Buttons and Birds: Introduction to Interactive Events in Alice

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Download the Alice World that goes along with this tutorial. This tutorial will teach you the basics of events in Alice. Events are where you can tell Alice what to do in response to a certain action, like clicking on an object or pressing a key.

Your world should start with two birds and a panel of buttons. The events editor, where your events are located, is found in the upper right hand part of the Alice screen. There is always one default method: “When the world starts, do world.my first method.” This means that whenever you push the play button, Alice will do whatever code you have put in my first method.

Try playing your world. Nothing should happen, because there is nothing in my first method.
We are now going to change **When the world starts**. First, click on bluebird in your object tree, and then look in its **methods** pane until you find the method **move to**.

Now drag and drop bluebird move to over **world.my first method** on the **When the world starts** event in your events editor. Select **bird1**, and then the entire bird1.
Press play to see the bluebird fly to the other bird. Alice will probably give you a warning before it plays; just click ok. As you can see, Alice will do whatever you tell it to in When the world starts. Now right click on your event and select delete. Your method editor will now look empty.

There are several different types of events besides When the world starts. One of these is a keyboard event, which is when you tell Alice to do something when a certain key is typed. We are going to create one of these now.

Click the create new event button and select When a key is typed.
In the events editor, where it now says *When any key is typed, do nothing*. Click on *bird1* in the object tree, and find its *flyForward* method. Drag and drop it over where your method says *nothing*.

Try playing your world.  
*Now when you play your world and press almost any key, your bird will fly forward.*
Let's make it so that you have to press a specific key.

Click on the down arrow next to any key on your event, and look at the keys you can choose from. We'll select letters, and then F, because we are making the bird fly.

Now follow the previous steps to make another keyboard event. This time, make it so that when you press the letter B, bird1 does its flyBackwards method.

Play your world and test your events by pressing F and B.
You can also create an event that is tied to a mouse clicking, either just clicking on anything, or clicking on a specific object. This is called a **Mouse Click Event**.

Create a mouse event by selecting **When the mouse is clicked on something** in the “create new event” menu.
We are going to make this event so that when the mouse is clicked on the green button, the bluebird does its `approach` method. Find the green button in the object tree by clicking on the plus sign next to `ButtonPanel`.

Now drag `greenButton` from the object tree over to the anything in your mouse event, and drop it there.
Now click on bluebird in the object tree, and look on the methods pane to find its approach method. Drag this over to where your mouse event says Nothing and drop it there.

Play your world and click on the green button to observe the bluebird’s approach. Notice that it keeps moving, even if it crashes into you. Let’s create an event that stops the bird. Create a mouse-click event so that when you click on the red button, the bluebird does its stop event.
Now we’re going to make one more mouse click event. Make an event so that when the mouse is clicked on the purple button, (which is called `actualButton` and is a part of `button` on the object tree) the other two buttons disappear. You can do this by dragging `ButtonPanel`’s `toggleVis` method onto your event.

Play your world and test the method by clicking on the `button` in the purple panel.
Events open up many possibilities in your world by letting the user interact with it. You have probably noticed that there are many other events in the create new event drop down menu. Some of these are very useful, such as Let arrow keys move. This is good for steering a vehicle or a person in a game. There is also Let the mouse move, which allows you to click on something with your mouse and drag it around in your world.

Test out some of these events until you feel you are comfortable with events in general.