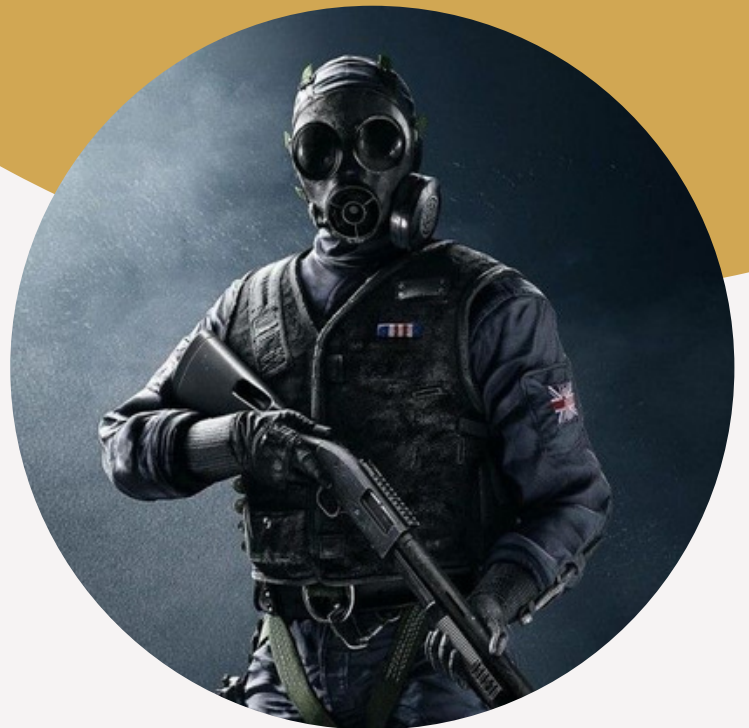




Sindh Madresst ul Islam University

NOVEMBER
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Game Document Design 2023



"THE RESCUE RAIDERS"

This document is design by Game Dev Team

DESIGNED BY

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Project

Summary

"Embark on an epic adventure in 'Rescue Mission: Rescue Raiders,' a thrilling 3D action game set in a world of peril and bravery. Armed with just a sharp knife, players must navigate through the first stage, battling enemies, collecting coins, and honing their skills for an epic showdown. With their hard-earned coins, players can upgrade their weapons and abilities before facing the formidable boss guarding the key to their partner's cage in the second stage. This immersive journey offers dynamic gameplay, stunning graphics, and a heart-pounding quest to save your partner from the clutches of the enemy. Will you rise to the challenge and become the hero they need?"



Our

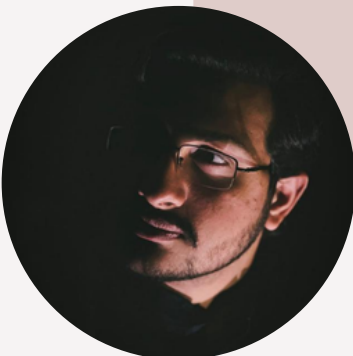
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Game

Introduction



Game Concept : The Rescue Raiders

In this game, we have a mission to rescue our partner from the clutches of the enemy. We will face two thrilling stages of challenges

Stage 01:

Prepare for intense combat as we confront the enemy with our trusty default weapon, a sharp knife. Defeat them and earn valuable coins that will be our ticket to weapon upgrades.

Stage 02:

Equip ourselves with our upgraded arsenal and confront the formidable boss. We will need to fire five precise shots to bring them down. Upon defeating the boss, seize the key to our partner's prison and free them, clearing Stage 2.

Genres:

- i. Action
- ii. Shooting
- iii. Adventure
- iv. Rescue
- v. Combat
- vi. Boss Battle
- vii. Heroic

Targeted Audience:

Age 12-30

Choice of

Game Engine



Unity:

Unity is a cross-platform game engine initially released by Unity Technologies, in 2005. The focus of Unity lies in the development of both 2D and 3D games

Why Unity?

1. Unity's Cross-Platform Capabilities
2. Vast Asset Store and Ecosystem
3. User-Friendly Development Environment
4. Robust 2D and 3D Capabilities
5. Strong Community and Support



Game Mechanics



Game Controls:

It refers to the player's ability to influence and direct the actions and movements of their in-game character or objects.

a. Basic Controls:

- Movement = W, A, S, D keys or Arrow keys
- Jumps = Spacebar
- Hide = H Key
- Attack = Left Mouse Button or L Key

b. Special Abilities:

- Change weapons = Q Key
- Open gate = N Key
- Gun Range = R Key

c. Camera And Views

- Mouse Movement
- Zoom in/out = scroll mouse

d. Menu and UI

- Pause-> Esc
- Inventory = I Key

Rules:

Rules of the game are mentioned below:

a. Objectives:

Free the partner character from the enemy's cage.

