

Note to the Instructor

- This is the first lesson of a three lesson workshop. The lessons are designed to incorporate time for the participants to experiment with the software on their own. This first lesson will provide the participants with some basic skills to create their first project.



Intro to

SCRATCH

Lesson 1
Basics

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What is Scratch?

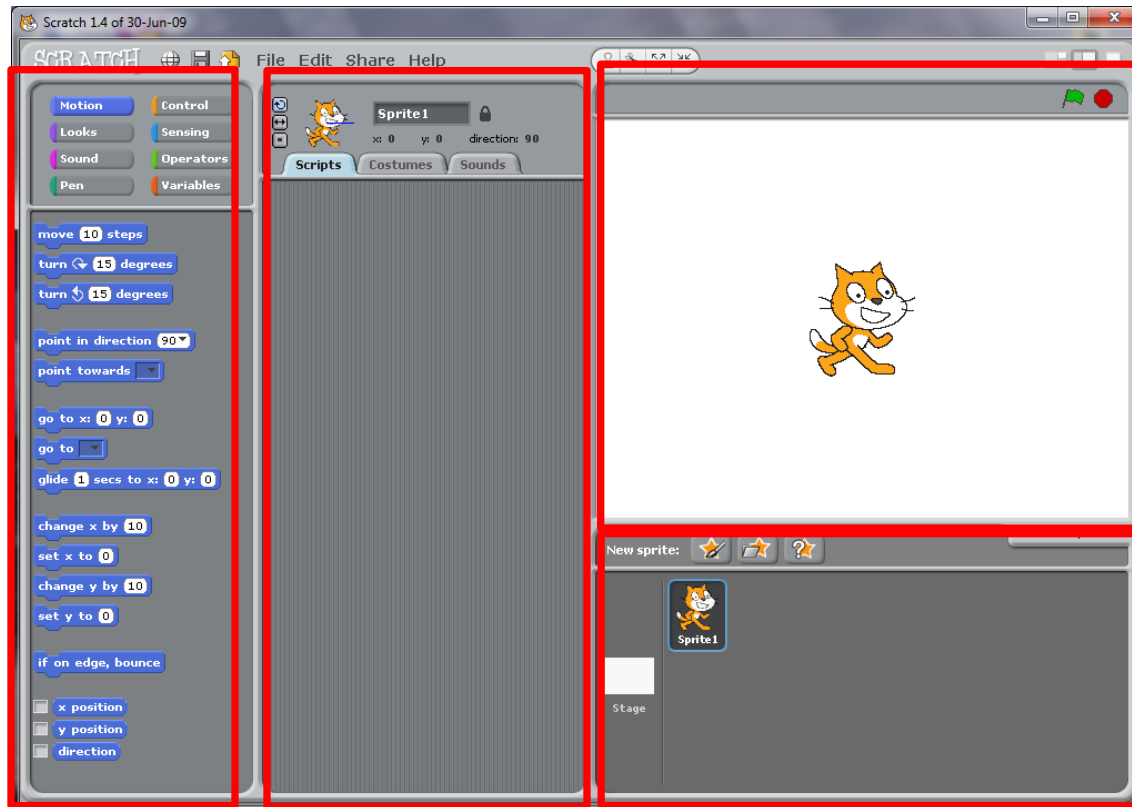
- Scratch is a platform where you can “create and share your own interactive stories, games, music, and art”
- <http://scratch.mit.edu/>
- <http://www.youtube.com/watch?v=jxDw-t3XWd0>

Class Objectives

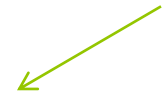
- Have Fun!
- Use Scratch to make projects
- Skills to be learned:
 - Import Sprites
 - Movement (key control)
 - Sounds
 - Speech
 - Sprite editing

Start, open new project

Block
Palette



Stage



Script Area



Sprite List Area



Key Terms

- **Sprite** – Character/object in project
- **Stage** – The window where the project and backgrounds are displayed
- **Script** – A series of blocks snapped together that form a code for the Sprite follow
- **Block Palette** – color coded area where all the blocks to write the script are located
- *****Hint – if you don't know what a block does**
> **Right click it and select “help”**

