Trees, Our Lifeline – Part IV

Hello friends! Great to see you again. This is the last video in the series on developing the 'Trees – Our Lifeline' game. We have accomplished a lot till now and in this video, we will bring all the elements together.

Our first step for today to write code for us to navigate the tree away from its original position to the soil patch once it is clicked.

Select the 'Banyan Tree' sprite code editor. Drag a 'forever' block from the control section and attach to 'set variable to 0' block. Drag an 'if else' block from the same section and place it inside the forever loop. Drag 'and' block from the operators section and place it in the <hexagonal slot> of the if else condition. Then drag 'or' block from the same section and place it on the left side <hexagonal slot> of the 'and' block. Drag 'equal to' block and place in in the right side <hexagonal slot> of the 'and' block. Now drag 'mouse down?' block from the sensing section and place it in the left side <hexagonal slot> of or block and drag 'key space pressed?' from the same section to place it in the right side <hexagonal slot> of the or block. Change from 'key space pressed' to 'any' from the drop down. Drag 'APTree' block from the variable section and place it inside the blank space of the equal to block. Change the value to 1 from 50.

Since we want to move the tree using the arrow keys, we need to code them. Drag 4 'if then' blocks from the control section and place them one after another inside the if loop only. Then drag 4 'key space pressed?' blocks from the sensing section and place 1 each inside the <hexagonal slot> of each if loop. From the drop down select the options, left arrow, right arrow, up arrow and down arrow respectively. Then drag 2 'change x by 10' blocks from the motion section and place them in the 1st & 2nd if loops. Drag 2 'change y by 10' blocks from the motion section and place them in the 3rd & 4th if loops.

- Fort the 1st if loop, change value of X by -2 for the left arrow key
- For the 2nd if loop, change value of X by +2 for the right arrow key
- For the 3rd if loop, change value of Y by +2 for the up-arrow key
- For the 4th if loop, change value of Y by -2 for the down arrow keym

Repeat the above steps for Neem Tree, Tecomella Tree & Java plum tree. We are copying the whole forever logic added in the Banyan tree and pasting it for the other trees.

We have to replace the variable in the 'equal to' block of each tree sprite with the variable of the selected sprite tree from the variables section.

- For the Neem Tree, replace APTree with CATree
- For the Tecomella Tree, replace APTree with SATreeSATree
- For the Java Plum Tree, replace APTree with HWTree

<u>Our next step is to </u>ensure the correct placement of tree on the correct landscape.

Go back to the 'Banyan Tree' sprite code editor. Drag an 'if then' block from the control section and place it in the else loop of when this sprite clicked logic. Then drag 'touching mouse pointer?' block from the sensing section and place it the <hexagonal slot> of the if loop. From the drop down select 'Industrial Soil' option.

Next drag 'say Hello! for 2 seconds' from the looks section and place it inside the if loop. Change the text to 'Congrats! You have planted the right tree!''. Go to the variables section and drag 'Change variable by 1' and attach to 'say Congrats!' block. From the drop down select the 'Score Card' option and change the value to 10 from 1. Drag 'say Hello! for 2 seconds' from looks section and place it after 'change scorecard by 10' block in the if loop. Change the text to 'Good Job! Do you know that this tree is tolerant to dust and smoke?'.

The tree should come back to its position for the next backdrop. Drag 'go to x & y' block from the motion section and place it after 'say Good Job!' inside the if loop. Check the x & y value of the banyan tree for its default position. In our case it is (-262, 58). Then drag the 'next backdrop' block from the looks section and attach to 'go to x & y' block.

Now let us add sound effects. Go to the sound section of the sprite and choose or upload a sound of your choice. Rename the sound 'Correct Answer'. Come

back to the code editor and drag 'Start sound Correct answer' from the sounds section and place it between 'if touching Air pollution from....' And 'say congrats!' block. This whole logic works if you plant the right tree on the right landscape.

We also need to ensure that if the player tries to plant the tree on a wrong landscape, then she/he should get a message that this is incorrect and reduce the score.

We will modify the 'if then' logic with some minor changes. Duplicate the whole 'if then' loop and start modifying.

- In the if logic loop, from the hexagonal drop down, change from 'Industrial Soil' to 'Coastal soil';
- Select one more sound from the sound section and name it 'Incorrect Answer'. From the drop down in 'start sound correct answer', change to 'Incorrect Answer'
- Replace 'Congrats! You have planted the right tree!' with 'Oops! You planted the wrong tree!'
- In 'Change score card by 10', change the value to -10
- Replace 'say Good Job!' block with 'wait 1 seconds' block from the control section and change the value from 1 to 2.

Create 2 more Duplicates of the above 'if loop' logic and from the dropdown of each <hexagonal slot> select 'Coastal soil' and change to 'Erosion Soil' & 'High Wind Soil' respectively.

Attach the 3 if logic one after another in the else loop.

Now we will duplicate the same for 4 if conditions inside the else loop of the other trees. Copy the block and paste it in the else loop of the 'Neem Tree, 'Tecomella Tree & 'Java Plum Tree' sprites. Drag the correct & incorrect sounds from the sound section of the Banyan tree sprites directly.

Go to the 'Neem Tree' sprite and

- In the 1st if loop, change from 'Industrial Soil' in the drop down to 'Coastal Soil'

- change from 'say Good Job! Did you know that this tree is tolerant to dust and smoke?' to 'Good Job! Did you know that this tree can tolerate salt?'
- change all 'go to x & y' value to (-279, -129)
- In the 2nd if loop, change from 'Coastal soil' to 'Industrial Soil' for wrong tree plantation

Go to the 'Tecomella Tree' sprite and

- In the 1st if loop, change from 'Industrial Soil' drop down to 'Erosion Soil' for correct tree plantation
- change from 'say Good Job! Did you know that this tree is tolerant to dust and smoke!' to 'Good Job! Did you know that this tree is drought resistant!'
- change all 'go to x & y' value to (-260, -205)
- In the 3rd if loop, change from 'Erosion soil' to 'Industrial Soil' for wrong tree plantation

Go to the 'Jamun Tree' sprite and

- In the 1st if loop, change from 'Industrial Soil' drop down to 'High wind Soil' for correct tree plantation
- change from 'say Good Job! Did you know that this tree is tolerant to dust and smoke?' to 'Good Job! Did you know that this tree is wind resistant?'
- change all 'go to x & y' value to (-41, -54)
- In the 4th if loop, change from 'High wind soil' to 'Industrial Soil' for wrong tree plantation

Let us now Test our game to see if it is working fine.

The game is working fine for the trees.

Now let us add sound on the Home screen.

Go to the 'Start button' sprite code editor. Drag 'broadcast check sound' from the events section and place it between when flag clicked and set backdropScreen to 0 blocks. Drag another 'broadcast check sound' and attach to 'switch backdrop to High wind landscape block'.

Time to add sound to the Game Over Screen. Go to the code editor of the Home Screen Backdrop. Drag 'broadcast check sound' and attach to the 'set BackdropScreen to 5' block of 'when backdrop switches to Game Over Screen' logic.

While the score card is visible on the screen, we should show the final result on the Game Over Screen. Go to the 'Restart Button' sprite code editor and drag 'when backdrop switches to Home Screen' to the code area. From the drop down, select option 'Game Over Screen'. Drag 'say Hello! for 2 seconds' block from the looks section and attach. Go to the operators section. Drag 'join apple banana' block and replace Hello! With it. Replace apple with 'Your final score is ='. Replace banana with a 'score card' block from the variables. Change the value of seconds from 2 to 5.

Test the game and see if everything is working.

Great! Our game is ready. Play it with your friends and enjoy.