Game Mechanics



b. Character Health:

The hero character has a health bar.

c. Enemy Interaction:

Players must defeat or bypass enemy characters to progress.

d. Items and Inventory:

Players can collect items such as health potions, keys, and power-ups that are stored in the hero's inventory

e. Level Completion:

Each level is considered complete when the partner character is successfully freed.

f. Level Progression:

Players advance to the next level after completing the objectives of the current level.

g. Player Defeat:

If the hero character's health is depleted or the partner character is not freed within the level's time limit, the game ends in failure.

h. Scoring:

Players may earn points for defeating enemies or collecting items.

i. Character Abilities:

Describe the special abilities and skills that the hero character possesses, such as attack moves, defensive abilities, or special powers.

Game

Mechanics



J. Difficulty Levels:

The game may offer multiple difficulty levels, affecting factors like enemy strength, and time limits.

k. Game Controls:

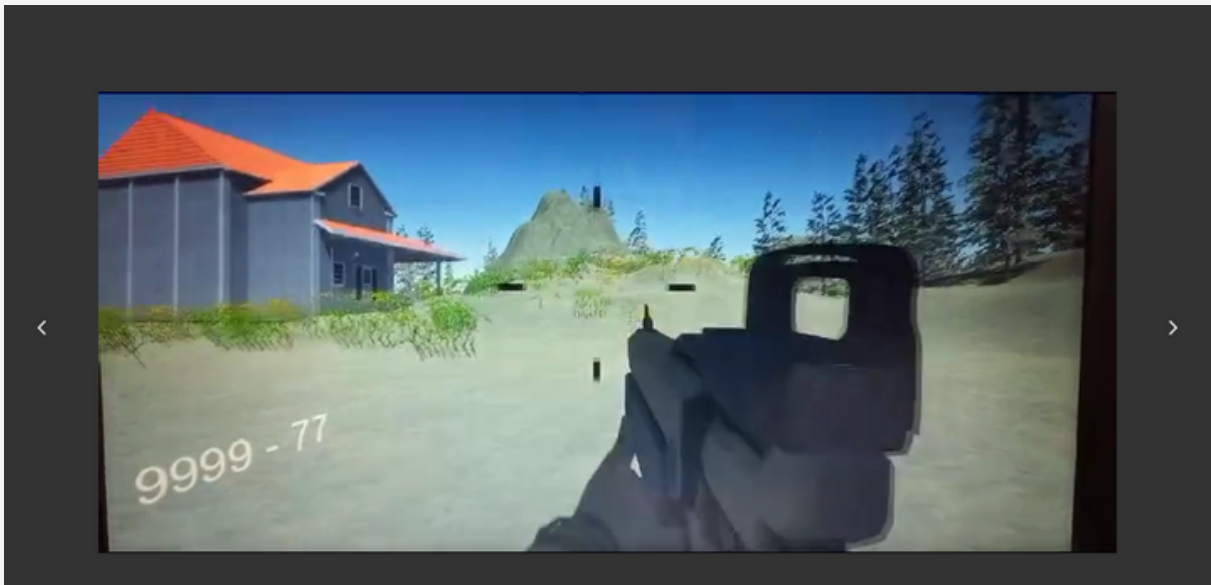
All the game controls as mentioned above.

Game

Prototyping



High-level Diagram:

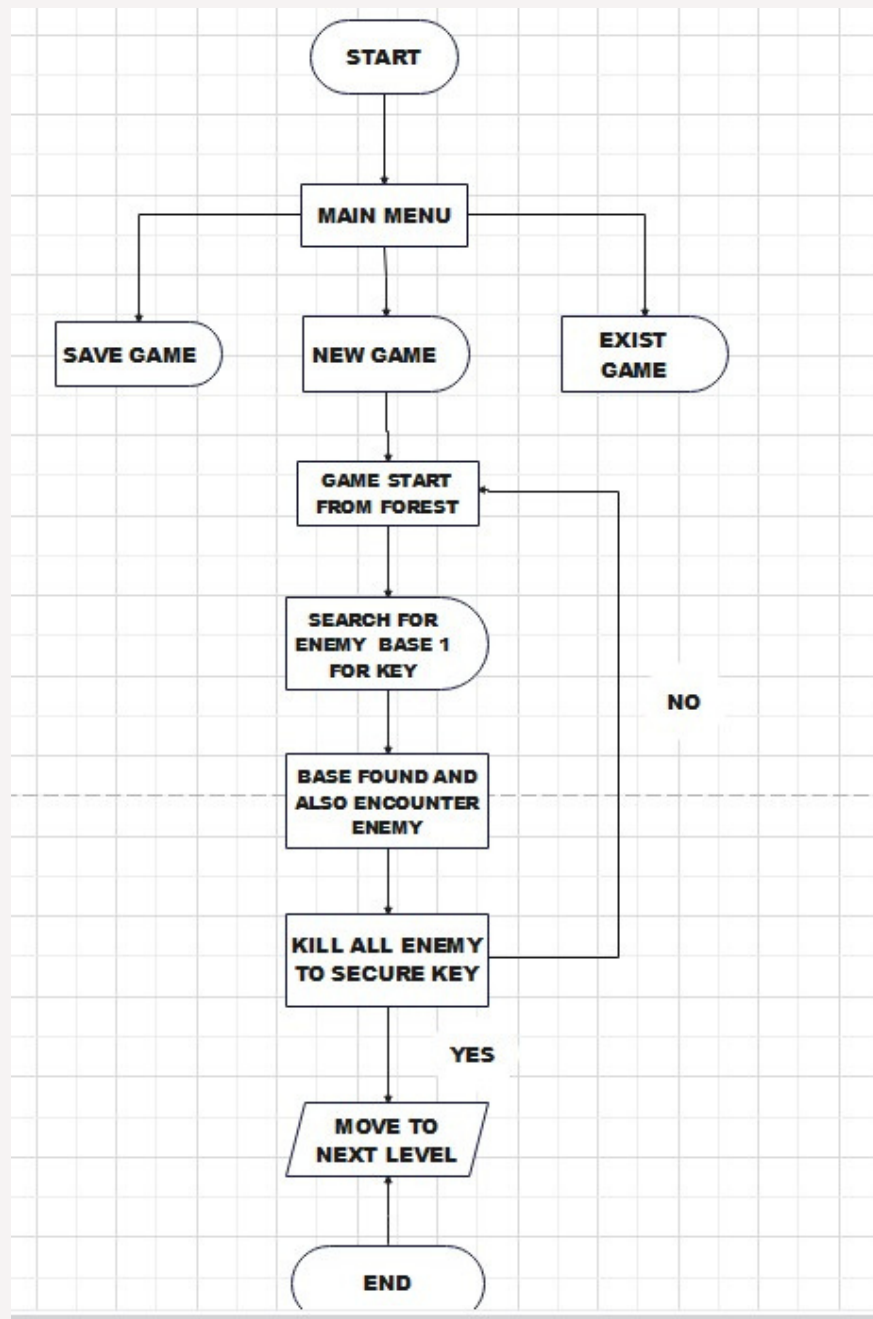


Game

Prototyping



Flow Chart Diagram



Game Arts And **Visualization**



Environment:

1. Terrain
2. Grass
3. Sky
4. Mountains
5. Houses
6. Offices
7. Cage
8. Roof
9. May be Included or excluded as needed.

Character Design

1. Player
2. Enemies
3. Partner in the cage
4. Boss

Obstacles:

1. Coins
2. Power Boost ups
3. Lives (Heart ❤️)
4. Weapons of the enemies (if possible)

Weapons:

Sharp Knife
Gun (after updradation)

Visual Reference:

1. Free Online Asset Repositories (Sketchfab, TurboSquid, and Mixamo)
2. Unity Asset Store

Game

Audio & Music



About

We add audio and music to make the game more attractive and enjoyable. We add the following audio and music on certain conditions

Footsteps

When our player is walking

Shooting sound

When both our character and the enemies will fire.

Knife attack sound

By default, we have a knife that emits a sound on attack

Dropping item sound

When we drop any item from our bag.

Picking up item sound

When we pick any obstacle in the game.

Changing weapon sound

When we change the weapon, it will be done with a sound.

Lighting, thunder and rain sounds

The rain and the thunder will make seamless noise.

Pausing music

When we pause the game, it will play a music.

Waiting music

Game

Audio & Music



When we will do nothing, it will also play a music.

Stage changing music

When we go from stage 01 to stage 02.

