user runs from)
- Game (Renders all above game elements and calculations for each players window)
- Statistics (A class that holds a player pointer that can show all the data it has on a screen when drawn eg. the HP bar with the status effects, gets the HP values from the players and displays their respective amounts. Also contains a timer for the skill and toggles the display of

the icon for activation of traps and skill. The class gets and displays the progress of the stage from the DrawingSurface class)

- DrawingSurface (renders two instances of Game, and Statistics classes which have info grabbed from the game - also activates trap status for each player)
- Background (scrolling)
- Sounds (Plays background music and sound effects) - way too ahead of ourselves but [here](#)

Credits:

[Gives credit for project components. This includes both internal credit (your group members) and external credit (other people, websites, libraries). To do this:

- List the group members and describe how each member contributed to the completion of the final program. This could be classes written, art assets created, leadership/organizational skills exercises, or other tasks. Initially, this is *how you plan on splitting the work*.
- Give credit to all outside resources used. This includes downloaded images or sounds, external java libraries, parent/tutor/student coding help, etc.]
 - Music, sprites, java libraries
- 5/6/22
 - Albert
 - created javadocs and basic structure for game structure elements
 - UML and readme
 - Johnny
 - created javadocs and basic structure for projectiles
 - UML and readme
 - Nathan
 - created javadocs and basic structure for Entity
 - UML and readme
- 5/13/22
 - Albert
 - Created each stage “waves”
 - Created Player movements
 - Created win conditions and basic game functionality
 - Nathan
 - Updated Entity
 - Updated Javadocs and UML
 - Enemy movement patterns and shooting
 - Johnny
 - Added Projectiles
 - Coded Bullet and PatternBullet

Stage Ideas: One stage has the player constantly losing HP, but can't go below one HP