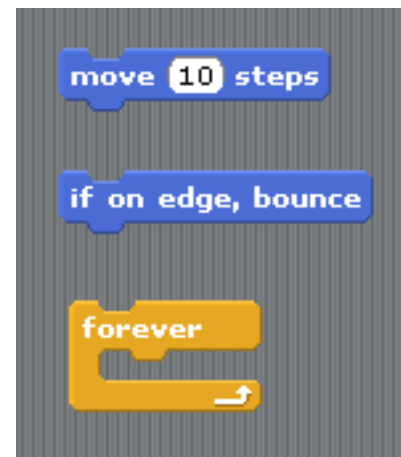
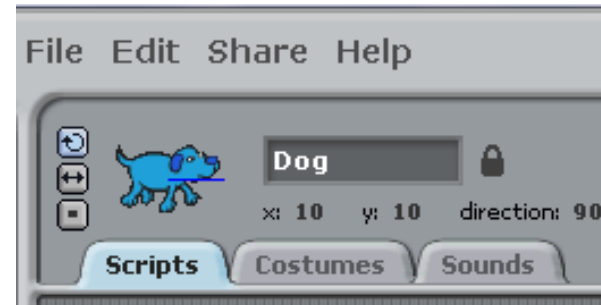
Delete/Import Sprite

- Click the **Delete** Button
- Then Click on Sprite to delete
- Click the **Import** Button
- Then Select Animals > dog2-b



Rename Sprite

- Rename Sprite1 > Dog
- Use **Motion and Control Blocks** to make the Dog move
- Use **Rotation Buttons** to make the dog only face one way



Hat Blocks

- Use **Hat Blocks** to begin a Script



Import New Costumes

- Click the **Costumes** Button
- Then **Import**
- Select Animals > dog2-c



Animate

- Now, with 2 Costumes the Dog can walk

- Use a **forever** and **next costume** block

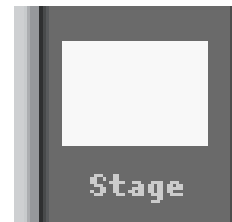


- Add in a Wait(0.1)



Background

- Click the **Stage** Button



- Then click **Backgrounds**

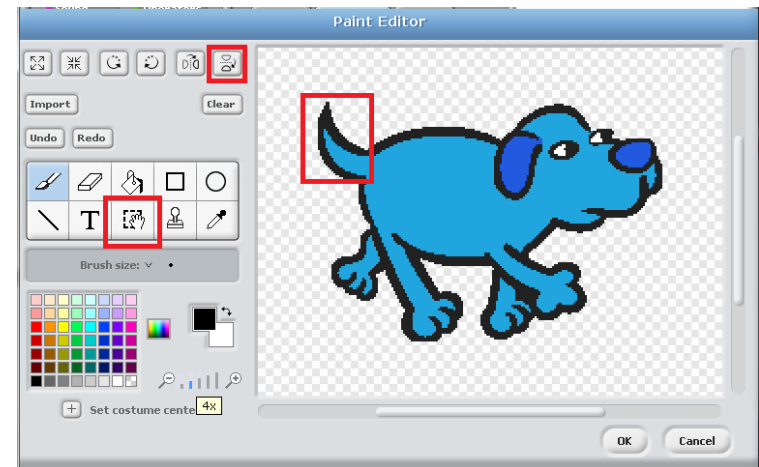


- Then **Import** and select a picture



Edit Costumes

- Go back to the Dog Costumes by double clicking the dog and then selecting the **Costumes tab**
- Select the **Edit** Button on Costume #2
- Use the **Select tool** and Highlight the Tail
- Then Use the **Flip Vertically** Button to rotate the tail and position back into place
- This will Animate the tail



Import Sound

- Now click the **Sound** Button
- Then the **Import** (just like a costume)
- Go to Animals > Dog1
- Use **When (space) key pressed control Button, play sound (Dog1) until done Button, and forever Button** to make the Dog “bark”

