Getting Started with Java Using Alice

Add and Position Objects

Objectives

This lesson covers the following objectives:

- Open a saved version of a project
- Add multiple objects to a scene
- Describe the difference between precise positioning and drag-and-drop (or imprecise) positioning
- Use a one-shot procedure to precisely position an object in a scene

Objectives (cont.)

This lesson covers the following objectives:

- Edit properties of an object in the Scene editor
- Describe three-dimensional positioning axes
- Position the sub-parts of an object in the Scene editor

Open an Existing Project

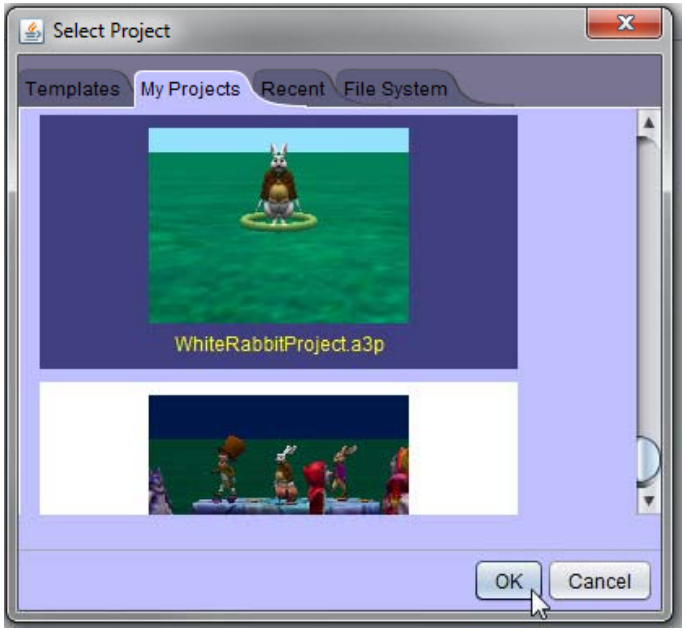
Saved Alice 3 project files can be opened and edited.

There are two ways to open an existing Alice 3 project file after launching Alice 3:

- Select the project from the My Projects tab.
- Browse for the project using the File System tab.

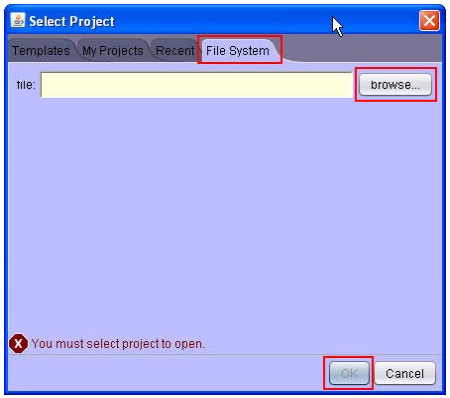
Steps to Open an Existing Project Using the My Projects Tab

1. Open Alice 3.
2. From the Select Project dialog box, select the My Projects tab.
3. Scroll to the name or thumbnail of the project to open.
4. Select the name or thumbnail of the project and click OK.



Steps to Open an Existing Project Using the File System Tab

1. Open Alice 3.
2. From the Select Project dialog box, select the File System tab.
3. Select the Browse button.
4. Use the navigation window to navigate to the directory structure on your computer where the Alice 3 file is located. Note: Alice 3 cannot open animations created with the Alice 2 software.
5. Click OK after the Alice 3 file has been selected.



Positioning Objects Within Initial Scene

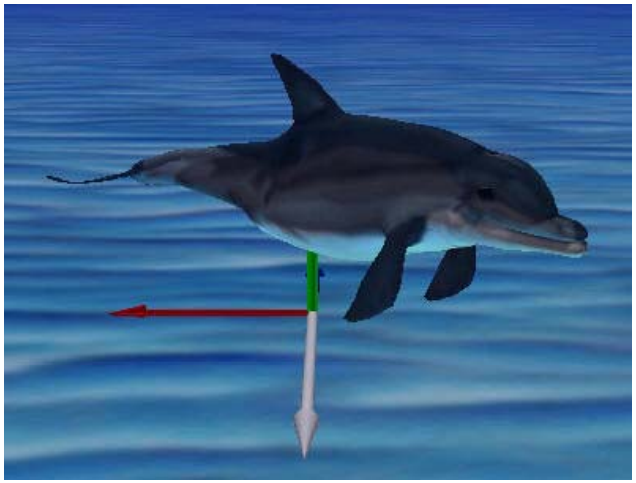
Positioning objects within your initial scene includes choosing the:

- Direction the object should face.
- Orientation of objects relative to other objects in the scene.
- Position of objects in the scene.
- Position of the object's sub-parts (arms, legs, etc.).

