GROUP NO: 03

Team Members

1. Nahian Ash-hab (55)
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Gengar Escape

Whisper-of-Forbidden-Memories

C++/SDL2

About

Gengar Escape: Whisper of Forbidden Memories is a story-driven adventure where you step into the shadowy world of Gengar, once the most cherished Pokemon of his trainer. After a mysterious encounter in the Old Chateau, the trainer and Gengar captured a powerful Dragapult,unaware of the cold darkness that came with it. Manipulated by Dragapult's sinister influence, the trainer slowly turned away from Gengar, eventually abandoning him in the legendary Castle of Lost Souls, hidden within the ancient Ruins of Alph. Alone and surrounded by the whispers of forgotten spirits, Gengar must navigate four perilous trap rooms of the castle.Each chamber is a physical manifestation of his deepest emotions: anger, loneliness, confusion, and pain. Along the way, Gengar confronts puzzles, enemies, and ultimately, a monstrous form born from all his pain, rage, and sorrow, now standing between him and freedom.To escape, Gengar must conquer his worst fears, overcome the traps of his own heart, and uncover the truth behind his betrayal. Will he remain a lost whisper among the forsaken, or will he rise above the shadows to reclaim his destiny? The question persists.

Gameplay

The game is set in a world where the player must navigate through a main map and conquer four perilous trap rooms. Each trap room is a unique challenge, filled with mazes and puzzles. The ultimate goal is to defeat the final boss, but not before solving all four trap rooms in the shortest time possible to secure a spot at the top of the leaderboard. Along the way, the player has ten health points. Should they lose all their health, the journey ends in a Game Over. Only the main map includes 10 health points. In trap rooms, the player has infinite health.

File Design Summary:

src

-***assets***

-contains all images

-ui_main.cpp, main_map.cpp, header.cpp, trap1.cpp, trap1.hpp, trap2.cpp, trap2.hpp, trap3.cpp, trap3.hpp, trap4.cpp, trap4.hpp, font.ttf, fonthealth.ttf, music.cpp, music.h, ui_music.mp3.

UI

The UI contains four buttons:

1)**Play:** Starts the game.
2)**Leaderboard:** Displays the leaderboard based on completion times.
3)**Settings:** Contains options for controls, goals, and sound.
    a)Controls: Provides details about mouse clicks and key bindings.
    b)Goals: Explains the gameplay objectives.
    c)Sound: Toggles the music on/off.
4)**About:** Provides information about the game.

Main map:

1)**Enemies:**
Main map contains 4 types of enemies:

a)Follower: It follows the player. Collision with it causes the player to respawn and reduces their health.

b)Static Shooter: It stays in one position and shoots. Collision with its projectiles or the enemy causes health reduction.

c)Fixed Path: It follows a fixed path infinitely. Collision with it causes the player to respawn and reduces their health.

d)Final Boss: It follows a reflective movement and shoots projectiles from all around it. Collision with its projectiles or the enemy causes health reduction.

2)**Portals:** There are four portals that teleport the player to the trap rooms, and they vanish after the trap rooms are solved.

3)**Final Door:** After defeating the final boss, the final door activates, and the player emerges victorious.

4)**Health Point:** Player has 10 health points.

Trap1

"Twinforge Inferno"

In this game-level, there are two characters: Gengar and Dark Gengar. This level is made on a 11X11 grid-system,implemented using 2D arrays. Every type of tile(e. stone tile, magma tile, switch) is represented by their corresponding number in the array.

-Goal: to figure out the way to kill the Dark Gengar and get out of the lava room.

-Mirror Movement of the characters: Each character is characterized by visibility and health. Their gridwise movement is controlled via keyboard (WASD) with the mirror movement of the Dark Gengar.

-Randomizing switch and position of the door: rand() and srand() are used for generating random sequences of button number of switches. This is also done for the spawning of the door at random position.

-Active and inactive switch: The change of random inactive switch to active switch in the grid-system is handled here.

-Magma pop-up and Door pop-up: They disappear after a specific time and again show up when triggered.

-Collectables: There are 10 firestones in this game. Gengar have to collect these items. The disappearance of the firestones after being collected by Gengar is handled by grid manipulation and rendering.

-Collision: The collision between characters and falling of characters into lava are handled in this level.

Trap2

"Glacial Pitfall"

In this puzzle, the player has to navigate through a maze where different tiles have different features.
It is implemented on a 10x10 grid which is shown in the "roomGrid" in

trap2.cpp. Every type of tile has been assigned a value in the array. And the tiles have been changed accordingly along with the players movement.

-Goal: Solve the Maze, collect all the Icestones, and exit via the door

-Ice Tile detail: Stepping onto ice causes Gengar to glide in the direction of entry

-Cracked Tile detail: Cracked tile breaks the moment Gengar steps on it, that particular tile transforms into Void Tile.

-Void Tile detail: Gengar instantly respawns at the trap room's starting position when it falls into void tile.

