**Programming Tutorial**

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**Tutorial 1: pause menu**

* Watched tutorial from 23:27 to 23:34
* <https://www.youtube.com/watch?v=JivuXdrIHK0>

**Step by step**

1. Create canvas
2. right-clicking on canvas go to UI and select panel and rename it “PauseMenu”
3. right click on “PauseMenu” go to UI and select button
4. Rename the text for the button to “Resume”
5. Rename the button to “Resume Button”
6. Duplicate the Resume Button and name it Menu button and change its text to menu
7. Duplicate the resume button and name it Quit button and change its text to Quit
8. Go to canvas and add a create and add a script called pause menu
9. Open the pause menu script and delete the start method
10. Text

    Description automatically generatedNext, we create a variable that will keep track of whether our game is currently paused.
11. We write the highlighted code.

Public static variable because we want it to be accessible from other scripts and static to check from other scripts whether the game is paused.

Bool- since this can either be true of false.

Name it GameISPaused and by default this will be false

1. We can check to pause the game by writing an If statement and using the escape key.

Text

Description automatically generated

1. This checks if you hit the escape key while it isn’t paused it will pause and the reverse will happen for pause.
2. To control UI their needs to be a reference - public Game Object PauseMenuUI;
3. Text

   Description automatically generatedWe want to enable the game object for the pause of our statement which its why it is true. Timescale is the speed of time is passing which put at 0f freezes.
4. We do the opposite for void resume; time scale is back to original time which will unfreeze the screen.

Text

Description automatically generated

1. In the canvas under pause menu UI drag PauseMenu from the hierarchy to Pause Menu UI.
2. Next make void resume to public void resume to be able to trigger it from a button.
3. Create to function load menu and quit game.

Graphical user interface, application

Description automatically generated

1. Select the resume button and find the on click event and drag the canvas since it carries that action to none (object)

To give a function, go to pause menu and find and click resume()

1. Graphical user interface

   Description automatically generatednext do this to the other to button.

And change the function

For main menu its load menu()

And for quit button its Quit game()

1. Text

   Description automatically generatedNext, we can make the last two function do somethings by loading our menu by typing this. This will allow us to access our scene manger.

Text

Description automatically generated 23) This will reference the scripts and the buttons. The timescale is for the main menu.

**Tutorial 2: High score**

**Link**

https://www.youtube.com/watch?v=vZU51tbgMXk&list=PLPV2KyIb3jR5QFsefuO2RlAgWEz6EvVi6&index=14

1. Graphical user interface, text

   Description automatically generatedCreate an object and name it dice and attach a script. This will refer to the scoreboard that would be under the dice.
2. Text

   Description automatically generatednext to write this part for the script which will choose a random number between 1 and 6. The next part is to convert it to string to match the text.
3. The function needs to be triggered with a button. ( Void roll dice must be made public)
4. Text

   Description automatically generatedUse playerprefs to save information that was on the same device.
5. To write an If statement and if its true that means are high score is beaten and will change as soon as its true.

Text

Description automatically generated

1. Next is to make a reset button the high score that has been saved.

The last part of the code is to visually see the high score reset.

Graphical user interface, text

Description automatically generated

Tutorial 3: Health bar

Tutorial video

<https://www.youtube.com/watch?v=1wBWVYKwNu4>

Step 1: Open unity and terrain with 2 cubes, a green cube to represent the player and a red cube to represent the enemy.

Step 2: Right click in the hierarchy and go to UI then select slider and reset background and the “Fill” under fill area, also disable/delete Handle slide area for better aesthetic.

Step 3: change the colour for fill to make it represent health as red, in the slider inspector set the max value which will be the full health of the player.

Step 4: Create and add a new C# script called PlayerHealth

Graphical user interface, text, application, chat or text message

Description automatically generated

Include UnityEngine.UI; to use these elements.

Include public Slider to utilise the health.

To Refence the health



Logo

Description automatically generated with medium confidence

This line allows the player health to be synced with the slider value.

Step 5: Drag the slider for the health into the inspector for the player in the slider section, and set a value for health eg:100

A screenshot of a computer

Description automatically generated with medium confidence

Step 6: to make the player lose health we create an enemy that when contacts the player it will decrease health.

Step 7: This private void line will check when obstacles collide with the player, using an if statement to check if the object hit the player if the object is tagged as a player, it will collide and make the player lose health, in this instance 10f is losing 10 health.

Text

Description automatically generated with medium confidence

Graphical user interface, text, application

Description automatically generated

Full Script for slider health bar.

***Tutorial 4: countdown timer***

Tutorial video

<https://www.youtube.com/watch?v=o0j7PdU88a4>

Step 1: open a new unity project and create a C# file ending with \*.cs and name it “Countdown Timer”.

Step 2: Create 2 variables



Graphical user interface, text

Description automatically generatedStep 3: write a void start like this in the screenshot. Once the game start it set the current time to starting time.

The next part is to give the variables a value.



Step 4: To write a void update section that will allow time will decrease by 1 second each.

Graphical user interface, application, Word

Description automatically generatedIf Time.deltaTime is not included this will update per frame, with its inclusion it will be the time you specified.

Step 5: Go to the hierarchy and right click and go to UI then to text and rename the text to countdowntext , make the text font bigger to see and place in the text box in the inspector to “00”.

A screenshot of a computer

Description automatically generated with medium confidence

Step 6: drag the Countdown Timer script onto the canvas. In the same script add

Along with a new variable that is the countdown text.

A screenshot of a computer

Description automatically generated with medium confidenceStep 7: Go into the unity add drag the countdown text in the canvas to the script slot.

Step 8: replace print(currenttime); with this piece of code to reference the “00” from the text. A “0” can be written in the brackets to only show whole numbers, this screenshotted code with do it in decimals.

Text

Description automatically generated Step 9: to write an if statement, this if statement will prevent the countdown timer counting In negative numbers since if current time is less or equal to 0 it will make the current time stay at 0, this will continually set it to 0.