COMP324 Assignment 1
Building a game in UNITY

For my implementation for this Assignment I decided to create a platform game. The idea for this was inspired by other platform games such as : Super Mario Bro's, Sonic the Hedgehog and Little Big Planet. The goal of my created game, is for the player to collect all apples scattered thorough the various levels, while avoiding increasingly challenging obstacles such as; Moving platforms, Spikes, and mobile/stationary saws. As shown in Figure one.
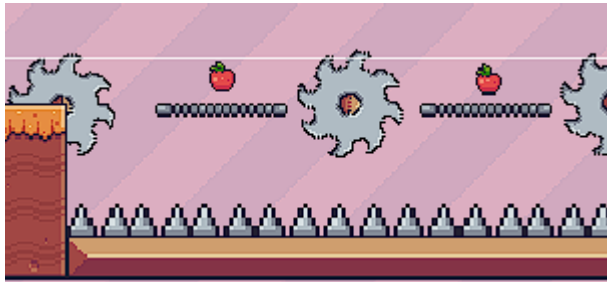
Figure 1

In Figure one, we can see the various traps that are incorporated through the many levels. Also, we can see the apples that I want the player to collect. The apples act as a guide for the player, assisting them in which direction to take, as the levels become increasingly difficult over time

As displayed in Figure 2 , the player is able to view how many apples they have collected through each level. This can be used to incorporate competitive amongst other players, to see who can collect the most apples.
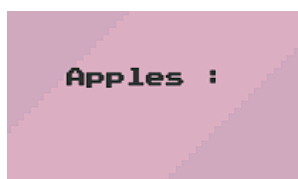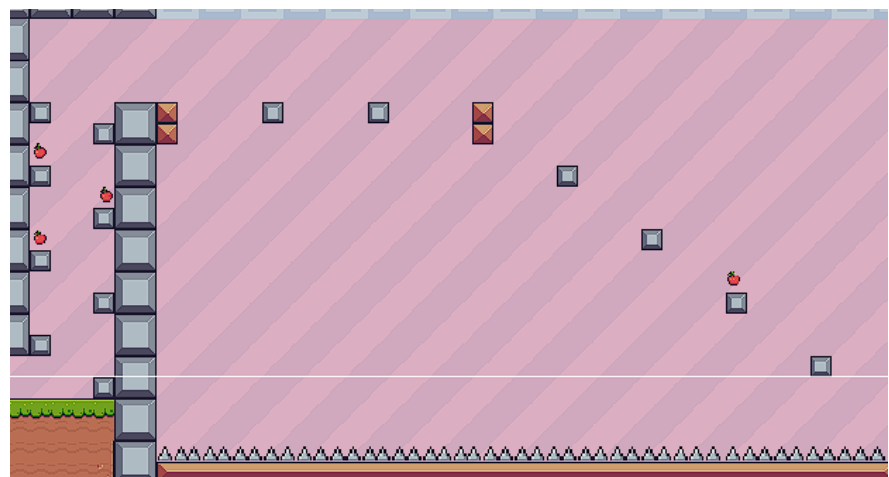

Figure 2

To incorporate more challenging aspects to the game, I added challenging jumps, where the player must time there jumps perfectly to maximise distance travelled in order to progress through the level, or face having to start the level from scratch. Implementation of these challenging jump are seen through the game levels, but can also be seen in figure 3

As can be seen in figure 3 The player must traverse a series of challenging jumps in order to progress through the level, or face a painful death by spikes.

Through the game, as the player traverses through more levels, the jumps become more difficult, and obstacles become more of a hinderance to the player.

Figure 3

In Order to tempt players to play more dangerously, some apples are placed in areas that the player doesn't need to visit in order to complete the level. However if they do, they must overcome an obstacle which could send the player back to the start of the level. But if successful the player can collect the apples that where placed. Implementation of this is shown in figure 4.

As can be seen in figure 4, the apples are placed in a difficult area to travel to, as the saw in the image moves. And can kill the player, sending the player back to the start of the level.
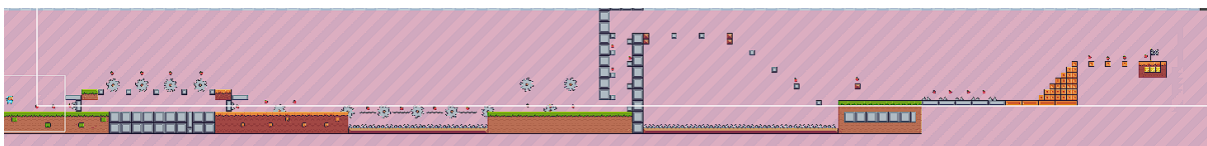
Figure 4

For the implementation of the game, I had created 3 different levels of increasing difficulty, Level One being the easiest with some easy jumps, and reduced obstacles, and Level Three being the most difficult with the hardest jumps, and most obstacles, and level Two being less difficult than level three, but introduces more challenges than level one. Images of the Levels can be seen in the images below.
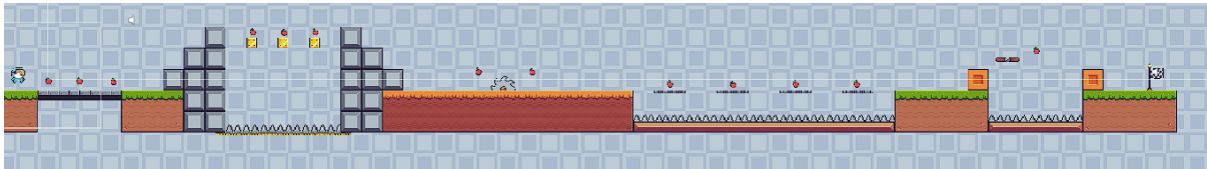

