Creating a Story with ScriptEase II

The goal of this tutorial is to create a story for the Park. We learned how to use most of the different types of Story Components in the last tutorial, but there is still much to learn!

In this tutorial, we will add a short story to the Park where the Player will have to retrieve a mother duck's ducklings after they run out into the park.

After completing this tutorial, you will know how to use the story system in ScriptEase II.

Setting Up Pathfinding in Unity:

1. Create a backup of the ScriptEase II story file that ends in *.ses before continuing. ScriptEase II automatically creates one backup, but you should also save your own.

2. Before we create our story, we need to add a pathfinding library to our Unity project. Since we are adding something to Unity, we need to close our story in ScriptEase II if it is open. ScriptEase II doesn't know when changes are made in Unity. If we make a change in Unity while SEII is open, then save with SEII, all of the changes in Unity will be lost!

3. Go to http://arongranberg.com/astar/download to download the free version of the A* Pathfinding Project. This tutorial was written using version 3.2.5.1. If there are any issues with ScriptEase II pathfinding, please contact the ScriptEase II development team. The pathfinding project enables virtual characters in Unity to move between two locations while avoiding obstacles.

4. Unzip the project and double-click on the package file called ending in ".unitypackage". This will open Unity. Click on "Import" to import the project.

5. Open the new "AStarPathFindingProject" folder in the project's assets folder and delete the ExampleScenes folder inside of it. These just take up lots of extra space.

6. Create a new empty GameObject from the GameObject menu and name it A*.

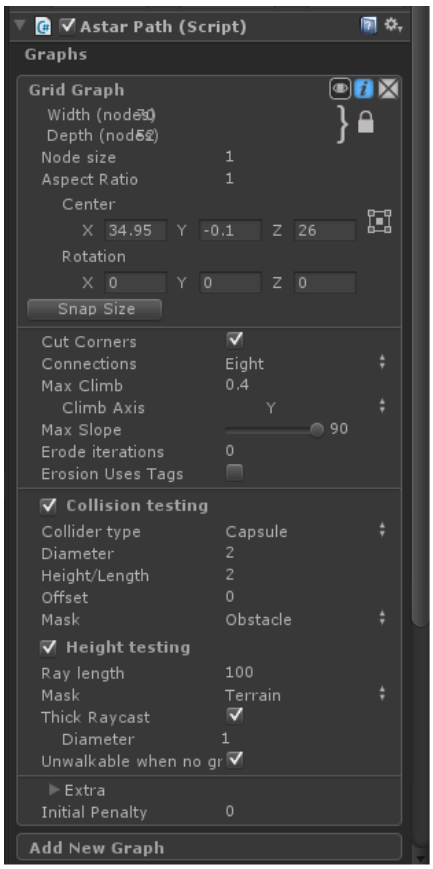
7. From the component menu, add the "Pathfinder" found in the "Pathfinding" category.

8. The component's settings should open up and ask if you want to enable Javascript support. Click "Yes" to allow ScriptEase II to interact with the component.

9. Open the Graphs dropdown and add a Grid Graph. Click on it to open its options.

10. Set the width to 70 and the depth to 52. These values are found from the Terrain and can be viewed in the “Terrain → Set Resolution” window.

11. Change the Center X value to 34.95, Y value to -0.1, and Z value to 26. When setting up a graph on different terrain, experiment with these values to make the graph match up with it.



12. Open the Terrain GameObject. Change its layer to a new layer called “Terrain.”

13. Return to the A* GameObject’s Pathfinder component. The cooler, garbage cans, park chairs, and picnic tables are already set to the “Obstacle” layer. In the “Collision testing → Mask” option, uncheck every layer except Obstacle.

14. In the "Height testing → Mask” option, uncheck every layer except Terrain.

15. Set Diameter of Collision testing to 2.

16. Press "Scan" at the bottom of the Pathfinder component to rescan the graph with these options. Save your Unity project and reopen the tutorial story in ScriptEase II.

Adding Story Points:

17. It’s a good idea to plan out your story before scripting it. In general, each story point should have one cause. An exception is the Start cause, which should contain all non-story dependent causes. Of course, these are just guidelines to help you stay organized; you could put as many causes into story points as you want. However, the more causes, the more careful you need to be when using the “Is Active” Yes block and where you succeed the story point.

