

Angry Birds-Themed Game

Overview

This project is an implementation of an Angry Birds-themed multi-screen game using the libGDX framework. Players can interact with various birds to knock down structures and defeat pigs. The game includes multiple levels, character classes, and UI elements.

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Features

- Different bird types, each with unique abilities.
- Various structures made of materials (wood, stone, glass).
- Interactive UI elements, including pause and win screens.
- Responsive design that adapts to different screen sizes.

Technologies Used

- **Java**: The primary programming language.
- **libGDX**: Game development framework used for rendering graphics, handling input, and managing game states.
- **Scene2D**: libGDX's 2D scene graph for managing UI components and actors.

Installation

1. **Set up libGDX**: Follow the official libGDX setup instructions to configure your development environment.
2. **Open the project**: Import the project into your preferred IDE (e.g., IntelliJ IDEA or Eclipse).
3. **Run the game**: Execute the `Main` class to start the game.

Usage

- Use the mouse or touchscreen to interact with the slingshot and launch birds.
- Tap the pause button to pause the game.
- Press 'ESC' to access the pause screen at any time.
- Win or lose screens are shown when the user clicks W or L on the keyboard, if on Level 1 Screen.

Game Architecture

The game architecture follows a structured design pattern, ensuring scalability and maintainability. The main components include:

- **Screens:** Each game level is represented as a screen (e.g., `Level1Screen`).
- **Actors:** The game entities (birds, pigs, materials) are represented as actors that handle rendering and behaviour.
- **Materials:** Different classes represent various types of building materials (wood, stone, glass) used in levels.

Classes Overview

1. `com.actors`

Contains classes for various entities:

- `Beings`: Abstract base class for all entities (birds and pigs).
- `BasicBird`: Abstract class for bird types.
- `RedBird`, `Chuck`, `Bomb`, `Matilda`: Concrete bird classes with respective textures.
- `Pig`, `KingPig`, `ForemanPig`: Classes representing pig entities.

2. `com.structure`

Contains classes for materials used in structures:

- `Material`: Abstract base class for building materials.
- `Wood`, `Stone`, `Glass`: Concrete classes representing different materials.

3. `com.levels`

Contains screen classes that manage game levels:

- `Level1Screen`: Implementation for the first level, handling the UI and interactions.

Game Flow

Game Launch:

- The home screen appears for about three seconds.

Main Options:

- Users can choose to:
 - Load a saved game.
 - Start a new game.
- Selecting an option directs users to the level selection screen.

Level Selection:

- Users can choose the level they want to play.
- Selecting a level takes users to the actual game screen.

In-Game Options:

- Users can pause the game by:
 - Pressing the **Escape** key.
 - Clicking the pause button in the top right corner.
- Users can return to the previous screen by clicking the back button in the top left corner.

Keyboard Controls:

- On the level selection screen, pressing '**1**' selects Level 1.
- On the game screen:
 - Pressing '**W**' shows the winning screen.
 - Pressing '**L**' shows the losing screen.

Team Members

Ashutosh Tiwari - 2023154, Antriksh Mahato - 2023107