**2D Dungeon iOS Game: Documentation (Swift)**

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**Game Overview**

This 2D dungeon crawler game, developed entirely in **Swift** for iOS, takes players through progressively challenging levels filled with monsters, traps, and platforming mechanics. With five levels in total, the player must clear each room of enemies to progress to the next one. The final level features a challenging **boss fight**. Throughout the game, players collect weapons, armor, and health potions to improve their stats and prepare for increasingly difficult challenges.

**Core Gameplay Mechanics**

1. **Player Movement**:
   * The player controls a character using **touch gestures** or on-screen buttons to move in all directions (up, down, left, right) through the dungeon.
   * **Platforming mechanics**: The player must navigate platforms, jump across gaps, and avoid traps to reach different parts of the dungeon.
2. **Combat**:
   * Combat is real-time, with a mix of **melee** and **ranged** attacks. Players will tap a button or swipe to attack enemies.
   * Players can **equip weapons** that modify attack strength and defense.
3. **Monsters**:
   * Monsters populate each room, and the player must defeat them to move forward.
   * Enemies vary in strength and attack patterns, with tougher monsters appearing as the game progresses.
4. **Pickups**:
   * **Weapons**: Change the player’s attack power and enable special abilities.
   * **Armor**: Provides defense and can increase the player’s overall health.
   * **Health Potions**: Restore a percentage of the player’s health.
5. **Room Progression**:
   * Players must **defeat all enemies** in a room before proceeding to the next one.
   * Upon clearing a room, the door to the next room automatically unlocks, allowing the player to continue the dungeon crawl.
6. **Boss Fight**:
   * In **Level 5**, the player faces the dungeon boss, a powerful enemy with special attack patterns and phases.
   * The player must leverage their acquired weapons, armor, and health potions to survive and defeat the boss.

**Game Structure and Levels**

1. **Level Design**:
   * The dungeon consists of 5 levels, each containing **multiple rooms**. The rooms are interconnected and each level gets progressively harder.
   * **Boss Fight**: The final room in Level 5 contains a **boss** with enhanced strength and abilities, requiring strategic planning to defeat.
2. **Room Mechanics**:
   * Each room is designed with interactive elements, such as platforms, traps, and doors.
   * Players will need to **navigate obstacles** (e.g., spikes, moving platforms) while dealing with enemies.
3. **Boss Fight (Level 5)**:
   * The player enters the **boss room**, where a multi-phase battle with the dungeon’s most powerful enemy occurs.
   * The boss has unique **attack patterns** and **phases**, requiring the player to adapt and use their full arsenal of weapons, armor, and potions to overcome it.

**Character Progression**

1. **Stats**:
   * **Health**: Can be increased through armor upgrades or health potions.
   * **Attack**: Affected by the player's equipped weapon.
   * **Defense**: Enhanced by armor and shields.
2. **Leveling Up**:
   * Players earn experience (XP) as they clear rooms and defeat enemies.
   * Upon leveling up, the player can improve their stats—**health**, **attack**, and **defense**—making them stronger against tougher monsters.
3. **Item Pickup**:
   * Players can pick up various **weapons**, **armor**, and **health potions** in each room. These items can be found in chests, as drops from enemies, or hidden in secret rooms.
   * Items are added to an **inventory**, and players can equip them to improve their stats.

**User Interface (UI)**

1. **Main Screen**:
   * **Health Bar**: Located at the top of the screen to show the player’s remaining health.
   * **Stats Display**: Attack and defense stats displayed below the health bar.
   * **Inventory Button**: Opens a view of the player’s collected items (weapons, armor, potions).
   * **Map**: A mini-map shows the layout of the dungeon and the rooms completed by the player.
2. **Combat Screen**:
   * In combat, the **enemy health bar** is displayed at the top of the screen.
   * **Attack Buttons**: Buttons to perform different actions, like attacking, using potions, or switching weapons.
   * **Action Buttons**: Depending on the game design, action buttons might also appear for special abilities or defensive maneuvers.

**Technology Stack**

1. **Programming Language**:
   * **Swift**: For app logic, character mechanics, room transitions, and combat functionality.
   * **UIKit** or **SwiftUI**: For creating the user interface components (buttons, health bars, maps, inventory screens).
2. **Game Framework**:
   * **SpriteKit**: Apple’s 2D game framework, which is ideal for this dungeon crawler game. It will handle animations, physics, and 2D rendering for the game world, character sprites, and objects.
3. **Game Design**:
   * **Tile Maps**: The dungeon is built using **tile maps** for the different rooms, with obstacles and terrain elements (e.g., walls, platforms).
   * **Physics**: SpriteKit’s built-in physics engine will manage gravity, collisions, and player interactions with the environment (e.g., jumping on platforms, avoiding traps).
4. **Sound**:
   * Background music, sound effects for combat, item pickups, and room transitions.
   * **AVFoundation** for managing in-game audio.

**Game Flow**

1. **Main Menu**:
   * Players start the game by tapping "Start".
   * Options available for **Settings** (e.g., volume control, difficulty) and viewing **High Scores**.
2. **Level Progression**:
   * The player enters the first room of Level 1. After defeating all enemies in a room, they progress to the next room until the level is completed.
   * Upon completion of Level 4, the player enters the **Boss Room** (Level 5) for the final challenge.
3. **Boss Fight**:
   * In Level 5, the player faces the **final boss**.
   * The boss has multiple phases, with different attack patterns and behaviors based on its current health.
   * Defeating the boss results in the **game over screen** with the option to **replay** or **exit** to the main menu.
4. **Endgame**:
   * After the boss fight, players are shown their **final stats**, including the number of rooms cleared and enemies defeated.
   * The game can allow for a **new game plus** mode with higher difficulty or enhanced loot for subsequent playthroughs.

A diagram of a computer

AI-generated content may be incorrect.

**Future Expansion Ideas**

1. **Multiple Difficulty Levels**:
   * Allow players to choose difficulty at the start of the game (e.g., Easy, Medium, Hard), scaling enemy health, damage, and item availability.
2. **Endless Mode**:
   * Introduce an endless mode where players face randomly generated dungeon rooms that become more difficult the longer they play.
3. **Multiplayer Co-op**:
   * Add local or online multiplayer where players can team up to tackle the dungeon together.
4. **Skill Tree System**:
   * Implement a skill tree that allows players to choose abilities or special attacks that enhance their combat style.

**Conclusion**

This 2D dungeon crawler iOS game, developed in Swift, combines strategic combat, platforming, and character progression. With engaging room designs, unique enemies, and the ultimate boss challenge, players are taken on an exciting adventure through a dungeon filled with dangers and rewards. Swift and SpriteKit allow for smooth performance and a seamless gameplay experience. The future expansions offer plenty of opportunities for enhancing the game’s depth and replayability.