Contents

Bucket Collect Game Documentation

Overview

A Flutter mobile game where players control a bucket to catch falling balls and collect coins. Features include:

- Physics-based ball movement
- Coin collection mechanics
- Persistent game settings
- Responsive touch controls
- Dynamic difficulty system

Architecture

lib/

├── main.dart　　　# App entry point

├── models/　　　# Data structures

├── screens/　　　# Game UI screens

├── services/　　　# State management

└── widgets/   # Visual components

Key Components

1. Game State Management

Central hub for tracking player progress (score/coins) and handling settings persistence using device storage. Key features:

- Automatic saving of sound/difficulty preferences
- Real-time score/coin updates
- Game reset functionality

2. Game Screen

Core gameplay implementation with:

Ball Physics: Objects fall with increasing speed

Collision System: Precise bucket hit detection

Dynamic Spawning: Balls appear with random coin attachments

Touch Controls: Drag or tap to move bucket

3. Rendering System

Visual components featuring:

Ball Widget: 3D-styled balls with dynamic shadows

Coin Widget: Animated currency items

Game Overlay: Score display + game end screen

4. Settings Screen

Player customization options:

Sound toggle

Difficulty slider (1-5 levels)

Automatic preference saving

Game Rules

Catch balls to increase score

Collect coins for currency

Missed balls end the game

Higher difficulty increases ball speed

Setup

1. Add assets/images/bucket.png

2. Install dependencies:

   dependencies:

     provider: ^6.0.5

     shared_preferences: ^2.2.2

3. Run: flutter run

Customization

- Adjust _ballSpeed and _ballSpawnRate for difficulty
- Modify _bucketWidth for gameplay balance
- Add power-ups in Ball model

GitHub Repository Name

- https://github.com/AyeKyiCho/bucket_game