Positioning Features of Objects

All Alice 3 objects share the same positioning features:

- 3D coordinates on x, y, and z axes.
- A center point, where its own axes intersect (usually at the center of mass).
- Sub-parts that can move.



Object Orientation

Objects and their sub-parts move relative to their own orientation, or sense of direction.

An object that is facing toward the back of the scene, programmed to move forward 2 meters, moves 2 meters further toward the back of the scene.

Ways to Position an Object

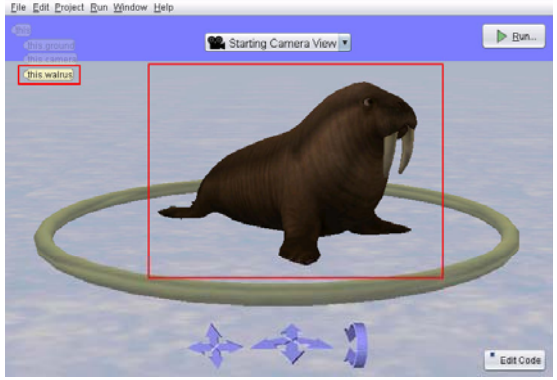
There are two ways to position an object:

- Precise positioning using one of two methods:
  - Use a one-shot procedure.
  - Enter values for the x, y, and z coordinates and press the Enter key.
- Imprecise positioning using the drag-and-drop method with your cursor.

Select Instance to Position

There are two ways to select the instance that you want to position. Rings or arrows surround the object once it is selected.

- Click the name of the instance from the object list in the upper left corner of the scene window.
  - OR -
- Click the instance in the scene window.



One-Shot Procedures

Precise Positioning

One-shot procedures:

- Are used to make scene adjustments and position objects.
- Are not executed when the Run button is selected to play the animation.

A procedure is a set of instructions, or programmed code, for how the object should perform a task. One-shot procedures are available in the Scene editor. They are the same as the procedures in the Code editor; however, they only execute one time to re-position the object, unlike in the Code editor where they will execute every time the Run button is clicked to play the animation.

Positioning Objects in the Scene

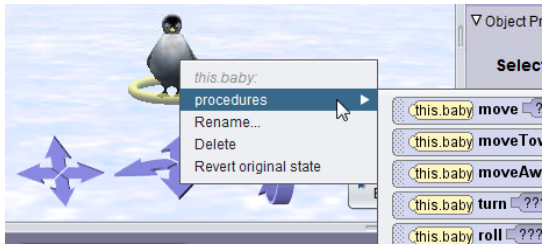
Precise Positioning

After adding multiple objects to the center of a scene, use one-shot procedures to precisely place them in different locations in the scene so that all objects are visible.