> *Tip:* The first Story Point can’t be deleted.

18. We start by adding some Story Points to the story graph. Story Points represent parts of the story. Like all ScriptEase II stories, our story begins with the Start story point.

19. Click on the  button to change the graph’s tool. Click on the Start story point to add another after it.

> *Tip:* There are three other tools in the toolbar. The trash bin tool deletes Story Points. The other two connect and disconnect them. We will use these in the next tutorial.

20. Rename the new story point by clicking on the title and entering “Talk to Mother Duck”.

21. Add four more story points to the “Talk to Mother Duck” point and name them “Get Duckling 1” through 4 to match Figure 1.

> *Tip:* Purple story points come before the selected one. Green points come after. The dark blue point is the selected point for which the story point pane is shown below the graph.

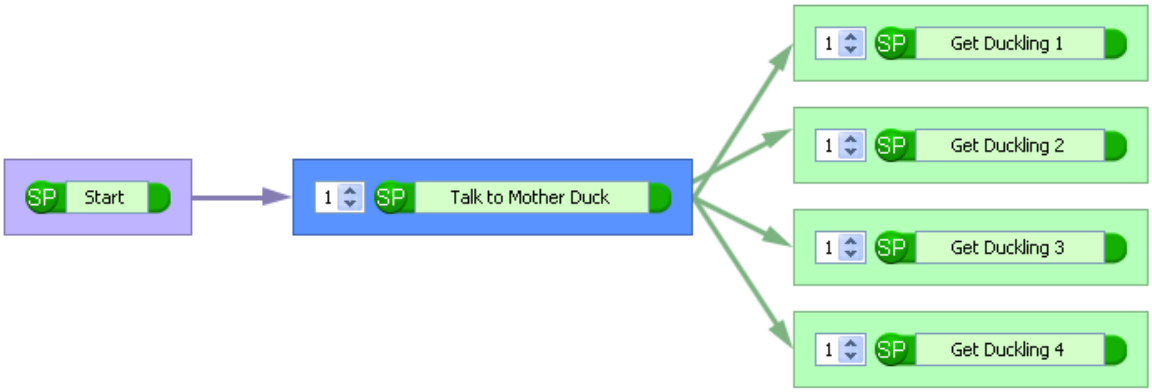


Figure 1: The story point graph so far.

Story Progression:

22. Before we add any causes to these new Story Points, we need a way to get to them by making the first point succeed. Select the Start story point.

23. In the “When Player is created” cause, add the “Succeed Story Point” effect. Drag the green Start story point object from the description or the graph into the effect’s slot.

> *Tip:* Everything in the Yes part of the question will happen only when the story point is active. However, the walk animation loops, so it will continue playing.

> *Tip:* Remember: In order to fire effects regardless of story, they should be outside of the question!

24. Now we can add a new Cause to the next story point. Switch to the “Talk to Mother Duck” story point.

25. We want to start the quest by clicking on her. So search for “clicked” and drag in the appropriate cause. Drag Duck 3 into the subject to match Figure 2.

