Scratch Workshop - Draft Agenda

Prerequisites

Prior to the event, Scratch must have been installed and tested to run without any problems. Since the Scratch programming system can run on any computer that runs Java runtime (Java Platform Standard Edition 6 or higher version), it can be installed on Apple, GNU/Linux, or MS Windows computers. The download link is available at:

http://info.scratch.mit.edu/Scratch_1.4_Download

The Scratch icon (shortcut) should be placed on each computer's desktop, so that when double clicked by a student, the Scratch will run.

For a rich interactive programming experience, computers with loudspeakers should be preferred. A camera attached to a computer can be beneficial but is not mandatory.

Scratch cards should be printed in color (for each student a deck of cards should be printed): Scratch cards provide a quick way to learn new Scratch code. The front of the card shows what you can do; the back shows how to do it. Click to view and print each card, or download a zip file with all the cards.

The Dutch version of the cards as well as other useful material are available at the following addresses:

- http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/file/GS14_nl_2.pdf
- http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/file/Cards14_nl.zip
- http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/file/Create14_nl.pdf
- http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/file/Learn14_nl.pdf
- http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/file/Program_nl.pdf

See also:

1. http://info.scratch.mit.edu/Languages
2. http://mmi.tudelft.nl/scratch/
3. http://mmi.tudelft.nl/scratch/Scratch%20boekje%20TU%20Delft.pdf
4. http://scratchweb.nl/

The computer of the instructor should be connected to projector / whiteboard. The children should be able to easily see the screen of the instructor. The compatibility between the instructor's computer and the projector / whiteboard should be tested prior to the event (interface, connectivity, Apple - PC issues, resolution issues, etc.)

Prepare the shared account for the Scratch website

In order to show the children the web-based collaborative & social aspects of the Scratch programming system and community, a shared account should be created and tested before the workshop. The account can be prepared by visiting:

http://scratch.mit.edu/signup

This account is supposed to be used only for the workshop purposes and you are supposed to share the username and password with all of the children that attend to the workshop. Since this will be a shared account, the instructor should let children know this and coordinate their uploads and prevent anything concurrent.

At the end of the day, this account will be a showcase / gallery of the children's accomplishments. Of course, every child is free to upload whatever project she wants and if she does not want to upload any of the projects she worked on, that's totally fine, too. Never force a child to upload anything and share it with the world, but have a supportive attitude, mentioning the advantages of sharing, open source and being able to see the 'inner workings' (source code) of their peers via this simple sharing system.

Moreover, do not forget to mention that children are free to later create their own personal accounts and customize their Scratch user page however they like.

Please note down the username and password you have created:

Username: _____
Password: _____

Some related videos are available at:

1. http://scratched.media.mit.edu/stories/sharing-with-scratch-episode-1
2. http://scratched.media.mit.edu/stories/sharing-with-scratch-episode-2
3. http://scratched.media.mit.edu/stories/sharing-with-scratch-episode-3

Sample Scratch account by a student

For demonstration purposes, below is the webpage of an 12 year old girl who had no prior programming experience and studied Scratch for a few months. After the explanations she had decided to upload some of her Scratch projects:

http://scratch.mit.edu/users/melisa_scratch

Below is another Scratch user web page, but this time it is a shared account and includes some projects created by the children (ages in the 9-14 range) that attended a previous workshop:

http://scratch.mit.edu/users/scratchdaybelgium12

Pair Programming

On each computer, two students will be seated (optional, if the setting allows).

Age Group

The age range is assumed to be between 11 and 14, but this is not a very strict constraint; some 9-year olds have been seen to be very capable learners, too. The children are assumed to have almost no prior programming experience.

Duration

1.5 hours + 15 min. break + 1.5 hours

Part I - Introduction and Warming Up

The instructor's computer is connected to the projector / widescreen / whiteboard, so that everybody can see his screen.

(5 minutes)
Let the students introduce themselves by telling their names and why they attended this event (very briefly).

(10 minutes)
Ask the students for what purposes they use computer for. Let them give a few examples. Then ask them whether they use computer to produce something that others can use. Let them think and come up with examples. Give them a few examples. Ask them whether they think it would be very difficult to create fancy things that others can enjoy, too.

(5 minutes)
Instructor runs the Scratch, introduces the main elements of the programming system and then proceeds to create a very simple program (e.g. a single block, or a two block program that moves the Scratch cat on the screen when clicked).

(10 minutes)

Let the students imitate the instructor and have the same effect on their Scratch system.

(10 minutes)
Instructor runs some interesting examples with Scratch.

(10 minutes)
Instructor goes to the Scratch website and introduces the Scratch community: what does it mean to have a programming community, sharing programs, learning from others, etc.

(40 minutes)
The “About Me” project:

Ask students to think about: What are three aspects of yourself that you could represent through images or sound?

Introduce students to the concept of the interactive collage, a Scratch project that represents aspects of themselves through clickable sprites. Optionally, show a couple of different interactive “About me” projects.
E.g. http://scratch.mit.edu/projects/ScratchEdTeam/2041660

Give students 35 minutes to work on their projects, with the “About me” handout available to provide guidance for blocks to experiment with.

--== 15 minute break ==--

Part II - Creating and Sharing with Scratch

(10 minutes)
Give each pair of students / every student, a deck of Scratch cards. Let each group / student pick a challenge from that deck of cards. Then tell them to implement that challenge. If they encounter difficulties, they can look at the solution.

(30 minutes)
Creativity task: Each student / group should make a change to the existing challenge. The purpose is to do something surprising, to add some surprising effect to their

existing program. Can it be a surprise sound? A surprise animation? Let them decide and implement. The instructor(s) visit each group and see what challenges they encounter and try to help (but not much, so that students can always claim ownership of their code ;-)

(20 minutes)
Sharing with the community: Show the students how they can publish their Scratch programs with the Scratch community. Each student / pair should successfully upload their creation (About Me or the Creativity task result). Then let them select another project from the Scratch site, download it and examine the “source code”. A brief introduction into the importance and motivation of “sharing the source” and the virtues of free software that can be examined and modified by every student.