Trees, Our Lifeline – Part III

Hello friends! Welcome back.

In the last video we finished setting up our game screens. It is now time to start coding the tree sprites. Just to recapitulate, the player has to ensure that the right tree is planted on the appropriate landscape in order to conserve the soil of that landscape. If the player succeeds, he or she will be rewarded 10 points and if she or he fails, 10 points will be deducted from the score.

Before we move to specific steps in the game, we need to ensure that we create costumes for each tree which visually show that the tree has been highlighted and also create variables for our trees.

Select the 'Banyan Tree' sprite and go to its costume section. Duplicate this costume. Draw a box around the duplicated costume by using the line or box tool. Change the thickness of the outline and color of the box. We are using the colour blue. Rename the tree costume without the box as 'Unselected' and the one with the box as 'Selected'. Repeat these steps for the Neem Tree, Tecomella Tree and the Java Plum tree.

Go to the code editor of the 'Banyan Tree' sprite. As mentioned earlier, this is also the Air Pollution Control Tree. Create a variable for this tree called 'APTree' in the variables section. This variable will be available for all sprites. Similarly create variables for the remaining trees. Neem Tree is the tree for coastal areas so we will name the variable 'CATree'. Tecomella Tree is the Soil Erosion Control Tree and hence the variable name we are selecting is SATreeSATree. We are calling the Java Plum or Jamun tree HWTree since it is for high wind areas. Remember, these variables are for all the sprites.

Go to the Code section of the Home Screen backdrop and initialize these variables for all landscapes except the Home Screen, the Game Rules screen and the Game Over Screen. Drag 'Set variable to 0' from the variables section and attach it to 'set BackdropScreen to 1' block of when backdrop switches to High Wind landscape. From the dropdown select APTree option. Similarly, drag 3 more blocks of 'set variable to 0' and attach them one after the other. From the drop down, select the variables CATree, SATreeSATree & HWTree respectively.

In the same manner, initialize the values of these variables to 0 for the other backdrops - **Industrial landscape,** Soil erosion landscape and Coastal landscape**.**

We are duplicating this block for faster execution.

Before we move ahead, let us hide the tree variables and the backdrop variable from the home screen. Drag the 'hide variable…' block from the variables section and attach it to the 'set BackdropScreen to 0' block for the Home Screen. From the drop down select 'APTree' option. Similarly, drag 4 more 'hide variable…' blocks and attach them to this one after the other. From the drop down, select CATree, SATreeSATree, HWTree & BackdropScreen' options in any order. This will help us in hiding all the variables showing on the Home Screen.

Let us test the code at this stage. You can see that the all the variables are hidden now.

Now that the variables are created we need to execute our **1ˢᵗ step.**

The 1ˢᵗ step is to highlight the tree once the player clicks on it.

We will now code the Banyan tree which is also the Air Pollution Control tree so that it gets selected once one clicks on it.

GO to the code section of the Banyan tree sprite and drag the 'when this sprite clicked' block from the events section to the code editor. Then drag the 'Set Variable to 0' block from the variables section and attach. Select the option APTree from the drop down and change the value from 0 to 1. Next drag 3 more 'Set Variable to 0' blocks from the variables section and attach them one after the other. Select the option 'CATree, HWTree & SATreeSATree' from the drop down and make sure the value remains 0 for all these 3 variables. This ensures that when the Banyan tree is clicked, the value of the variable APTree becomes 1, while for the other trees. it remains 0.

Now we have to ensure that we can visually see when the tree is selected or unselected. Drag the 'when flag clicked' block from the events section to the code editor and attach a 'forever' block from the control section to it. Drag an 'if else' block from the same section and place it inside the forever loop. Drag

the 'equal to' block from the operator's section and place it in the <hexagonal slot> of the if else loop. Drag the 'APTree' variable from the variables section and drop it in the left hand side of the equal to sign. Change the value on the Right Hand side to 1 from 50. Drag 2 'switch costume to...' blocks from the looks section and place them inside the if condition and else condition respectively. Select the option 'selected' from the drop down for the if loop and 'unselected' for else loop.

Repeat the above steps for the balance trees - Neem Tree, Tecomella tree and Java Plum tree. You can either rewrite the code or copy both the code blocks from the banyan tree to the other tree sprites. We are copying the code.

For the Neem or Coastal Tree Sprite, **Set CATree value to 1** & value of all other variables to 0. In the hexagonal condition of the if loop, replace the APTree variable with the **CATree** variable on the left hand side.

For the Tecomella or Soil Erosion Control Tree Sprite, **Set SATreeSATree value to 1** & value of all the other variables to 0. In the hexagonal condition of the if loop, replace the APTree variable with the SATreeSATree variable on the left hand side.

For the Plum or High Wind Control Tree Sprite, **Set HWTree value to 1** & value of all other variables to 0. In the hexagonal condition of the if loop, replace the APTree variable with the **HWTree** variable on the left hand side.

Now Let us test our code. The code seems to be working fine. We can select 1 tree at a time by clicking on it. The presence of the blue box around the clicked tree visually shows that it is selected.

Our 2nd step is to create a score card for the game.

Let us create a variable for Score Card. Go to the variables section and click on ''Make a Variable'. Name the variable 'Score Card'. It should be available for all the sprites. Go to the Code section of the Home Screen backdrop and initialize this variable. Drag 'Set variable to 0' from the variables section and attach it to 'hide variable BackdropScreen' block of when backdrop switches to Home Screen block. From the dropdown, select 'Score Card' option. Let the value remain 0.

The score card should not be visible on the Home Screen and the Game Rules screen. Drag 'hide variable...' from the variables section and attach it to 'set score card to 0' block. From the drop down select 'Score Card' option.

Drag 'show variable...' from the variables section and attach it to 'Set variable to 0' block of 'when backdrop switches to High Wind Landscape' block. From the drop down, select 'Score Card' option. This logic will display the scorecard from the high wind landscape screen onwards.

Let us test our code now. The Score Card is not visible on the home screen and game rules screen but becomes visible when the game starts.

Congratulations. We have completed one more task. In the next video, we will complete developing our game – 'Trees – Our Lifeline.'

See you soon. Bye-bye.