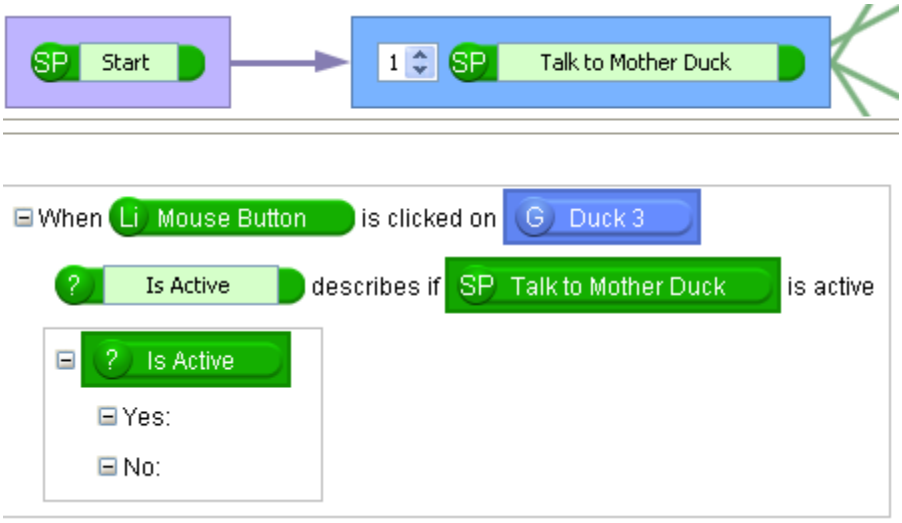


Figure 2: The empty cause inside Talk to Mother Duck

Pathfinding Effects:

26. We now want to add a few effects to the ducks. However, these effects are contained in a separate library. The library can be added by going to the Library menu, Add Library, and clicking A* Pathfinding Library. The new effects will have an A* label.

27. We want everything here to only happen when we are at this story point. Otherwise, the Player could continue to click on the mother duck, causing the effects in the Yes part of the question to happen again. So we will put all effects in the Is Active – Yes block.

28. First we should set the walking speed of the baby ducks. The default speed is good for most situations, but we want the baby ducks to run fast. Drag an "Object walks at a speed of #" effect into the Yes part. Drag the Baby Duck 1 object into its Object slot.

29. We are going to be using the same speed for many ducks. In this case, it's better to use a description to describe the speed once so we only have to change it in one place if we need to later. Drag a "Number describes the number #" description above the previous effect. Name it "Duck Speed" and set the number to 10.

30. Drag the object created by the description into the slot of the effect. Your cause so far should look like Figure 3.

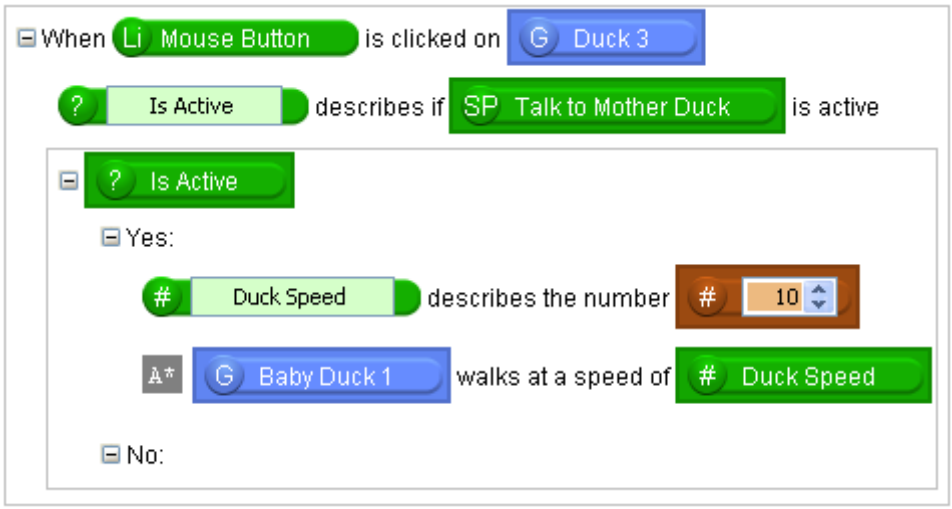


Figure 3: The cause so far.

31. Now we need to set the speed for the other 3 ducks. You can duplicate an effect by clicking on it and going to Edit → Duplicate, or pressing Ctrl+D. Do so until you have four of the same effects.

32. All of the effects still have Baby Duck 1 in their slots. Change these to set the speed for Baby Ducks one through four.

33. Now we need the ducks to run to their places in the park. Drag in four "Object walks a path to Target" effects. Drag in the Baby Ducks to each of their Object slots, and then drag in wp1, wp2, wp5, and wp8 from the Waypoints category to the Target slots. Order does not matter since the Baby Ducks are identical.

34. Finally, drag in a "Succeed Story Point" effect and drag the current story point into its slot to match the finished cause in Figure 4.

