December 14, 2013
The Marymount School
New York City

Schedule

8:00 – 9:00	Sign in and breakfast		
9:00 – 9:30	Keynote		
9:45 – 10:45	Session 1	Full Morning Session	All Day Session
11:00 – noon	Session 2		
noon – 1:00	Lunch		
1:00– 2:00	Session 3	Full Afternoon Session	
2:15 – 3:15	Session 4		
3:30 – 4:00	Slide Show, Sharing, and Raffle		

Keynote

Learn to Code, Code to Learn

Mitch Resnick, LEGO Papert Professor of Learning Research and head of the Lifelong Kindergarten group at the MIT Media Lab.

> The ability to code, like the ability to read and write, can help you learn many other things. When you learn to code, you learn important strategies for solving problems, designing projects, and communicating ideas -- important skills for everyone in today's society. I'll discuss how and what people learn when they create and share Scratch projects, and I'll give some sneak previews of future directions for Scratch.

All Day Sessions – 9:30 to 3:15

Beginners' Basecamp – Cafeteria

- No Scratch experience needed

New to Scratch? This is the place to get started. Experienced Scratchers will help you set up an account on the Scratch website. Then start scratching with the Scratch Activity Cards, Tutorial, and the Hour of Code Scratch Activity. Design, build, and share your first Scratch project.

Meet Up and Share – Cafeteria

- Everyone is welcome

A space for informal and spontaneous Sratching and sharing. Continue projects you started in one of the workshops. Share what you've been working on with other Scratchers.

A Musical Staircase – East Staircase, 3rd to 4th floor

- Jaymes Dec, Marymount School
- Poster session for children up to 11 years old
- No prior experience needed

This is will be an interactive musical installation. Play music by touching sensors on the staircase.

Full Morning Sessions – 9:45 to noon

Using Scratch with Arduino – Room 403

- Steve Farnsworth, Dwight School
- Hands-on workshop for people 12 years old and up
- No prior Scratch experience needed

Learn how to design your own circuits using S4A (Scratch for Arduino) and the popular Arduino microcontroller. Wire together sensors, motors, LEDs and other electronic components and use Scratch to program your creations.

Before Scratch Day:

Download and install Scratch for Arduino from http://s4a.cat/
and the Arduino software from http://arduino.cc/en/Main/Software

Programming the NXT using Enchanting (Scratch) - Room 401

- Hope Chafiian, The Spence School
- Hands-on workshop for people 8 years old and up
- Some familiarity with Scratch is needed

Work in small groups to build a "smart" vehicle using the NXT. Attach sensors in key places and use Enchanting to program the car to make sense of the world and interact with its environment. Some suggested activities include avoiding obstacles, reacting to loud noises, and changing direction when touched.

Before Scratch Day:

Download and install Enchanting and the LEGO Phantom Driver from http://enchanting.robotclub.ab.ca/

Make MaKey MaKey Make – Room 407

- Josh Burker, Greens Farms Academy
- Hands-on workshop for people of all ages
- Some familiarity with Scratch is needed

Come make the world your controller with the MaKey MaKey, cardboard, aluminum foil, Scratch, and your imagination! Explore some pre-made examples then jump right in and create your own game controllers, musical instruments, interactive games, or puppets. Learn hardware design, basic circuit design, Scratch programming, and the power of collaboration to build, demonstrate, and lead others in using your creations.

Make Your Own Video Game – Room 301

- Two Sigma Teachers and students from East Side Community High School
- Hands-on workshop for people eight years old and up
- No prior Scratch experience is needed

Students will share the games they have been designing and building. Participants will then have a chance to play the games, remix them, and create their own. This session is especially good for people who are just getting started with game-making in Scratch.

Introduction to Scratch 2.0 for Educators – Room 303

- Elizabeth Mirecki, Long Island School for the Gifted
- Hands-on workshop for teachers
- No prior Scratch experience needed

New to Scratch? Not sure how to get started? During this two-hour workshop we will tour the Scratch 2.0 website and an assortment of projects. Next, you will work on various hands-on activities to create your first Scratch project and share it on the Scratch website. You will also learn about teaching resources for diving deeper into Scratch and strategies for helping your students get started.