Jump sound

When our player is jumping

Open cage sound

When our partner will be free

Game

Level Design



It involves the layout, challenges, and environment of a gaming stage to provide engaging and balanced player experiences.

Overview

Our motive is to gain the coins and clear this stage by killing the enemies using a sharp knife, and gain more and more coins as much as possible to upgrade the weapon enough.

Layouts

There is a forest with some trees, houses offices, and some other obstacles (3D objects) that are displayed in the game scene.

Challenges

Our first challenge in the first stage is to clear stage 01 by killing the enemies and collecting the coins to upgrade the weapons before going to the next stage.

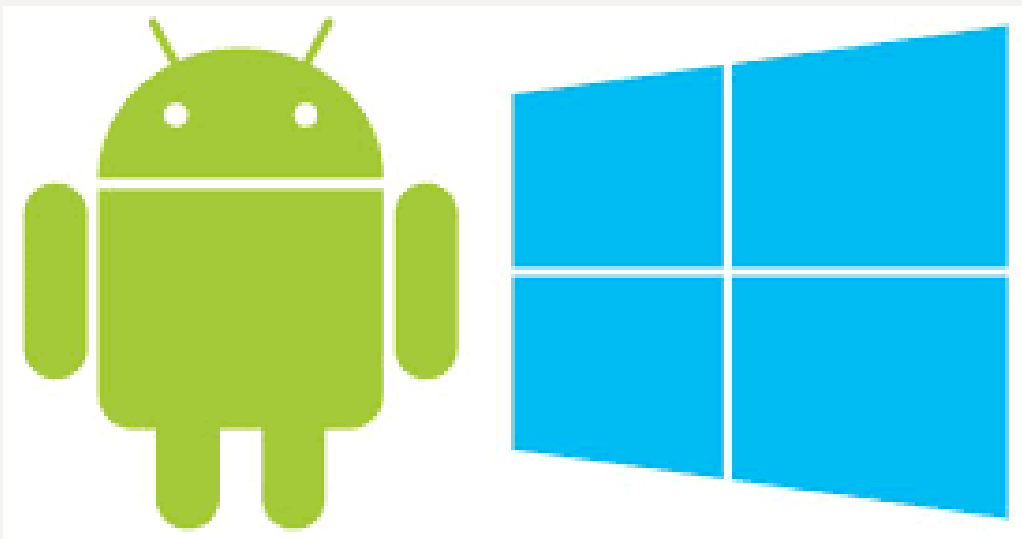
Characters Included

1. Player
2. Enemies
3. Partner in the cage
4. Boss

Game Technical Requirements

Platform Compatibility

The game will be compatible with Windows and Android,



Hardware Requirements

We require a laptop with a minimum specification of 8gb ram and 128GB SSD hard drive



Game Technical Requirements

Graphics and Display

1GB graphic card is not necessary but enough for the development



Input Devices

We are required a keyboard and mouse during the game development phase



Game Technical Requirements

Performance Optimization

1. Implement efficient coding practices to ensure smooth gameplay and minimal resource consumption.
2. Load and unload assets dynamically to optimize memory usage



Scripting Language

C# sharp is the must require for the game development as a backbone to make logic and all functionalities



