

# Angry Bird Game

A fun and interactive 2D game inspired by the classic *Angry Birds*, created using Java and the LibGDX game development framework.

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## Features

- **Physics-Based Gameplay:** Realistic interactions powered by Box2D.
  - **Rich Graphics:** Includes colourful birds, pigs, blocks, and background art.
  - **Interactive Screens:**
    - Home Screen
    - Level Selection Screen
    - Gameplay Screen
    - Win and Lose Screens
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## How to Run the Game

Run the Game: Use the following command to build and launch the game.

```
./gradlew lwjgl3:run
```

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## File Structure and Explanation

### 1. Core Module

The core module handles all the gameplay logic and defines the main components of the game:

- **Bird.java:** Represents the birds that players launch. Includes functionality for movement, animations, and interactions with the game environment.

- **Pig.java:** Defines the pig's behavior and properties. Pigs serve as the game's targets and react to collisions.
  - **Block.java:** Represents structural blocks in the game. Blocks can be destroyed or knocked over by the birds.
  - **MyGame.java:** The main entry point for the game logic. Sets up the game environment and initialises various game screens.
  - **GameScreen.java:** Manages the gameplay scene, rendering birds, blocks, and pigs. Handles user input for launching birds.
  - **HomeScreen.java:** Displays the title screen with options to start the game or select levels.
  - **WinScreen.java** and **LoseScreen.java:** Screens displayed after a level ends, indicating whether the player won or lost.
  - **PhysicsHandler.java:** Manages physics interactions using Box2D, simulating realistic gravity, collisions, and object movements.
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## 2. LWJGL3 Module

The LWJGL3 module handles desktop-specific configurations, including window creation and platform-specific settings.

- **Lwjgl3Launcher.java:** The main class responsible for launching the game on desktop platforms. Configures screen resolution, window title, and fullscreen mode.
- **Lwjgl3ApplicationConfiguration.java:** Sets additional configurations, such as frame rate, VSync, and resource directories.

## 3. Assets Directory

Contains all the visual and audio resources for the game:

- **images:** Includes sprites for birds, pigs, blocks, background elements, and the slingshot.
  - **fonts:** Contains any custom fonts used in the game interface.
  - **sounds:** Optional directory for sound effects like bird launches, block collisions, and pig defeat sounds.
  - **levels:** Files defining the layout of levels.
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# Example Gameplay

1. **Starting the Game:**
    - The game begins on the **Home Screen**.
    - The player touches anywhere on the screen to proceed to the Menu Screen.
  2. **Navigating the Menu:**
    - The **Menu Screen** offers options like "Play" to start the game.
    - Selecting "Play" leads to the Level Selection Screen.
  3. **Choosing a Level:**
    - The **Level Screen** displays available levels.
    - After selecting a level, the player is taken to the Main **Game Screen**.
  4. **Gameplay:**
    - Players aim and launch birds to knock down pigs and structures.
    - The goal is to defeat all pigs to win the level.
  5. **End of Level:**
    - If the player successfully defeats all pigs, the **Win Screen** appears.
    - If the player fails, the **Lose Screen** appears.
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## Resources

- AngryBird's Official Website use Birds Creator
- AngryBird Fandom Gallery

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