

# Project Overview

This is a simple implementation of the popular game **Angry Birds**, featuring a set of levels, birds, pigs, and materials with distinct attributes. The game includes exciting mechanics, interactive features, and additional abilities for bonus functionality. Serialization is implemented to allow players to save and load their progress.

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## Features

### 1. Game Elements

- **Birds:**
  - **Red Bird:** Standard bird with no special abilities.
  - **Chuck Bird:** Speed doubles if the screen is clicked after launch.
  - **Bomb Bird:** Explodes in a radius upon screen click, causing damage to nearby objects while losing half its speed.
- **Pigs:**
  - Each pig has health points and will be removed from the game when their health reaches zero.
- **Materials:**
  - Materials have health points and will break when their health reaches zero.

### 2. Damage System

- Any object (bird, pig, or material) takes damage when:
  - Hit by a bird.
  - Collides with another object.
  - Falls to the ground.

### 3. Levels

- The game includes **3 levels**, each with increasing difficulty and unique layouts of pigs and materials.

### 4. Gameplay Mechanics

- Birds are launched using a slingshot-style mechanic:
  - Drag near the catapult to aim and release to launch the bird.
  - After a few seconds post-launch, a new bird appears for the next attempt.

## 5. Serialization

- Save and load your game progress:
    - **Save:** Store the current game state.
    - **Load:** Resume from a previously saved state.
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## How to Play

1. Launch a bird by dragging it near the catapult.
  2. Aim to destroy pigs and materials.
  3. Progress through the levels by eliminating all pigs.
  4. Use special bird abilities for strategic advantages:
    - Click the screen after launching Chuck Bird to double its speed.
    - Click the screen after launching Bomb Bird to trigger an explosion.
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## Technical Details

- **Game Objects:**
  - Each object (bird, pig, material) has attributes such as health and position.
  - Objects interact dynamically, taking damage from collisions and ground impact.
- **Bird Abilities:**
  - Chuck Bird and Bomb Bird provide unique gameplay strategies.
- **Serialization:**
  - Uses Java serialization to save and load the game state, including level progress and object states

## Testing

Junit testing has been included, to test basic features like pig health and number of birds available