

COMP-2430-SDE
Mobile Computing
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Exercise 3 (BALL CATCH) README

Structure

This project is based largely on my submission for challenge 3 for this course (pong). As such, much of this README file will be similar.

The structure of this project is relatively simple; the bulk of the code is contained in the homepage.dart file, and any widgets that needed to be created or modified from existing widgets were made using separate .dart files. The game operates on a single screen, with a movable object that acts as the player's basket, and a variable amount of falling balls being rendered on top. An extendable class "Movable" (located in the moveableObjects.dart file) was created and holds most information for the objects, such as x,y co-ordinates, height, width, and various function related to getting position & moving the objects. Two additional classes were created (Basket and Ball) using Movable as a "mixin", a feature that essentially allows for multiple inheritance.

Within the 'homepage.dart' file, a timer with a 1ms interval is run, with each iteration calling functions for movement and collision detection. A Boolean variable is used to manage the paused-state of the game. Whilst the game is paused, the contents of the main game loop are not executed. When unpausing the game, a 3 second countdown will be initiated, allowing the player a chance to prepare. As the player continues to play the game, the maximum number of balls that can be on the screen at a single time increases. When a ball collides with the bottom of the screen, it is removed, and a new ball is created in its place. The game can be controlled using both a physical keyboard (on a computer), as well as on a touchscreen device.

IDE

This project was made using 'Android Studio Bumblebee 2021.1.1 Patch 3' as well as:

- Flutter version 3.0.1
- Dart version 2.17.1

Dependencies

This project only used libraries from the standard 'flutter' and 'dart' packages, and also requires the "assets" folder found in the submitted zipped file. (Note, all images found in this folder were created by me for an assignment in a previous course).

Github

https://github.com/jthamil1/comp2430_challenge3

Screenshots

(on the following page)

