Angry Birds Project

Introduction

This project is a college-level Angry Birds-inspired game developed in Java using **LibGDX**, **Box2D**, and custom assets. The game challenges players with three levels of varying difficulties, featuring randomly generated content and unique gameplay mechanics.

Features

1. **Special Bird Abilities**:
   Each bird has a unique ability, activated by pressing the space bar during flight.
2. **Randomized Levels**:
   - Levels 1 and 2 are procedurally generated, offering infinite replayability.
   - Birds available for each level are also randomly generated.
3. **Hidden Destroyer Block**:
   - Present in Level 3, this randomly generated block automatically ends the level in victory upon contact.
4. **Progression and Unlocking**:
   - The game starts with Level 1 unlocked. Completing Level 1 unlocks Level 2, and completing Level 2 unlocks Level 3.
5. **Saving and Loading**:
   - Games can be saved at any time during gameplay and reloaded later, thanks to serialization.
6. **Game Modes**:
   - **New Game**: Start a fresh game and choose a level to play.
   - **Load Game**: Continue from a previously saved state.
7. **Gameplay**:
   - Drag the bird on the slingshot to aim and launch.
   - A trajectory line helps aim, covering half the screen for added difficulty.
   - Destroy pigs and structures to win the level.
8. **Pause and Save**:
   - The game can be paused mid-play, and players can save their progress.

Technical Stack

- **Programming Language**: Java
- **Frameworks**:
  - **LibGDX**: For 2D game development.
  - **Box2D**: For realistic physics simulation.

- **Assets and Effects**:
    - Images, sprites, and particle effects were sourced from external repositories (see Citations).

Levels Overview

1. **Level 1**:
   A beginner-friendly level with straightforward challenges.
2. **Level 2**:
   A medium-difficulty level with more complex structures and placements.
3. **Level 3**:
   The most challenging level featuring diverse block types (wood, stone and glass) and the hidden destroyer block.

Running the Game

1. **Launch Options**:
    - New Game
    - Load Game (if saved states are available)
2. **Gameplay Controls**:
    - Stretch and aim the slingshot using the mouse.
    - Activate bird abilities using the space bar.
3. **Progression**:
   Completing a level unlocks the next, progressively harder level.

Citations

- **Particle Effects**: Sourced from https://github.com/raeleus/Particle-Park.
- **Sprites and Images**: Credit to:
    - Image Generated by Copilot AI
    - https://angrybirds.fandom.com/wiki/Angry_Birds_(game)/Gallery
    - Images Generated by other AI tools

Team Members

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