ScratchJr Lesson Plan

Objective: To introduce young children (ages 5-7) to the ScratchJr programming platform.

Background: ScratchJr is an introductory programming language that enables young children to create their own interactive stories and games. ScratchJr allows young children to program their own interactive stories and games. Children snap together graphical programming blocks to make characters move, jump, dance, and sing. Children can modify characters in the paint editor, add their own voices and sounds, even insert photos of themselves -- then use the programming blocks to make their characters come to life.

Preparations: Download the ScratchJr App from www.scratchjr.org and watch the introduction video. ScratchJr is currently available as a free iPad app (2nd generation +). An Android version is expected to be released late in 2014 and a web-based version in 2015.

Deliverable: Each student will create their own interactive story.

Getting started:

Step 1: Use **Activity Sheet #1** to explain the following set-up steps to the class:

- Backgrounds & Characters: Explain how stories and games are set in different backgrounds and can use different characters. Show the class how to select backgrounds and characters. Also, show how the default character can be deleted.
- Move and resize the character to the start place. The character may be oversized in relation to the background and so its size can be changed using the resize button.
- Explain how a program is simply a list of instructions to tell the character what to do. The program needs to contain a start and a stop instruction (command) and a middle bit that says for example "move forward 18 steps". Point out all move instructions at this point. This is also a good opportunity to discuss the grid and how the numbers on the grid correspond to the number of steps in the instructions.

Allow the class time to select their own characters and backgrounds and create simple move instructions.

Step 2: Use **Activity Sheet #2** to add sound functions and extra move functions:

- Set-up the background and characters as per activity sheet #2.
- Show the class all the different sound instructions and let them experiment with the recording option. Create a program to play background music for dancing characters.
- Use move blocks to create a program to make both characters dance. Introduce the "Start on bump" command here.

Allow the class time to create new dance routines for the characters.

Step 3: Use **Activity Sheet #3** to illustrate how two characters can be made to move in sync:

- Set-up the background and characters as per activity sheet #3. Explain how the basketball can be treated as a character and given instructions on what to do.
- Explain how loops work and show how we can repeat an instruction many times using a loop. Do this for both the character and the basketball.
- This activity also demonstrates how the green flag at the top of the screen can be used to activate all characters at once.

Allow the class time to experiment with loops and changing the numbers.

Step 4: Use **Activity Sheet #4** to illustrate Steps 9 and 10:

- Set-up the background and characters as per activity sheet #4.
- Show the class how a title can be added and colours can be changed using the paint editor. Speech bubbles can also be introduced here.
- Show how a second background can be added to the story and characters can move from one background to the other.

Allow the class time to create different instructions for the characters.

The class should now have sufficient knowledge to create their own stories. Set them the task of writing a story and creating the animated version on ScratchJr.