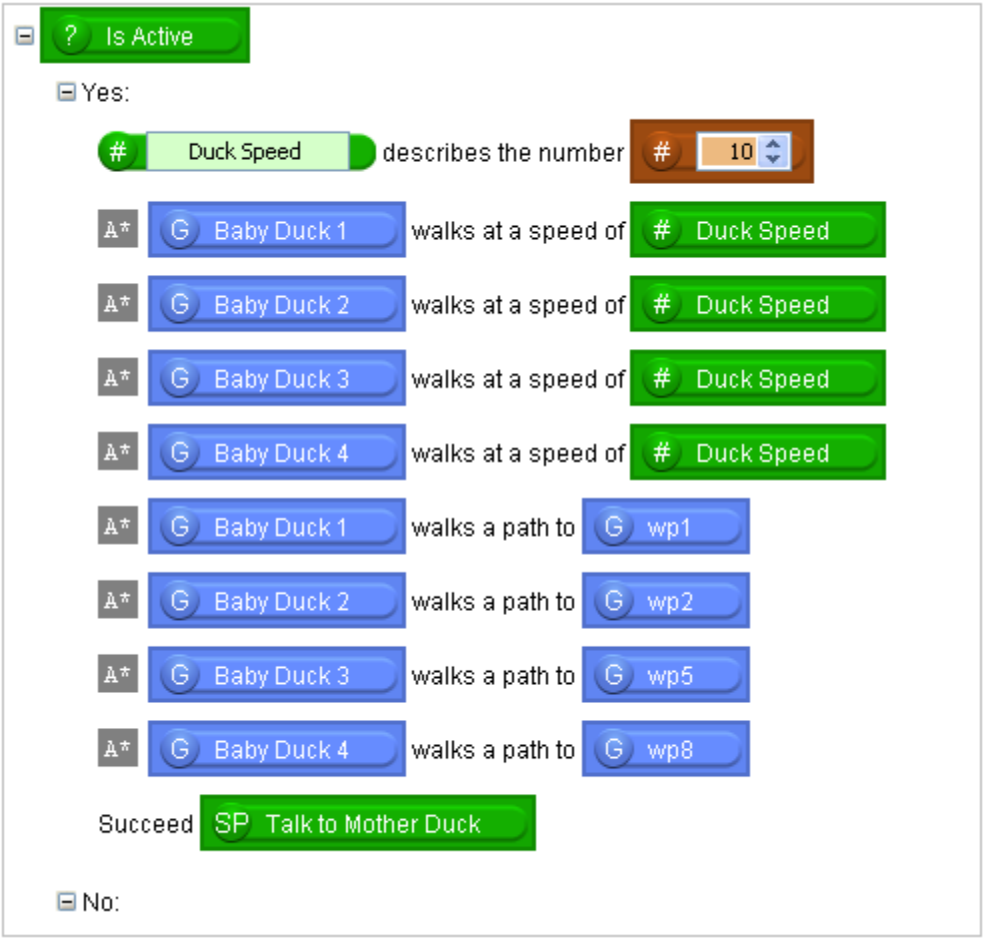


Figure 4: Part of the completed cause in the Talk to Mother Duck story point

Delay Control:

35. We now need to add causes and effects to the next four other story points. Go to the Get Duckling 1 story point.

36. The duckling should walk back to Duck 3 when the player is within a certain distance to it. This could be done with a trigger, but we are going to measure the distance instead.

37. Drag in a “While subject exists, immediately” cause. Any story components in this cause will occur continuously, making it important to guard effects with descriptions combined with a control. Drag Baby Duck 1 into the subject slot.

38. Because this story point is activated immediately after the ducklings run away, any effects in the active story point will happen immediately. As the player was standing by the baby ducks when the player clicked on the mother duck, all baby ducks would return instantly. We need to delay the progression of the story to prevent this.

39. Story components can be delayed by adding a Delay control. This is the control called “After # seconds”. Click on the Controls tab in the Library, and drag one into the previous Story Point’s Cause. Drag the Succeed Talk to Mother Duck effect into the Delay. Change the Delay’s number to 3, which should be enough time for the duckling to get away from the player’s vicinity. The delay should match Figure 5.

Figure 5: The Delay control added.

40. We need to determine the distance between the player and the duckling. You can use the “Distance describes the distance…” description, which requires two Positions, to find it. Try using your knowledge of descriptions to add it to the story. If you are unsure of how to do this, consult the completed cause in Figure 6.