A Finch Robot Soccer Match – Room 408

- Daniel Taylor, Mt. Hebron Middle School, Montclair, NJ
  Jon Bonesteel, Montclair Adult School, Montclair NJ
- Hands-on workshop for people 12 years old and up
- No prior Scratch experience needed

The Finch robot is the latest entry into introductory robotics. Middle school students in Montclair NJ, at Mt. Hebron Middle School have successfully programmed them to do complex tasks in about 10 minutes using Snap! We will demonstrate how to create basic soccer moves and challenge participants to a 3-on-3 game.

Before Scratch Day:

Download and install the BirdBrain Server from
http://www.finchrobot.com/software/snap

Create a Running Sprite with a Paper Action Figure - Cafeteria

- Ian E. Toledo and Roger Nembhard, Cooke Center for Learning and Development
- Hands-on poster session for people 8 years old and up
- Some familiarity with Scratch is needed

A Paper Action Figure Template will be designed into a posable character with drawing materials, then cut out, hole-punched and fastened together with brads. Photos of four running poses will be uploaded into an image editing application to erase background then imported into Scratch for an interactive Sprite animation. Look at http://scratch.mit.edu/projects/13895205/ for a sample of the kind of project you will create in this session.

Before Scratch Day:

Download and install Gimp
For Mac: http://gimp.lisanet.de/Website/Download.html
For Windows: http://www.gimp.org/downloads/

Session 1 – 9:45 to 10:45

Afterschool Scratch Program for 4th Graders: For the First Time – Room 208

- Stan Golanka, Trevor Day School
- Discussion for teachers and parents
- No prior Scratch experience needed

A discussion of an in-progress, first time Scratch after school program for 4th graders. We will share experiences and lessons learned in starting the program.

The Arcade Classics Re-Creation Station - Room 302

- Dylan Ryder, The School @ Columbia University
- Hands-on workshop for people 8 years old and up
- Some familiarity with Scratch is needed

Ever want to know how to recreate your favorite console or computer games in Scratch? In our session you can learn strategies to make sprites run, jump, chase, climb, collect, defend and more.

Hacking Scratch Projects: Taking Existing Files and Turning Them Into Our Personal Creations! - Room 307

- Emily Neunaber, Marymount School
- Hands-on workshop for people 8 years old and up
- No prior Scratch experience is needed

Hacking is a way for people to use their creativity, and turn a good project into something great for them. It requires creativity, but no background knowledge in scratch. Using this is a way to express creativity, design, and love of learning. If you are a person that loves trying new things, hacking is something that you should explore!

Introduction to Game Design – Room 202

- Chris Dunne, Riversound Solutions, LLC
- Hands-on workshop for people eight years old and up
- No prior Scratch experience is needed

A lot of Scratch programs are labeled as games, but what exactly do you need to know to build a game of your own design? This workshop is based on materials we've developed over the past three years that introduce you to EVERYTHING you need to know to create a real 2D game (complete with scorekeeping).

Scratch Math Activities – Room 203

- Ihor Charischak, Council For Technology in Mathematics Education (CLIME)
- Hands-on workshop for teachers of upper elementary and middle school grades
- No prior Scratch experience is needed

In this session participants will unravel some microworld-like teacher-posed challenges in Scratch that are appropriate for middle grade students to learn about geometric patterns, fractions and proportionality.

A Link in My Lineage: Scratch Clickable Family Photos – Room 306

- Sam Smiley, Lesley University
- Presentation for adults and children 16 years old and up
- No prior Scratch experience is needed

Want to see your family photos come alive through oral histories? This session will give examples of interactive family photos developed with Scratch by teachers in Lesley University's Educational Technology M.Ed. Program. You will learn how to develop interview questions, record interviews, and make a family photo clickable in Scratch. The project was co-designed by media artist/educators Sam Smiley and Carmin Karasic.

Before Scratch Day:

Gather some digital family photos and bring them on your laptop or a flash drive.

Session 2 – 11:00 to noon

Scratch Chat: What's so great about Scratch? – Room 208

- Sean Justice, Teachers College, Columbia University
- Discussion for teachers, parents, and researchers
- No prior Scratch experience needed

We love Scratch, but how do we convince our colleagues to give it a try? Many of us have found ourselves in the position of having to introduce, explain and even defend Scratch to teachers, principals and parents who have never heard of it, or are skeptical about using it in the classroom. What do you say to get non-Scratchers intrigued? This discussion session is about opening the Scratch conversation to folks who haven't yet caught the wave of enthusiasm the rest of us are riding.