Steps to Open the One-Shot Procedures Menu

Precise Positioning

1. Right-click on an object in the Scene editor.
2. Select procedures.



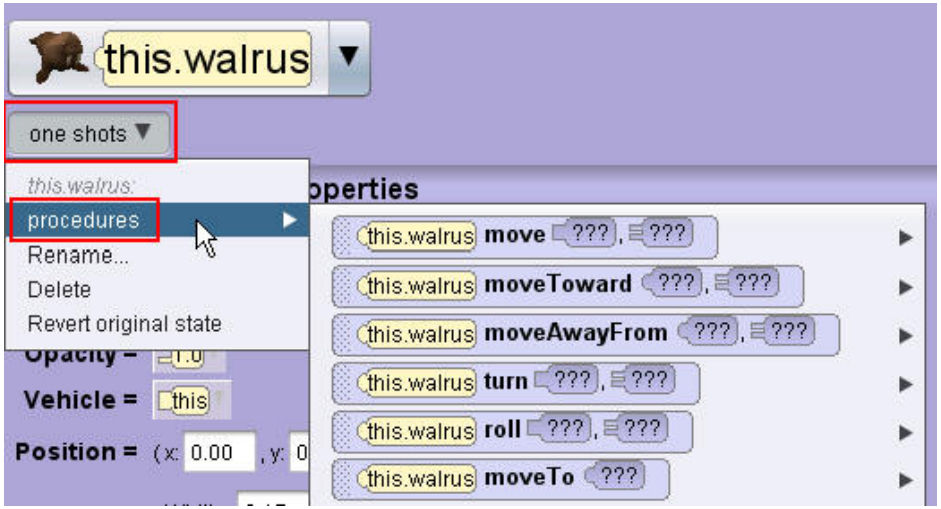
OR

1. Select the one shots procedure menu in the Properties panel.
2. Select procedures.

Steps to Use One-Shot Procedures

Precise Positioning

1. From the one-shots procedures menu, select the desired procedure.
2. Specify the argument values (direction and distance).
3. The object will automatically re-position based on the procedure selected and the arguments specified.



Positioning Example

Precise Positioning

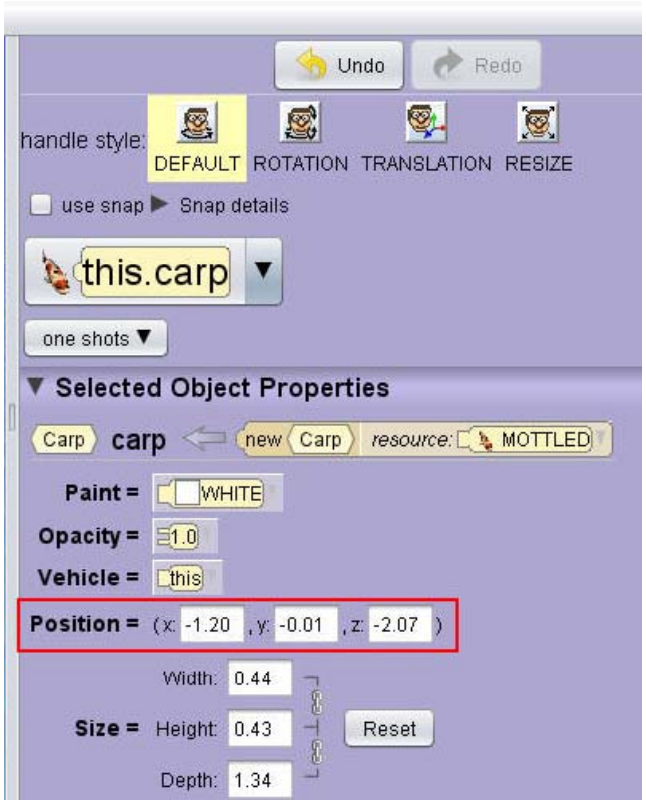
Sometimes it is convenient to have many instances positioned in the center of the scene. For example:

- If you want to put several yetis on a floating ice floe, add the ice floe and yetis to the center of the scene first.
- Move them with one-shot procedures as opposed to trying to drag-and-drop them into the correct location on top of the floating ice floe.

Position Property

Precise Positioning

The Position property tells you where the object is positioned in the scene on the x, y, and z axes.

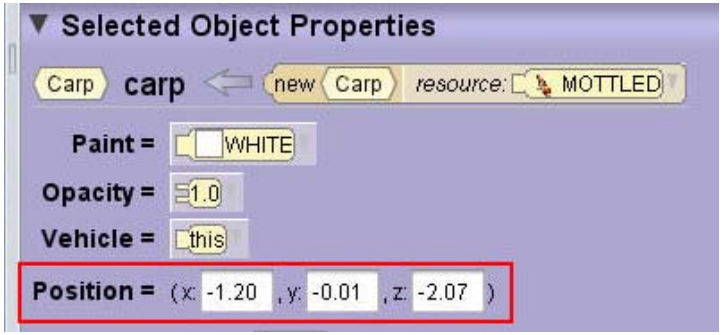


Steps to Position an Object Using Coordinates

Precise Positioning

1. In the Properties panel, locate the Position property.
2. Enter a value in the x axes and press enter.
3. Enter a value in the y axes and press enter.
4. Enter a value in the z axes and press enter.

The object will automatically re-position to the coordinates entered in the x, y, and z axes fields. You must press the enter key after entering each value.