41. Add a Number Comparison description to determine if the distance is less than or equal to 4. Then add a question that uses the description.

42. In the yes part of the question, we need Baby Duck 1 to walk a path to Duck 3. Then we succeed the story point. Try doing this without looking at Figure 6.

43. Save your story and test it in Unity with the baby duck.

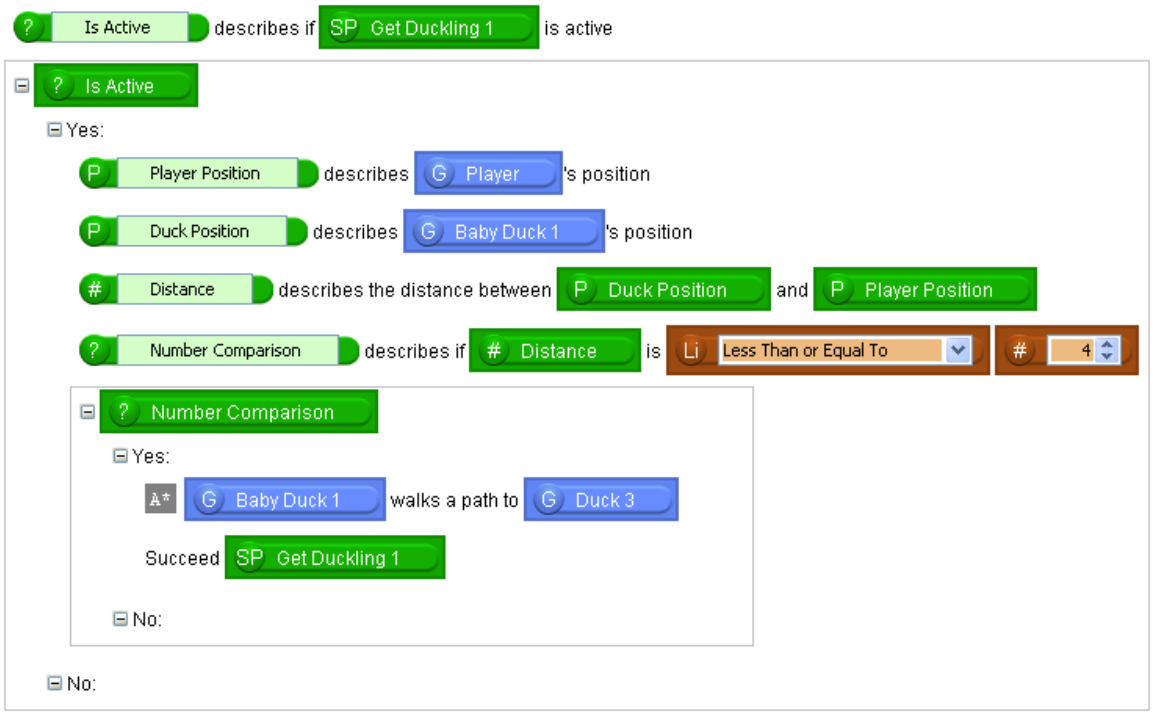


Figure 6: The completed cause.

Copying and Pasting Across Story Points:

44. We have the cause set up for one duck, but what about the others? You can copy Story Points into each other to quickly set up the rest of the ducks.

45. Click on the Get Duckling 1 story point and either go to "Edit → Copy" or press Ctrl+C.

46. Click on the Get Duckling 2 story point and either go to "Edit → Paste" or press Ctrl+V.

47. Change the name to "Get Duckling 2" as it will take on the name of the other story point.

48. The objects will need to be replaced, or the story point will do the same thing. Change the story point object in the "Is Active" description to the Get Duckling 2 story point.

49. Change all references to Baby Duck 1 to Baby Duck 2.

50. Succeed the current story point instead of Get Duckling 1.

51. Do the same for the other two story points, save your story, and then test the ducks!

We now have a small story in the Park. However, we'll want to give the player some context. We also want the story to finish when you find all four ducks. We will add more story components in the next tutorial to create a GUI and change it when we finish this side quest.