Program, Design, Compose, Repeat: 4th Grade Mazes, Music, and Art – Room 307

- Judith Seidel, Friends Seminary; Rob Wendt, Packer Collegiate Institute; and Zach Brewer, Corlears School
- Presentation for upper elementary and middle school teachers; students are also welcome

Fourth graders at Friends seminary build their own maze games. They program a hero sprite to navigate their maze, provide enemy sprites as obstacles and place a magical key that opens a door. We will focus on how students compose their music and design their own graphics and animation. This session is for teachers who want to incorporate music and/or art into Scratch curriculum.

steAm with Finch Robots and Snap! – Room 202

- Ursula Wolz, William Patterson University
- Hands-on workshop for people of all ages
- No prior Scratch experience is needed

At Mt. Hebron Middle School over 20 students have been involved in an "agile development" project to create activities interdisciplinary computing activities for their peers using Finch Robots and Snap!. This workshop highlights those activities that highlight how STEM should be steAm. We show you how to dance, sing and draw with a robot.

Before Scratch Day:

Download and install the BirdBrain Server from
http://www.finchrobot.com/software/snap

Get Acquainted with TurtleArt – Room 203

- Michael Tempel, Logo Foundation
- Hands-on workshop for people of all ages
- No prior Scratch or TurtleArt experience needed

TurtleArt includes both the A and the M of STEAM learning and teaching. Learn to use this blocks programming environment to create beautiful designs while exploring geometry and probability.

Before Scratch Day:

Download and install TurtleArt. Go to http://turtleart.org/ and click on "email us" to request a copy of the software. You'll receive instructions on how to download the software.

Programming the Finch Robot with Snap! - Room 306

- Tracy Rudzitis and The Computer School Scratch Team Leaders: Ryan Hernandez, Ryan Ramirez, Miles Cederquist, Victoria Williamson, Mateo Dominguez, and Brave Hagar
- Hands-on workshop for people 8 years old and up
- Some familiarity with Scratch is needed

The students at The Computer School have been experimenting with the Finch Robot and writing interactive programs using Snap! that allow the Finch to interact with the physical world. This session will begin with a demonstration of the Finch's capabilities and examine the code and blocks that are used to program the Finch. We will be bringing two Finches to play with, and participants will be able to access the web based version of Snap! from their own computers to program the robots. This session is designed for students who are interested in robots, and teachers who may be interested in learning more about Robots that can be programmed from a block based programming language.

Before Scratch Day:

Download and install the BirdBrain Server from http://www.finchrobot.com/software/snap

Full Afternoon Sessions – 1:00 to 3:15

Using Scratch with Arduino – Room 403

(See the description under Full Morning Sessions)

Programming the NXT using Enchanting (Scratch) - Room 401

(See the description under Full Morning Sessions)

Make MaKey MaKey Make – Room 407

(See the description under Full Morning Sessions)

Make Your Own Video Game – Room 301

(See the description under Full Morning Sessions)

Using Cloud Variables to Control Arduino Outputs – Room 303

- Jon Santiago, HTINK / NYC MAKERY
- Hands-on workshop for people 12 years old and up
- Some familiarity with Scratch is needed

Scratch 2.0 currently doesn't let you control hardware (Arduino, Scratch Boards, or WeDo). However, Scratch project cloud variables can be easily accessed via Processing language with JSON library and used to control actuators with the Arduino. We'll explore this in the workshop.

Before Scratch Day:

Download and install Processing from https://processing.org/download/?processing and Arduino from http://arduino.cc/en/Main/Software

Building a Digital and Physical Rube Goldberg Machine with Scratch, Makey Makey, and WeDo – Room 408

- Jaymes Dec, Marymount School
- Hands-on workshop for people 8 years old and up
- No prior experience needed

Small groups will work together to create a simple physical input/digital interaction with the Makey Makey. Then then will create a simple kinetic sculpture using Lego WeDo and various provided materials. Finally they will combine the interactions and create a Rube Goldberg Machine that bridges the physical and digital worlds. Each team must connect their machine to another team's machine so that in the end all of the machines are connected into one long system of Rube Goldberg connections.

