GAME DESIGN DOCUMENT: DEADLY RAIN

Game Overview

- **Title:** Deadly Rain
- **Development Platform:** C++ with SFML, Box2D, and nlohmann JSON library
- **Art Assets:** Sprites from Pixel Adventure Sprite Pack (link)
- **Game Concept:** A platformer game where players control a green frog character, navigating through challenging levels. The objective is to jump across hazardous terrains, utilize moving platforms, avoid deadly rain particles, collect apples for score, and pineapples for health regeneration.

Game Features

1. **Player Character: Green Frog Guy**
   - Controls: Basic movement (left, right, jump).
   - Health: Starts with a certain amount of health.
   - Visual: Green frog-like appearance.
2. **Level Design**
   - Obstacles: Spikes, platforms, moving platforms.
   - Hazards: Deadly rain particles.
   - Collectibles: Apples for score, pineapples for health regeneration.
3. **Game Components:**
   - **Player Physics Component:** Manages player movement and health.
   - **Pickup Component:** Allows collection of apples (score) and pineapples (health regeneration).
   - **Hazard Component:** Manages deadly rain particles.
   - **Particle Generator Component:** Handles generation and behaviour of rain particles.
   - **Next Level Component:** Transitions to the next level.
   - **Floating Platform Component:** Controls the behaviour of moving platforms.

Gameplay Mechanics

- **Objective:** Navigate through levels while avoiding obstacles and hazards, collecting apples for score, and pineapples for health regeneration.
- **Player Controls:** Basic platformer controls (move, jump).
- **Challenges:** Precise jumping, timing movements to avoid hazards, strategic use of moving platforms.
- **Scoring:** Apples increase the score; pineapples regenerate health.
- **Level Progression:** Levels increase in difficulty, introducing more obstacles and hazards.

Game Flow

- **Start Screen:** Game title, play option.
- **Gameplay:** Successive levels of increasing difficulty.
- **Game Over:** Display score and options to restart or quit.
- **Victory:** Final level completion, victory screen displaying final score.

Visual Style and Audio

- **Visuals:** Colourful and vibrant 2D sprites with an emphasis on environmental details and character animations.
- **Audio:** Upbeat background music, sound effects for player movements, collectibles, and hazards.

Conclusion

"Deadly Rain" is an engaging platformer game challenging players to manoeuvre through hazardous levels while collecting items and avoiding deadly rain particles. The combination of precise jumping, strategic platform use, and environmental challenges offers an immersive experience for players.