Game Technical Requirements

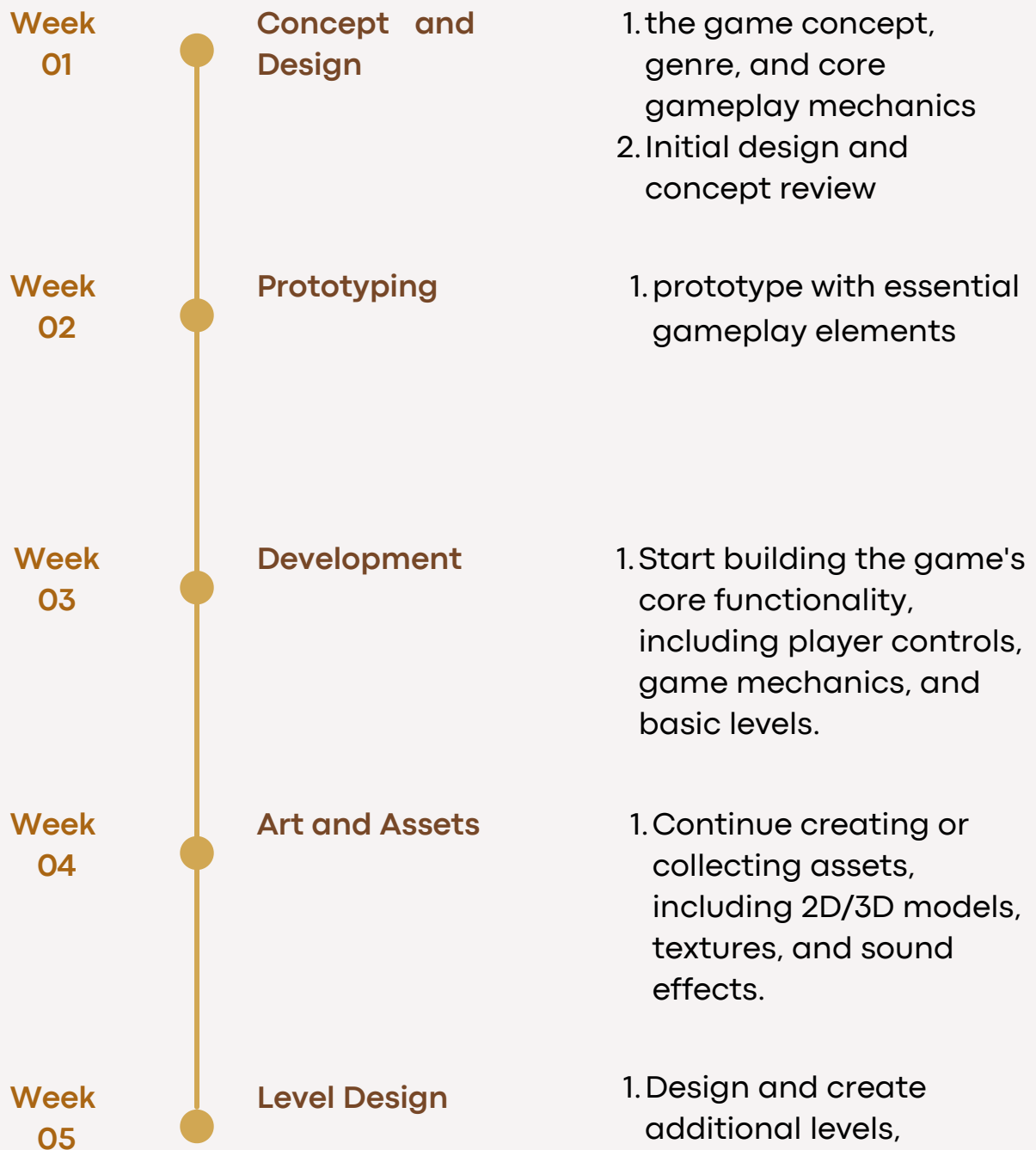


Compatibility and Version Control

We use Git as a version control system to track changes and facilitate collaborative development.



Project Timeline



Project

Timeline



**Week
06**

**Refinement and
Bug Fixing**

1. polish the game, fix bugs, optimize performance, and improve user experience.

**Week
07**

**Playtesting and
Finalization**

1. Conduct playtesting to make necessary adjustments.
2. Finalize the game, perform rigorous testing, and prepare for release.

**Week
08**

**Project
Submission**

1. submit the game to relevant platforms

3D Objects and Scene Managements

Character Models

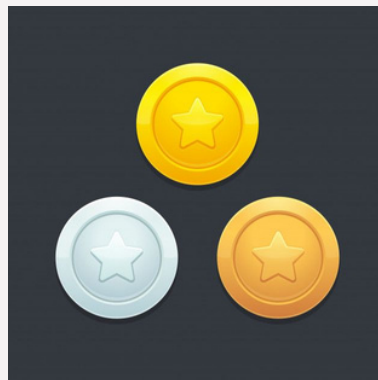
1. Hero
2. Enemy
3. boss
4. Partner



3D Objects and Scene Managements

Environment

1. Cage
2. Cage Key
3. Knife
4. Upgraded Weapons
5. Coins



3D Objects and Scene Managements



Animations:

1. Animation packs for character movement, attacks, and enemy AI.
2. Animation for opening the cage.

Audio

Background music and sound effects for combat, collecting coins, and other interactions.

Particle Effects

-Visual effects for attacks, hits, and weapon upgrades.