Before Scratch Day:

Download and install Scratch 1.4 from http://scratch.mit.edu/scratch_1.4/

Advanced Game Design in Scratch – Room 202

- Ursula Wolz, William Patterson University
- Hands-on workshop for people 12 years old and up
- This session is for Scratch experts

Anyone can create a Scratch project and claim it is a game. But game designers use concepts and techniques for which resources are scarce and hard to find. This session gives a quick and dirty overview of Scratch techniques that game developers use to create compelling games. A wealth of resources will be distributed to continue on your own.

"The Lady or the Tiger?": Literature & Computer Science with Scratch -- Room 203

- Lev Fruchter, StoryCode: Computer Programming through Literature
- Hands on workshop for people 12 years old and up
- No prior Scratch experience needed

Scratch is both a powerful storytelling tool and a great one for demonstrating mathematical and scientific concepts. Learn how Scratch allows you to combine the studies of literature and technology in the same classroom! We will share an adaptation of the classic short story "The Lady or the Tiger?", explore its relation to computing concepts and then create Scratch programs that dramatically share these understandings.

Before Scratch Day:

Read the adaptation of Frank Stockton's "The Lady or the Tiger?" at http://storycode.info/curr/LorTtext.pdf

Session 3 – 1:00 to 2:00

Programming the Finch Robot with Snap! - Room 306

(See description under Session 2)

Pod.js: A bridge for Scratch Programmers to learn JavaScript – Room 208

- Mark Roth, Two Sigma Investments
- Hands-on workshop for expert Scratcher ages 12 and up

How does a master Scratcher make the leap to a mainstream programming language like JavaScript? Pod.js is an open-source experimental project (volunteers wanted!) that provides a gentle introduction to JavaScript by bringing familiar concepts from Scratch like sprites and blocks. Create your first pod.js app after the presentation!

Time Lapse Scratch Projects for Starter Scratchers – Room 302

- Francesca Zammarano, United Nations International School
- hands-on workshop for people of all ages
- No prior Scratch experience needed

During this session beginners to Scratch of all ages (class will be geared for grade 2) will make a time lapse animation. Use this session as a starting point for many projects in your future!

Dance Party: Program a Friend and Create a Dance Party Project! – Room 307

- Jennifer Lavalle, Lycée Français de New York
- Hands-on workshop for people of all ages
- No prior Scratch experience needed

In this session, participants will program each other by watching dance videos created by the ScratchEd Team. You will learn just how precise you have to be when giving a computer instructions and what good instructions look like! Next, participants will create a "dance party" project by picking their favorite sprite, background, and sound to make a Scratch project to share with the group!

Session 4 – 2:15 to 3:15

Scratch Math Activities – Room 306

(See description under Session 1)

Expanding Access to Scratch Through Advocacy and Partnerships – Room 208

- Thorin Schriber, Lauren Coape-Arnold, Anu Malipatil, and Mark Schnepf, Two Sigma
- Presentation for adults with discussion and Q&A
- No prior Scratch experience is needed

This session will empower Scratch supporters to increase access to Scratch for more youth. We will share advocacy tactics and resources, as well as describe how best to encourage your child's school to adopt Scratch. We will also provide an inside look into the Two Sigma Scratch Program, where employees work with local students through a course and mentoring. Leave this session with multiple pathways and resources to encourage others to incorporate Scratch, whether it is a school, non-profit, or company.

Scratch Games - That's What We Do! – Room 302

- Marcele Augustine and Alissa Blumberg, The Spence School
- Presentation with hands-on time, for people of all ages
- No prior Scratch experience needed

We will present interactive Scratch games created and programmed by third and fourth graders. Also, see how first graders used Scratch and WeDo robotics to program kinetic sculptures.

Before Scratch Day:

Download and install Scratch 1.4 from http://scratch.mit.edu/scratch_1.4/

Sharing With Scratch: How Remixing Strengthens Understanding – Room 307

- Jennifer Lavalle, Lycée Français de New York
- Hands-on workshop for people 8 years old and up
- No prior Scratch experience needed

Participants will explore the Scratch website and discuss how and if they have already begun sharing and remixing with Scratch. Next, participants will engage in a short activity designed to build an interactive project one step at a time. Finally, participants will share projects and remix each other's projects to gain a deeper understanding of how remixing and sharing can strengthen outcomes!

Closing – 3:30 – 4:00

- Slide Show
- Sharing
- Raffle – a chance to win a Makey Makey