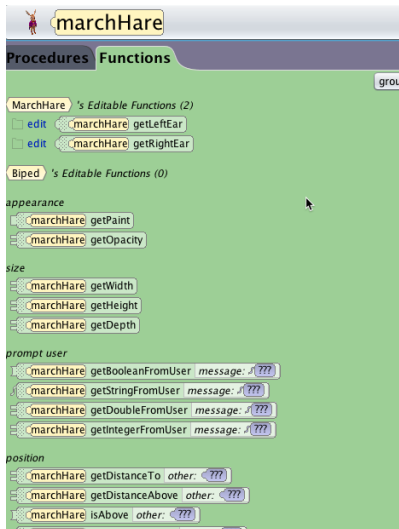


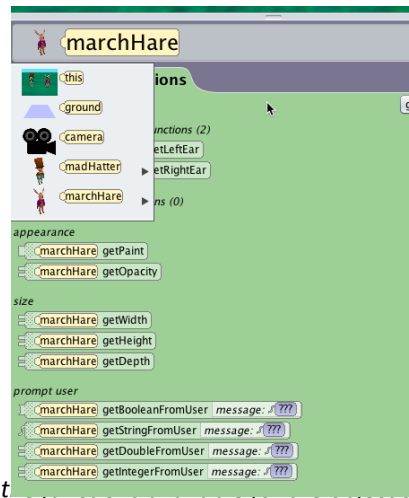
Using Alice Functional Methods

Functional Methods Overview



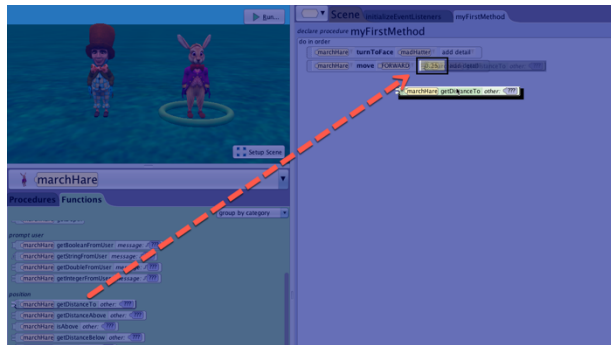
- The **Methods** panel of the Alice 3 Code Editor contains the tiles used for the creation of the program code.
- The **Methods** panel has two tabbed sections, **Procedures** and **Functions**.
- **Functions** can generally be described as methods that ask a question or compute a value.

Procedural Methods and the Object Menu



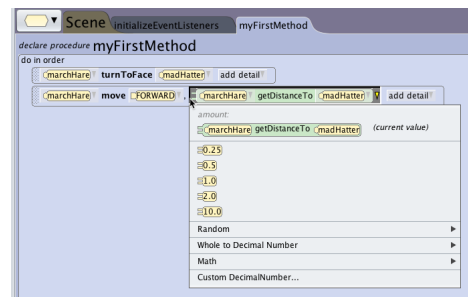
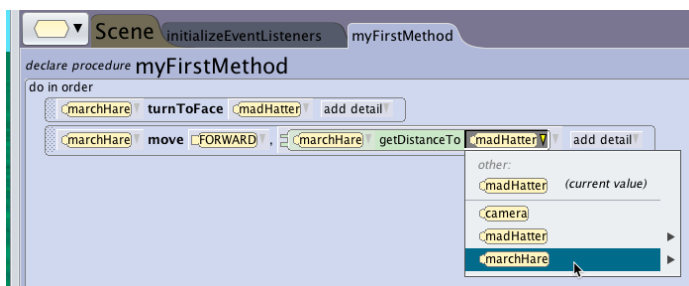
- The **Functions** tab will display the functional methods available to the object selected in the **Object Menu** found at the top of the methods panel.
- The **Objects Menu** displays the objects that have been added to the scene.
- It should be noted that the keyword **this** refers to the Scene object.
- Different objects may have different functional methods available to them.

Procedural Methods and the Editor



- The **Editor** provides a drag-and-drop environment where functional method tiles are dragged into the edit space..
 - Unlike procedures, however, functions are not standalone instructions but rather are expressions that generate a value that can be used as arguments to procedures or other expressions.
 - To add a function to your program all you need to do is drag it into the code editor panel to the appropriate location for the argument.
 - Alice will highlight valid locations for the function.
- When a function is added to the code editor a series of sub-menus may appear depending on the arguments required..
 - Default values have been added to the drop down but there will also be a custom input option that allows you to type or use a number input to choose your own value.
 - Alice requires you to fill these out so that the code is always complete and functional.

Editing a Functional Method



- Functions may be modified by clicking on the yellow argument components that have a small arrow next to them. Selecting these components will bring up a drop-down menu showing the available options for substitution.
- A function may be deleted from the editor by replacing it with a different value, expression or function call.
- Right-clicking on a procedural instruction tile in the editor will provide replacement options, or you may drag and drop another function into its place

Categories of Functional Methods

- **Appearance / Size** – referring to properties of the selected character or prop.
- **Prompt user** – allow the program to ask the user to provide information from the keyboard for more interactive programs.
- **Position** – provide information about an objects location in the scene, either its distance from other objects or where it is in relationship to other objects
 - It should be noted that the **getDistanceTo** function will return the distance, in meters form the center point of one object to the center point of the target object
 - The other distance functions (**getDistanceAbove**, **getDistanceToTheRightOf**, etc) are dependant on the orientation of the respective objects
- **Other** – provides useful information about the properties of an object, or its relationship to other objects
- **Joint** – functions that return the specified joint of an object. Access to these joints is used primarily to animate parts of a character or object.