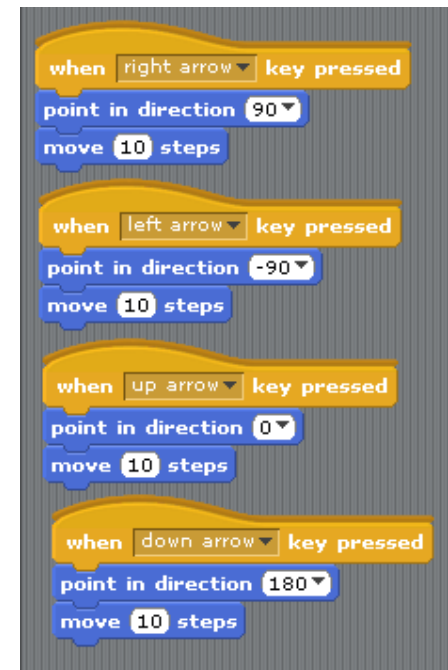


Add Another Sprite

- Add a New Sprite > parrot1-a
- Add a New Costume > parrot1-b

Controlled Movement

- Use the **Arrow Keys** to make the Parrot move
- Use the **when () key pressed**, **point in direction ()**, and **move () steps** buttons to complete



```
when right arrow key pressed
point in direction 90
move 10 steps

when left arrow key pressed
point in direction -90
move 10 steps

when up arrow key pressed
point in direction 0
move 10 steps

when down arrow key pressed
point in direction 180
move 10 steps
```

The image shows a Scratch script with four key-press events. Each event consists of a 'when key pressed' trigger, a 'point in direction' block, and a 'move 10 steps' block. The directions are 90, -90, 0, and 180 degrees for the right, left, up, and down arrows respectively.

Animate Parrot

- **Rename** the Sprite Parrot
- Add a **next costume Block** to each key command
- Fix the **rotation** of the Parrot

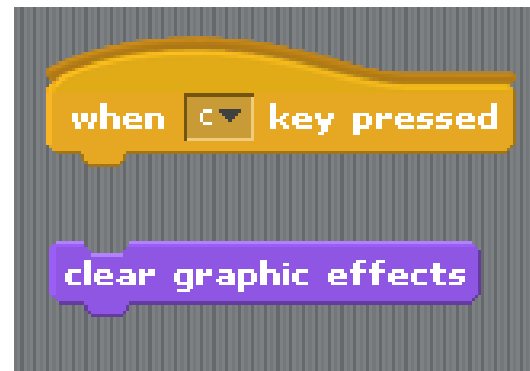
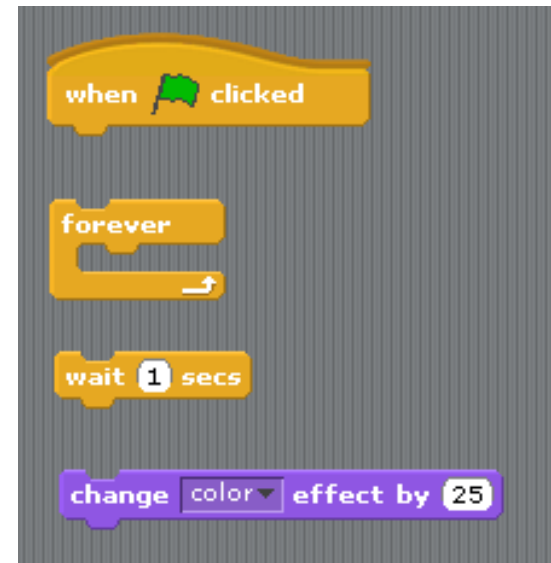


```
when right arrow key pressed
next costume
point in direction 90
move 10 steps

when left arrow key pressed
next costume
point in direction -90
move 10 steps
```

Change Parrot Colors

- Use a **Green Flag** command, **forever** block, and **change (color) effect by (25) Block**
- Add a **wait (1) Block**
- Add a **clear graphic effect command**



Talking/Speech

- Add a **when (space) key pressed Block**
- Add a **say (Please don't bark at me) for (2) secs Block**
- Now the Dog will “bark” and the Parrot will speak at the same time, when the space is pressed