UI Elements:

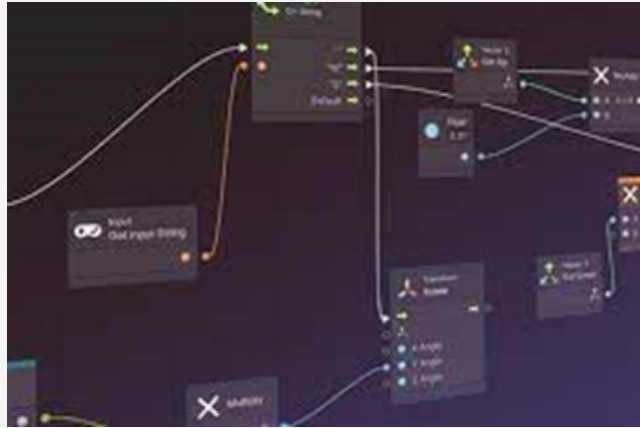
1. Health bars for characters and enemies.
2. Coin counter and inventory for displaying collected coins and equipped weapons.
3. Stage transition screens.



3D Objects and Scene Managements

Scripts and Plugins:

Unity Asset Store offers many scripts and plugins for character control, enemy AI, and game mechanics like coin collection and level progression.



Terrain and Level Design

1. Terrain assets for creating different stages.
2. Decorative elements like trees, rocks, and buildings.

Scene Management:

a. Start Scene

1. This is the initial scene that players see when they start their game.
2. In this scene, you can have a main menu, options, and settings.
3. implement a "Play" button that loads the first level.



3D Objects and Scene Managements



Game Levels

1. Each game level is a separate Unity scene.
2. Separate scene for the first stage where the hero battles enemies with a basic knife.
3. When the player completes the first stage (collects enough coins or defeats all enemies), use Unity's scene management to load the next stage.

Boss Fight

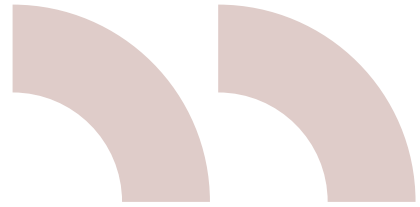
1. For the final stage, there is a separate scene where the hero confronts the boss character.
2. When the boss is defeated, the next scene is loaded.

End Scene

1. After defeating the boss and rescuing the partner, there is a scene that displays the victory message.
2. From here, we can return to the main menu or offer the player to start a new game.



Game Physical Parameters



About

In the Rescue Raider game development context, we may need to consider various physical parameters

And all the physical parameters are mentioned below:

1. Physics Engine
2. Rigid body
3. Collider
4. Gravity
5. Friction and Bounciness
6. Physics Materials
7. Joint Constraints
8. Character Controller
9. NavMesh
10. Particle System:
11. Lighting and Shading:
12. Audio
13. Character Movement
14. Ragdoll Physics
15. Time Scale

Game Deployment Requirements



Hardware Requirements

1. SSD hard drive with minimum storage or HDD with at least 258 GB
2. RAM with a minimum 4GB
3. Graphics with 1GB or not required
4. CPU with i3 3rd generation
5. Operating System should be any window or Linux or any other with 64* bites
6. Input devices (mouse and keyboard) are mandatory
7. Mobile Device Specifications minimum 4GB RAM and 128GB hard internal storage

Software Requirements

Operating System: window or Linux



Game Scripting



1. Movement of the characters
2. Pick up the weapon
3. Sound on picking up the weapons
4. Sound on changing the weapons
5. Sound when a player will walk
6. Different sounds on different floors
7. Sound when shooting the gun
8. Pick up the obstacles (coins, power boost ups, lives, key etc.)
9. Health bar will increase or decrease
10. Lives will be reduced when he is killed
11. Open the cage of the partner
12. Gain the power by picking the power boost up obstacles
13. Jump and hide and can shoot the gun
14. Will be killed when they are shot by a player
15. They will follow and attack the player when the player reaches the specific region (radius) of the enemies
16. Walk here and there by using the loop
17. They will be replaced with coins when they are killed
18. Their gun will defect the player 5 times less than the player's gun
19. 5 times more powerful than the other enemies
20. He will also have the health bar
21. Initially cage is locked
22. The cage will be open after killing the boss
23. The cage will be opened by using the key
24. The cage gate will be opened with animation
25. And partner will come out only when the gate is opened
26. The game will end when the partner is out of the cage
27. Coins will be added to the player's bank when he reaches the same position as the coins
28. Coins will disappear when they are added to the player's bank
29. The key will be shown on the screen when the key is collected
30. The gate will be automatically when the player reaches at the cage gate

**THANK YOU
FROM THE
DEVELOPMENT
TEAM**