-Boulder Tile detail: Solid obstacle that blocks Gengar's path and stops immediately right before the boulder.

-Pit Stop Tile detail: Gengar can only come to a stop when landing on a pit tile while sliding

-Collectables: Without collecting the icestones, Gengar is not allowed to leave through the doors.

Trap3

"Voltbound Cryptic Dungeon"

This trap room tests the player's cryptographic and puzzle solving skills .

A window opens where the player can see a room(12x10) with thunderstones, lasers, statues, walls and floor. Puzzles are hidden in the statues. Solve the puzzles and collect all the thunderstones to get out of the trap room.

-Goal: Solve all six puzzles and collect all thunderstones.

-Puzzle Set detail: There are four sets of puzzles containing 6 puzzles each. One set of puzzles is given for each gameplay. Four sets are randomized for different gameplays.

-Puzzle Access and Input: There are 12 statues and 4 of them contain puzzles. Solving the first four spawns two new statues and one of them contains a 5th puzzle puzzle. Solving the 5th puzzle unlocks the final and 6th puzzle engraved on the newly spawned door. An input box pops up with puzzles each time. Puzzles can be minimized with ESC without solving.

-Collectable Thunderstone: Player can’t access the sixth puzzle without collecting all stones and thus can’t escape the room.

-Electroball detail: Accessing the wrong statues will cause electro balls to appear on the 3rd,5th,7th and 9th row. Player respawns if he gets hit by an electro ball .

Trap4

"Thorned Threshold"

This trap room tests the player’s reflexes, movement precision, and hazard anticipation.A (10x10)grid-based room appears filled with spike tiles, moving spikeballs, collectible gengarites, and a locked door. The player must navigate hazards, collect all the gengarites, and unlock the exit to escape the trap room.

-Goal: Collect all the gengarite gems,reach the exit tile and unlock the door.

-Spike Tile : There are three types of *animated* spike tiles. Type 1, 2, and 3 have different active/inactive timing cycles. If a player steps on a spike tile while it's partially or fully active, they respawn at (0, 0).

-Spikeball : There are two alternating animated spikeball attack patterns - Vertical and Horizontal.
The groups alternate every 1.5 seconds. If a player collides with a spikeball, they respawn at (0, 0).

-Gem (Gengarite): Player collects a gengarite by walking over it.
Door can only be unlocked if all gengarites are collected.

-Door access:
On pressing Enter, 4-frame door opening animation plays and the player escapes the trap room.

Features

Dependencies: SDL2/SDL.h, SDL2/SDL_image.h, SDL2/SDL_ttf.h,SDL_mixer.h

Utilities:
1. Randomization : srand(), rand()
2. Collision :SDL_HasIntersection
3. Input Handling: SDL_TextInput, SDL_StopTextInput, SDL_StartTextInput
4. Timer: SDL_GetTicks
5. Event Handling: SDL_PollEvent
6. Render and Texture : SDL_Renderer, SDL_Texture
7. TTF : For Fonts
8. Mixer : For Music

Contributions

Ariba Hasan

1. Implemented Trap Room 1 (Twinforge Inferno)
2. Rendered Characters and designed character movement
3. Implemented the “Fixed path” enemy.
4. Executed the player shooting and handled bullet collisions with enemies.
5. Designed the UI button and pop-up position and calculation.

Nahian Ash-hab

1. Implemented Trap Room 2 (Glacial Pitfall)
2. Implemented the UI logic and structure, and different states of UI
3. Executed the dynamic camera movement with the Gengar movement.
4. Implemented 2 Enemy Logic: the “Static Shooter” and the “Follower”
5. Handled every wall collision and respawning.

Mashfikuzzaman Taeen

1. Implemented Trap Room 3 (Voltbound Cryptic Dungeon)
2. Implemented Leaderboard.
3. Attached UI, Main-map, and Trap rooms together with Portal logic.
4. Designed and integrated Timer and Font.
5. Name Input handling
6. Implemented the Final boss Movement.

Sara Binte Shafayet

1. Implemented Trap Room 4 (Thorned Threshold).
2. Designed the map for the main level and UI graphics
3. Integrated ammunation collection and health logic.
4. Music and Sound button Activation
5. Animated character, tile and door sprites.
6. Handled Game Win and Game Over logic.

Credit

Non-AI:
gengar.png , wall.png , reloader.png, door.png , door1-6.png , firestone.png icestone.png stone.png gengarite.png leftdoor.png rightdoor.png finaldoor.png
Mega_gengar.png, health.png, mimi.png, spiritomb.png, darkrai.png ,metagross.png mega, Alakazam, zekrom, Gigantamax_gengar, psyball.png ,elecball.png, willowisp.png,stoneSwitch.png.

AI-
tile.png, normaltile.png, Lava_tile.png, icetile.png, iceboulder.png, icepit.png, crackedicetile.png, voidtile.png, statue.png, newstatue.png, normal.png, nospike.png, halfspike.png, fullspike.png, mixballfinal.png

Music-
ui_main.mp3