Maze Warrior

Project Synopsis

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Maze Warrior is an immersive 2D role-playing game (RPG) designed to provide players with an engaging adventure through meticulously crafted mazes. The game challenges players to navigate treacherous paths, overcome formidable enemies, and strategically utilize their skills to reach the elusive finish line within a designated time frame.
Key Features:

- **Handcrafted Mazes:** Unlike procedurally generated mazes, Maze Warrior presents players with carefully designed layouts filled with obstacles, traps, and secret paths. Each maze offers a unique and visually stimulating environment.
- **Turn-Based Combat:** Players face armed enemies strategically placed throughout the maze. Combat is executed in a turn-based fashion, allowing players to choose their actions wisely, ranging from standard attacks to specialized skills.
- **Visual Appeal:** The game boasts a vibrant and detailed 2D visual style, enhancing the overall gaming experience. From the intricate maze designs to the animated enemy encounters, the visuals bring the game world to life.
- **Player Management:** Users take control of their character, managing essential aspects such as health, ammunition, and weapons. Careful resource management is vital for survival, adding an additional layer of strategy to the gameplay.

Github Repository: https://github.com/Umair-Zubair/OOP-Project

Use Case Diagram — Maze Game

Player → UI
Player → Spawn
Player → Maze
Player → Enemy Encounter
Player → Player Stats

Maze progress ← Game State
State ← Game State

Class Diagram

Game System
- gameState: GameState

+ startGame()
+ endGame()
+ updateGameState()
+ checkWinCondition()
+ checkLoseCondition()
+ pickupItem()

GameState
- player: Player
- maze: Maze
- outcome: Outcome

+ updateGameState()
+ checkWinCondition()

Maze
- graph : Array[][]
- obstacles: Array[][]

+ generateMaze()
+ checkCollision()
+ placeObstacle()

Enemy
- location: Point
- health: EnemyHealth
- weapons: Weapons

+ moveTowardsPlayer()
+ attackPlayer()

Player
- location: Point
- health: Health
- weapons: Weapons

+ move()
+ attack()

Items
+ attribute1:type = defaultValue
+ attribute2:type
- attribute3:type

+ itemType: ItemType

EnemyHealth
- maxHealth: int
- currentHealth: int

+ decreaseHealth(amount: int)
+ increaseHealth(amount: int)

Weapons
- damageRate: int
- maxFireRate: int
- ammunition: int

+ reload()
+ fire()
+ getAmmo()

Health
- hitPoints: int
- maxHealth: int

+ decreaseHealth(amount: int)
+ increaseHealth(amount: int)