Start Scratching Session 7

Description

This session further develops the idea of conditional control, i.e. programs that can give a wide variety of results rather than simply going through a fixed flow of instructions. The specific goal of this session is to show the students how a sprites movement can be controlled using keys.

How is it tailored for 5-7 year olds?

- More concise approach to movement using co-ordinates is not used, this would require both use of the co-ordinate system and negative numbers. This approach used does involve angles, however these can be 'bypassed' via the drop down menu

What is covered

- Multiple Events (when left arrow clicked, when right arrow clicked.....)
- Point in direction

Steps

1. **Open a new project, get rid of the cat and choose a new sprite**
   Make sure that the students only choose a single sprite, and do not use a background. Now that they know how to import multiple sprites and backgrounds, a key goal is to keep their development environment appropriately simple. Make sure that the new sprite is given a sensible name.

2. **Find 'when space key pressed' top hat block**
   Ask the students to drag the 'when space key pressed' top hat block into their sprite's scripting area, and then click the little black arrow on it. Have them change the 'space' key to the 'up arrow' key.

3. **Make the sprite move up**
   Initially ask the students to bring a 'move 10 steps' block underneath their 'when up arrow is pressed' block. **Ask what the problem is here – the sprite moves in the wrong direction. Ask the students if there is any block in the Motion category that could make the sprite point in a certain direction.** Drag the 'point in

direction' block into the program, and ask the students to place it above the move block. Now explain that the different directions use numbers (e.g. 90), but you can see what they are by clicking on the little black arrow. Click on this arrow, and change the option to '0 (up)'. Verify that the sprite moves up when the up arrow is pressed.


4. **Make the sprite move down**
   Create a second block of code similar to the first, but this time use the 'down arrow' key, and choose the direction as '180 (down)'. Place this block of code alongside the first block. Verify that the sprite moves up and down.

5. **Use the duplicate option to create 'move left' and 'move right'**
   Show the students that we can 'right click' on an existing block of code, and select the 'duplicate' option. This will copy the block of code so that it can be used as a quick way to start a similar block.
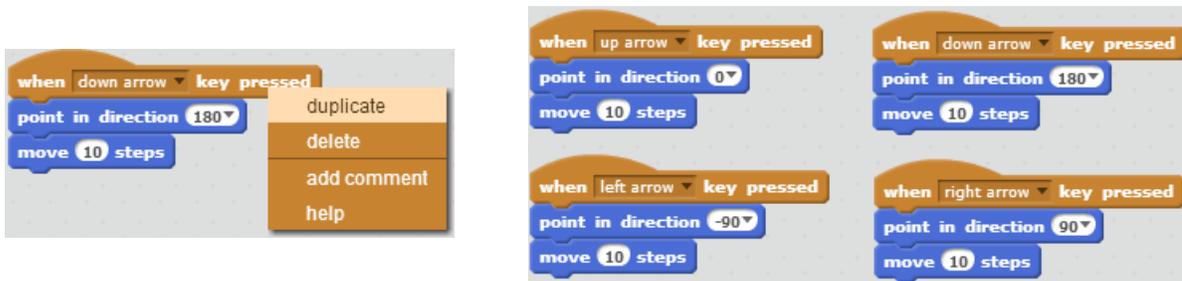
Extra Challenge: Create a background for your sprite to move around in, and add another sprite. Use the 'if touching' block from last week to have the new sprite say 'Hello!' to your sprite when he touches him.