ARAPAHOE LIBRARIES

CODING PROJECT: MAKE A GREETING CARD USING SCRATCH

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What you need to know:
Basic knowledge of computer and Internet use

What you need:
- **Computer**
- **Internet Access**

Want to send your family and friends customized eCards while also learning about Scratch programming? This guide will get you started in Scratch so you can go customization crazy!

Getting Started – Backdrops and Sprites

1. **Open a web browser and type scratch.mit.edu in the address bar.**
2. **Click on "Create" in the blue menu bar at the top of the page.**
3. **Start by changing the backdrop of your card. You have the option to draw a background, use your own image, or use one from their library. Let's use one of the built in backgrounds. Click on the white Stage box and then click on the little picture of a mountain under New Backdrop. Select your image and click OK. Now you should see your selected background in the display window.**
4. **You automatically have the Scratch mascot in the middle of your Ecard. Images and character like this are called "Sprites." Let's remove the existing Sprite and start from scratch. First, click on the scissors in the grey menu bar. Then click on the cat Sprite in the middle of the screen with the scissor icon that replaces your cursor. Now we can add the Sprite of your choice.**

5. To add a new sprite, click on the icon that looks like a little elf in the Sprites box. Just like choosing a backdrop, pick your image and then click OK.
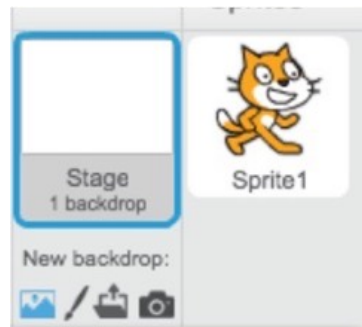

Animating Sprites with costumes

Many Sprites will come with multiple costumes, which let you animate characters through your code. Here's how to use those costumes to animate a character.

6. Try to find a person or an animal that comes with a costume (most do). Select it and click OK to add it to your Sprite collection.
7. While your new Sprite is selected in the Sprite window, click on the Costumes tab to the right of the display window. You will see all of the costumes that it comes with. Click on each of them to get an idea of what animation/s you can do.
8. Now, click on the Scripts tab to the left of the Costumes tab. If you want the animation to start right away, click on the orange Events tab and drag the When Flag Clicked block to the workspace. Then click on the purple Looks tab and connect the Switch Costume block to the flag block. Click on the Switch Costume drop-down menu to choose which costume it will switch to. If there are multiple costumes, you can continue dragging switch costume blocks to cycle through the available costumes.

9. Costumes switch really fast with this arrangement. Make sure to drag a Wait block from the yellow Control tab in between each Switch Costume block. Play around with adjusting the speed between switches and order of costume changes. If you want your Sprite to continue a switch cycle, drag a Forever block so that it is around your code and underneath the flag block.
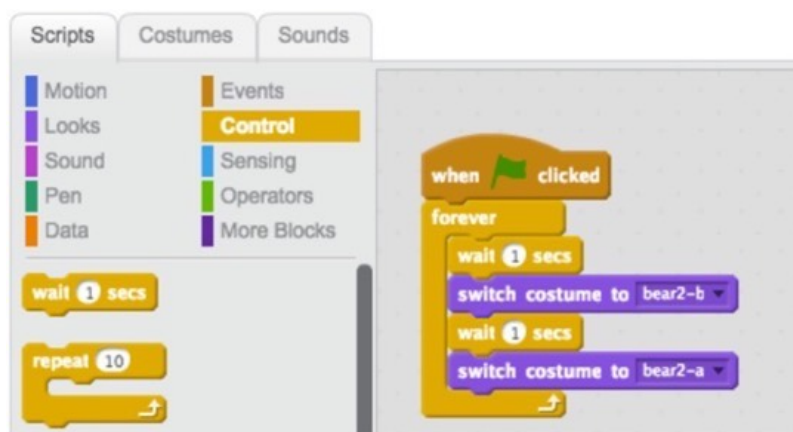
Add a text greeting

10. Now we will need a greeting for our card. We can add animations to letters in the Sprites gallery or typed text. To spell a message with the built in letters, you can sort by Letters on the left of the gallery window. Add each letter you need to spell your message.

11. You can drag each letter within the preview window to arrange your message. You can also use the Grow and Shrink tools (next to the scissor in the top grey menu) if you need to adjust sizing. When you click on one of the tools, your cursor will change and you can click on the Sprite that needs adjusting.

12. Now we can add some color animations to our message. Click on a letter in the Sprites menu. You should see the Scripts workspace appear on the right. Start by clicking on the orange Events tab. Drag the When Flag Clicked block to the empty workspace. Now click on the purple Looks tab. Drag the block that says Change Color Effect by 25 to connect with the flag block. This will change the color of one letter one time.

13. If you would like the letter to flash color for longer, click on the yellow Control tab and drag the Forever block so that it goes around the color block and attaches to the flag block. This will make colors flash really quickly. To slow it down, drag the Wait 1 sec block and attach to the color block. You can adjust the seconds until you're happy with the speed. Now you have a colorful greeting!

Add a sound effect

You can add sound effects to Sprites, or let a song play in the background. You can even record your own greeting. For this card, let's add some background music.

14. Click on the thumbnail of your backdrop in the bottom left. Then click on the Sounds tab next to the Scripts menu that appears on the right. Click on the speaker icon to preview the sounds in the library. If you find one you like, click on it and then click OK. Now you will be able to add that sound to your code.

15. Click on Scripts and drag a When Flag Clicked block to your workspace. Then click on the pink Sounds tab and drag a Play Sound block so that it connects to the Flag block. Choose your sound from the dropdown menu. Now the song will play along with your animations! You can also change your event script so that sounds play when certain Sprites are clicked. Play around with it!

Keep Customizing!

There are all sorts of things you can edit and add to your Scratch greeting card. Add more decorations, and play around in the script tabs to make more animations or sounds. If you make a Scratch account, you can share your creations with friends and family!