Educational Workshop Series

Five-Day Introductory Workshop on
HAVING FUN WITH SCRATCH PROGRAMMING & SENSOR BOARDS
(For 8-10 year olds)

Learn	• Introduction to the fundamentals of Scratch • Creating interactive software projects on Scratch • Connecting Scratch to a hardware sensor board • Creating games and projects combining software and hardware
Organized by	• Exciting Science Group • Venture Center – a Technology Business Incubator
Co-sponsored by	Forbes Marshall Foundation, DSM, praj | foundation
Anchor Faculty	Shraddha Gargatti : Associate –Exciting Science Group
VC Organization Team	Shraddha Gargatti : Associate –Exciting Science Group Gayatri Kshirsagar : Consultant Intern – Exciting Science Group Shiv Tripathi : ICT – Venture Center
For whom	• Children: 8 to 10 year olds • Maximum 31 seats per wave o WAVE 1 : 25 seats (for those who bring their own laptops) 06 seats (reserved for children from municipal school) o WAVE 2 : 25 seats (for those who bring their own laptops) 06 seats (reserved for children from municipal school)) Booking schedule : **First-come-first-serve**
When	• **Wave 1 (First batch): Monday, 11 May 2015 -Friday, 15 May 2015; 10 am-12:30pm** • **Wave 2 (Second batch): Monday, 18 May 2015 -Friday, 22 May 2015; 10 am-12:30pm**
Where	E Class Room, Venture Center, NCL Innovation Park Dr. Homi Bhabha (Pashan) Road, Pune-411008
Contact	**For registrations:** Ms. Gayatri Kshirsagar Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-64011025 Email: gayatri@excitingscience.org **For technical queries:** Ms Shraddha Gargatti Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-64011025 Email: outreach@excitingscience.org

Cost	• Free. Prior registration and booking of seat required. • Seat is booked against refundable deposit * of Rs 500.**(*See detailed terms on receipt coupon)** • Children must bring their own laptops (preferably with webcam) to enhance their learning experience.

Introduction

Scratch (scratch.mit.edu) is a graphical programming language developed by the MIT Media Lab (www.media.mit.edu) to create animation, games, and much more. It is designed as a first introduction to structured logic and programming, and allows children to develop their creativity. The Scratch software can also be interfaced to a sensor board so that the software responds to signals from the sensor board. While the software is available freely from the Scratch website, the sensor board was not available India till recently.

This workshop aims to expose 8-10 year olds to the joys of programming. This workshop is meant to provide a general introduction to the fundamentals of scratch. The workshop will comprise classroom lectures, which will be interactive and will convey the excitement of programming using scratch, as well as demo programs, which will enable participants to understand and get familiar with the scratch interface. Special session shall be run to explore the use of Sensor Board to develop interactive projects. The workshop will also have 'group activity' sessions in which participants will learn to create their own games/projects. At the end of the workshop, children should be able to develop their own animation, games and graphic stories.

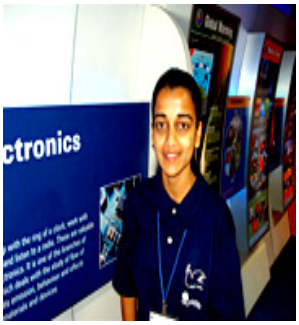
Course Outline

- Introduction to scratch programming
- Demo programs to explore the usage of programming blocks
- Introduction to variable and data storage basics
- Use of control statements/loops
- Making Graphics and Sound effects. Creating interactive software projects on Scratch
- Introduction to Sensor Board. Connecting Scratch to a hardware sensor board
- Game demonstrations using Sensor Board. Creating games/projects combining software and hardware

Schedule

Time	Session title	Lead	Venue at Venture Center
11 May 2015	**INTRODUCTION TO SCRATCH**		
0930-1000	Registration		Foyer
1000-1010	Introduction to the workshop	SG	E Classroom
1010-1115	Lecture cum Activity: Introduction to Computer Basics. Introduction to Scratch Programming Interface Examples of what you can do with Scratch and the Sensor Board	SG	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Lecture cum Activity: Getting Started with Scratch. Introduction to Motion Blocks and Looks. Making a Character move in Scratch Project 1:Random picture and movement; Pick your own sprite	SG	E Classroom
12 May 2015	**MOTION;CONTROL STATEMENTS/LOOPS**		
1000-1115	Lecture cum Activity: How to Repeat Code using Loops? Variables and Data Storage Basics (“Buckets” and “water”). Running Codes based on conditions: if else-if	SG	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Project 2: Pong Game with Score Board	SG	E Classroom
13 May 2015	**GRAPHICS AND SOUND EFFECTS**		
1000-1115	Lecture cum Activity: Making Graphics: How to Draw in Scratch? How to record sound and playback in Scratch?	SG	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Project 3: Give your sprite some sound and action.	SG	E Classroom
14 May 2015	**INTRODUCTION TO SENSOR BOARD**		
1000-1115	Introduction to Sensor Board. How to Interface the Sensor Board in Scratch. Making a Piano using Sensor Board	SG	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Project 4: Make your own Game Ideation session on your own (group) projects	SG	E Classroom
15 May 2015	**GAME DEMONSTRATIONS**		
1000-1115	Lecture cum Activity: Finishing Touches. Demonstrations (Games)	SG	E Classroom
1115-1130	Tea Break		Foyer Area
1130-1230	Project 5: Build your own (group) project with help from faculty and volunteers	SG	E Classroom
1230-1300	Workshop feedback, certificate distribution	ESG team	E Classroom

ANCHOR FACULTY:



SHRADDHA GARGATTI
Associate – Exciting Science Group

Shraddha has a BE in Electronics and Communication, and has previously worked as a Science Communicator in the DST-Max Planck Institute-Indian Railways supported Science Express. Shraddha is managing the current activities of the Exciting Science Group, and will seek to expand the scope of its activities in future.

Course includes

- Lectures
- Demo games
- The instructors will help you with installations in your laptop
- Each laptop shall be provided (on a returnable basis) a Sensor Board for use during the workshop.
- Certificate of Participation issued by Exciting Science Group
- Workshop includes soft drink during the break at Foyer Area

Note:

- **Parents are not required to purchase the Sensor Board.**

About the Organizers	
	About Exciting Science Group The Exciting Science Group comprises of scientists from two of Pune's best research institutions, NCL and IISER-Pune. This initiative is aimed at conveying the excitement of science and technology to school students. The motivation behind our programme is to attract the brightest talent from the next generation towards careers in science and technology, since it will be these students who will drive tomorrow's science and innovation based economy. For more information, visit**: www.excitingscience.org**
	About Venture Center Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. For more information, visit http://www.venturecenter.co.in/

About the Sponsors	
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	About DSM DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, pharmaceuticals, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. For more information, visit: www.dsm.com