Figure 5 (*Showing level 1*)
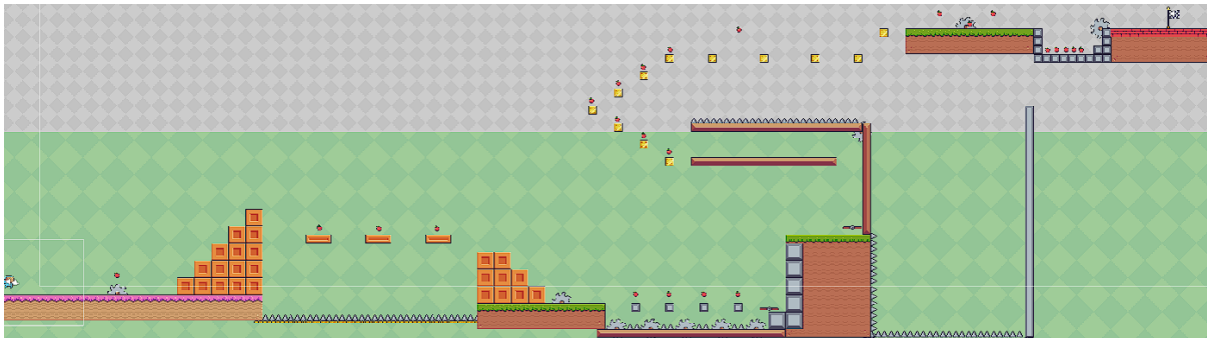
Figure 6 (*Showing level 2*)


Figure 7 (*Showing level3*)

Upon completing certain tasks, Such as collecting apples, Jumping Dyeing and Finishing a level, specific audio cues are played that correlate to the action that has taken place. For the implementation of the Jump sound effect, I recorder myself making a noise that sound like jumping, and assigned that to the player, so that when the player jumps, the audio I recorded will play. Giving the impression that the character is exerting energy to jump.

On Launching the game, the user is presented with a simple GUI with a button which allows the user to begin the game. Upon selecting the button, the player is placed at the start point of level one. Figure 8 show the GUI the user is presented with upon opening the application.

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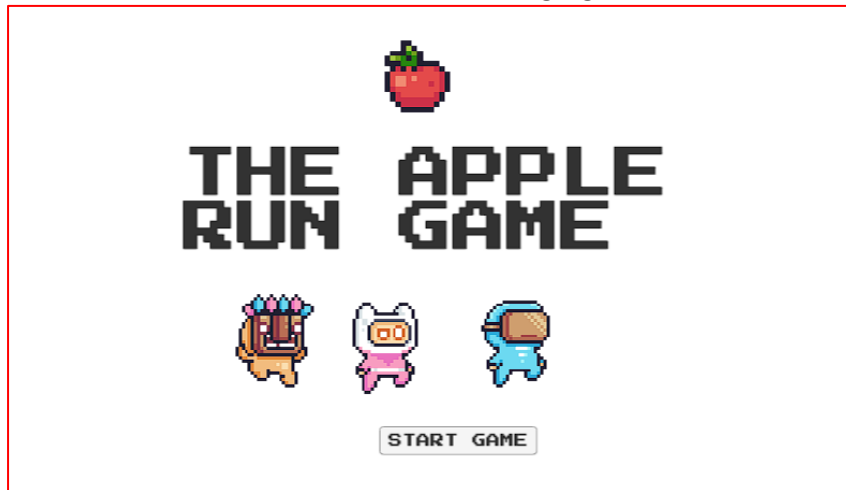
Figure 8 (*showing the Start Screen***)**

As show in in Figure 8, the Player is presented with a simple UI with some of the characters and objects the user may encounter on their journey to collect the apples. And Upon completion of the final level, the user is presented with an End Game screen, which is displayed in figure 9.
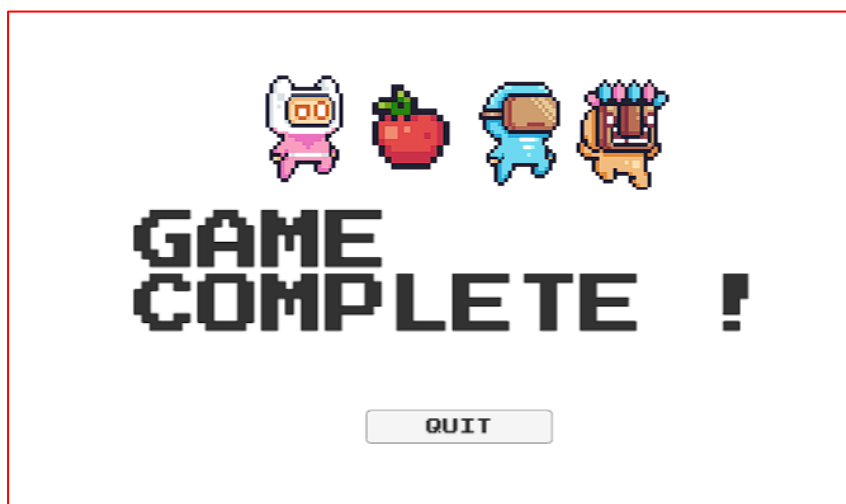
Figure 9 (*showing the END Screen***)**

Please note that there is a "How to Play guide" in the folder containing the executable file for the game.

Through development of this game I made use of various Assets available to me on the Unity Store, These Assets can be found in at the following links :

Pixel Adventure 1 | 2D Characters | Unity Asset Store (This asset was used for level creation and player creation)

Casual Game BGM #5 | Audio Music | Unity Asset Store (This asset was used for Sound effects and back-ground music implementation)