Introduction to Games Programming

Coursework Documentation

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Computer Games (Design)

*I confirm that the code contained in this file (other than that provided or authorised) is all my own work and has not been submitted elsewhere in fulfilment of this or any other award*.

*Greig Sinclair*

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# Brickout

## 

I have created the 2D game ‘Brickout’ for my Introduction to Games Programming Coursework. The game was created using the Engine ‘Unity’ and programming language ‘CSharp’ to adhere to the specification given and included textures, collision detection and movement.

## Most Challenging Aspect

The most challenging part of the game to implement for me was the brick objects. After finishing the basic code for the other objects in the game e.g., bat, walls, and the ball, I started working on the bricks. The goal of the game is for the player to destroy all the bricks on screen using the ball and bat. This meant that each brick had to be programmed to be destroyed when the ball collided with it. However, I found this difficult as I first tried to use an array in the form of a ‘For’ loop which would also allow the array list to decrease in size as bricks are destroyed.

## My Solution

Eventually I found a solution to the problem through using the ‘Tag’ tool. I gave each object in the game a suitable tag and changed the ball’s code to incorporate a switch statement. The switch statement determined what would happen when the ball collides with each object using tags as an identifier, for example when the ball collided with the bat, the balls direction would be inverted vertically. This allowed me to list all the brick objects under the same tag and have each of the bricks behave in the same way. The ball would now play an audio file, change the vertical direction of the ball, and destroy the bricks when hit. I also created an integer variable which decreased by one every time a brick was destroyed in order to create a winning message for the player when no bricks were left.