**PROJECT DOCUMENTATION**

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Work Process

*Step 1:* Creating a new project in Unity : A new 2D project in Unity was created.

*Step 2:* Creating sprites : A new folder was created with the name ‘Sprites’. Inside the folder new sprites were created to be used in the game.

*Step 3:* Creating Game Objects : Game objects such as ‘Player’, ‘Boundaries’, ‘slabs’ etc. were created and dragged into the ‘Prefabs’ folder.

*Step 4:* Setting up the level: In the Unity Editor, the game objects were arranged to create the level.

*Step 5:* Creating ‘Physics2D’ materials : A ‘Physics2D’ material was created and applied to the ‘Rigidbody2D’ boundaries. It was given a ‘Bounciness’ value of 0.5 and ‘Friction’ value of 0.4.

*Step 6:* Writing Scripts: Different scripts were written for ‘Player’, ‘Slabs’ and ‘Camera’. User enters input through the keyboard to move the player. The camera moves with the Player. Some slabs move horizontally. All scripts are put into the ‘Scripts’ folder and are named accordingly. Scripts have comments alongside each line of code written to explain what the code does.

*Step 7*: Test: The game is played in the Unity Editor to test the scripts, controls and gameplay.

*Step 8*: Build and run: The game is built (for Windows x86) and then played to test for bugs and gameplay.

Results

In the ‘Jump and run’ game the player has to climb up slabs to reach the goal. Some of the slabs move in horizontal direction and present challenge to the player. The level is considered completed once the player reaches the top and touches the ‘Goal’.

The controls work good, and the appearance of the game is good. The game mechanics also work finely. The level takes around 1 minute to complete and is of moderate difficulty.

Own Contribution

I designed the level, the game objects, gameplay and wrote the scripts. Some help was taken from the Unity Manual to look for functions. To make the player not jump in air, I took help of the Unity method called OnCollisionExit().

Some help was taken from ‘Youtube’ videos of Unity to write the code for the game scripts.

Things learnt

I learnt that there are multiple ways to solve a problem. Whenever you get stuck on a problem you can seek help from Unity manual or other sources.

I learnt that it is important to organize your work to save time. Also, the chances of error and bugs are reduced if the code is organized.

Questions that remain open

The first question that remains open is: How to make the appearance of the game better.

The second question that remains open is: What the difference is between a successful game and a non-successful game.

Self Assessment

I was able to successfully able to create this game. The game is a very simple one but creating it was a lengthy task. The game made me learn basics of the Unity Engine.

A better game can be made with better knowledge of Unity Engine and its functions. The Unity Manual is a very helpful tool.

One has to be creative when deciding gameplay or how a game is going to end. In my case, I thought it would be interesting to make a game where the player jumps in the upward direction.

It was a great learning experience creating this game.

Thanks to

I would like to thank my family and friends for supporting my project.