ICTPRG301

Intro to Programming

Doodle Jump

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# Task1

## Binary Data vs PlayerPrefs

Binary Data and PlayerPrefs are two methods of saving in Unity. They use two different methods and are ideally used to store different types of information.

PlayerPrefs stores data in the registry and is useful for simple singular parameter controls. It is useful for storing basic setups and settings e.g. audio default settings.

## Binary Memory Storage

Saving to binary is much more scalable and is a great place to store save data such as, player position on level, active enemies, save states. By storing in Binary the user is converting the data to block of memory in a binary format i.e. 1’s and 0’s. For instance in an 8bit byte 2 to the power of 8 integers can be stored. In unity to save to Binary a save script is created with the data types that you wish to save. These values are then written based on data from the game, a file stream is opened and this data is written as binary data. When loading the data the reverse happens. The file is opened, the data is received from the file to save object and these variables are rewritten into the game

## Doodle Jump Game Mechanics

The Doodle Jump game is a basic doodle jump game.

### MainMenu

The first scene is the main menu, this menu has new game which launches into the game, quit which ends the game and options which opens the options menu. In the options menu there are two audio sliders music and sfx.

These slider values are written and received from player prefs. The script also converts the sliders to work at a logarithmic scale to represent decibels instead of linear values.

## GamePlay

#### Movement

The player is constantly falling. The user only has control over the players horizontal input. If the player collides with a platform. The platform forces the player to bounce in the air. If the player has no platform and falls it will reach the line of death which triggers the end of the game.

#### Animations

The player upon landing on a platform will trigger a jumping animation. The platform will also animate to change scale to suggest the impact

#### Audio

Music plays once the gameplay scene has begun. If the player lands on a platform the bounce sound is triggered

#### Score

The maximum height reached of the player is constantly scored and showed on screen.

#### Platforms

Once the player reaches a certain distance and is above the platform it moves higher up to a random position on the x axis on arrange defined by the player. The line of death moves up

#### HighScore

If the player reaches a high score the game asks for the players name. This score is then added to the list put in order and then saved. The saved file is then loaded. This file is also loaded upon beginning the game. The player then has the option to play again

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