

# 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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