Steps to Use the Drag and Drop Method

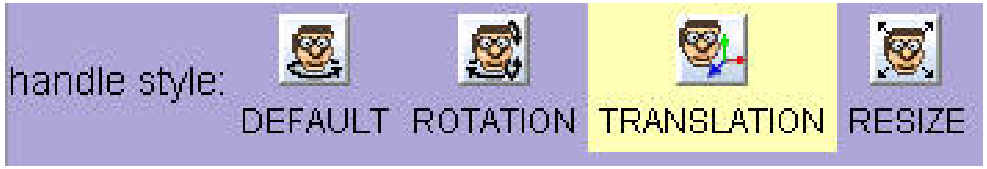
Imprecise Positioning

1. Select the object, or the sub-part of the object, using the cursor.
2. Select a handle style. Each handle style presents rings or arrows to assist you with your positioning. For example, the Translation handle style will present three arrows to use in positioning the object along the x, y, and z axes.
3. Position the object with your cursor by selecting and dragging the rings that surround the object.

Types of Handle Styles

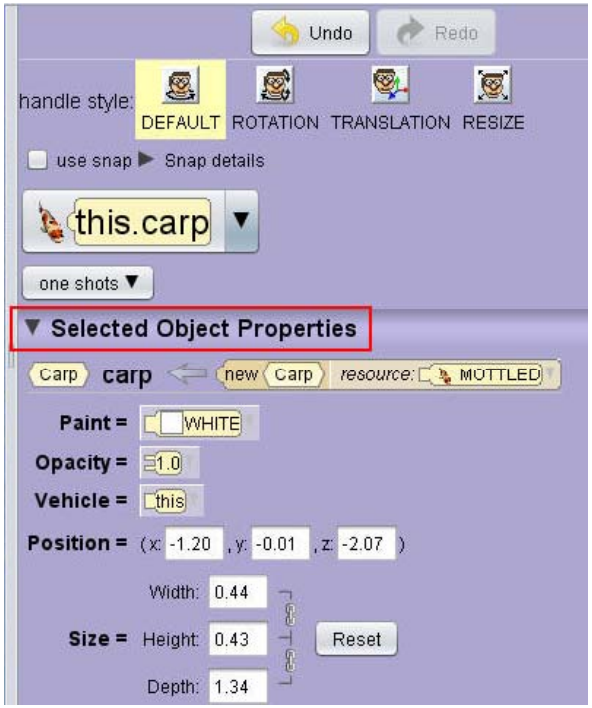
Imprecise Positioning

Handle Style	Description
Default	Simple rotation and movement.
Rotation	Rotate about the x, y, and z axes.
Translation	Move along the x, y, and z axes.
Resize	Change the size of the object and stretch it along the x, y, and z axes. Note: If you select a very large object in the scene, and then select the Resize handle, the positioning arrow that helps you resize the object may appear off of the screen. If this happens, select the Resize handle and then use the scrolling button on your mouse to resize the object.



Selected Object Properties Menu

The Selected Object Properties menu in the Scene editor provides you with the ability to change the properties of the instance that is currently selected in the scene.



Modifying Properties

Properties can be modified during scene setup and during animation execution. For example:

- Change the Opacity property of an instance to 0 during scene setup to make it disappear.
- Create a programming statement to set the Opacity property of the instance to 1 so the instance reappears in the scene during execution of the animation.

Steps to Change an Instance's Properties in the Scene Editor

1. Select the instance in the Scene editor.
2. Change properties such as its paint (color), opacity, or size using the menus in the properties panel.

The triangle in front of the Selected Object Properties button can hide or display the properties of an instance. If the property fields for an instance are not displaying, click the triangle to display them.

Positioning an Object's Sub-Parts

Use handle styles to position an object's sub-parts during scene setup. For example, you may want an object's head looking to the left when the animation begins.

Steps to Position Object Sub-Parts

1. Select the instance from the object properties menu.
2. The right-pointing triangle next to the instance name indicates that there are additional cascading menus for the instance's sub-parts. Select the sub-part that you want to position.
3. Use the rings around the sub-part to position it. Repeat these steps to position additional sub-parts. Use the Undo feature when necessary.

Summary

In this lesson, you should have learned how to:

- Open a saved version of a project
- Add multiple objects to a scene
- Describe the difference between precise positioning and drag-and-drop (or imprecise) positioning
- Use a one-shot procedure to precisely position an object in a scene

Summary (cont.)

In this lesson, you should have learned how to:

- Edit properties of an object in the Scene editor
- Describe three-dimensional positioning axes
- Position the sub-parts of an object in the Scene editor