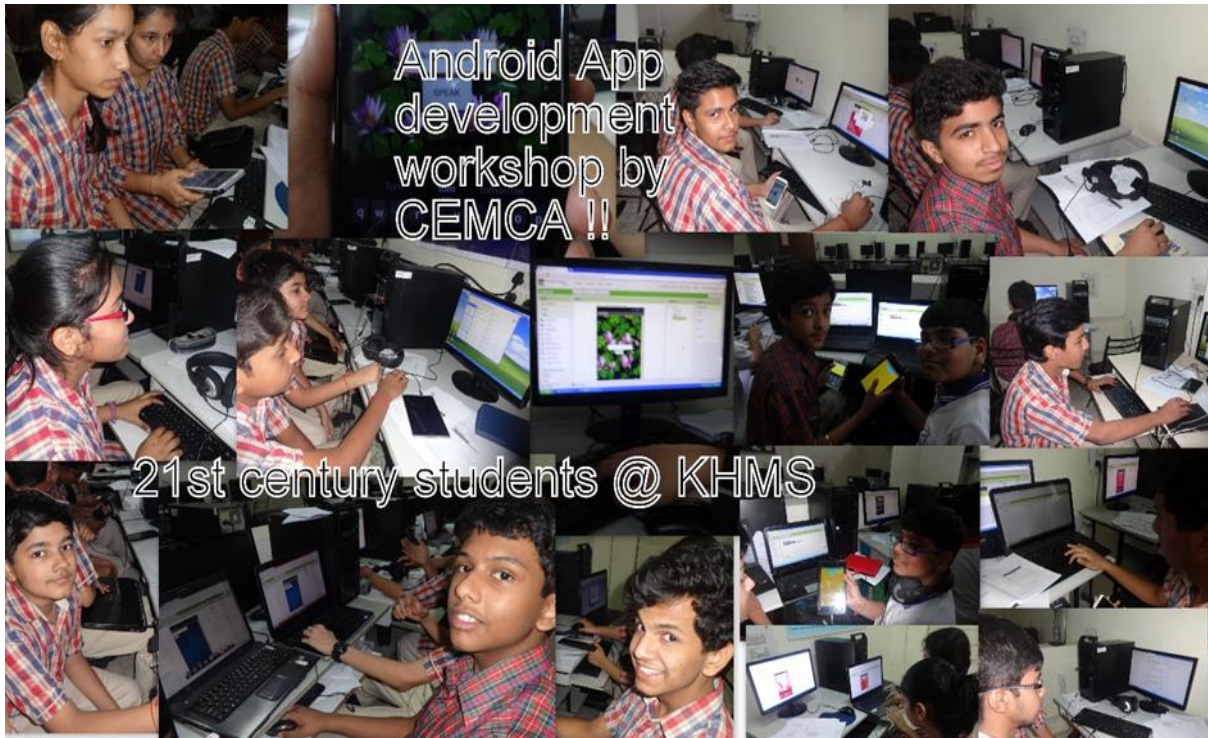# Educational (Android) App Development Toolkit for Students

## A Report



on
**8th, 9th and 11th April, 2015**

**Organised by**

**Commonwealth Educational Media Centre for Asia
in collaboration with
Kulachi Hansraj Model School, Ashok Vihar, Delhi**

## Workshop on Educational Android App Development Toolkit for students
### 8th, 9th and 11th April, 2015

Commonwealth Educational Media Centre for Asia (CEMCA), New Delhi hosted a workshop on Educational (Android) App Development Toolkit on 8th, 9th and 11th April, 2015, for students in collaboration with Kulachi Hansraj Model School (KHMS), New Delhi on behalf of Commonwealth of Learning (COL), Vancouver, Canada. Twenty five students studying at KHMS from classes 7 to 12 attended the workshop which was facilitated by Ms. Nita Arora and Ms. Archika Bhatia of Comuter Science Department at KHMS.

Ms. Sneh Verma, Principal of the school encouraged students in creating educational android app which may help in enhancing learning and creating interest in different subjects. She appreciated the efforts done by COL and CEMCA in taking this initiative of training students. The workshop was appreciated by all the participating students.



Icebreaking session started with a presentation about the workshop objectives which can be summarized as –
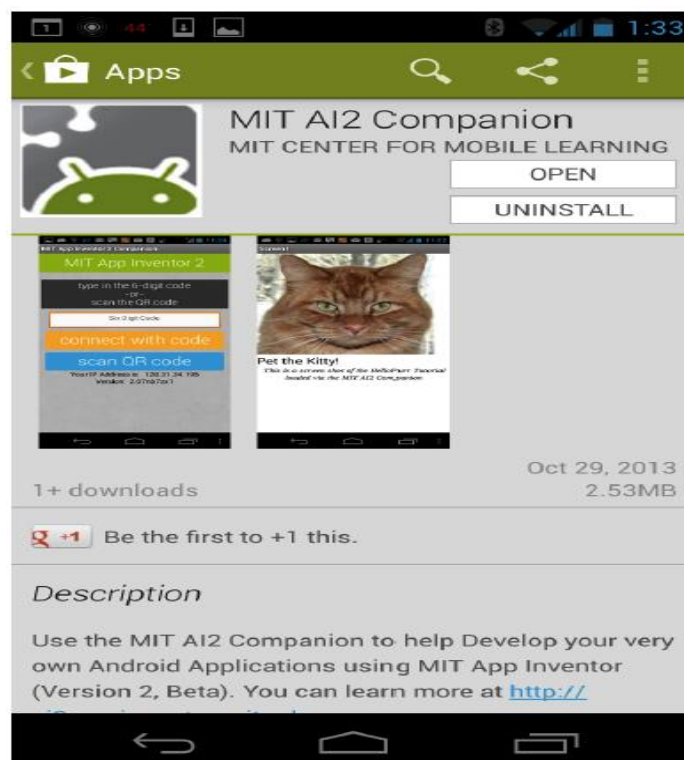
- Skill development
- Empowerment of learners
- Preparation of future citizens

The concept of visual programming language was discussed which made them realize that they are already using the concept in their ICT related activities as they are working on Scratch, Alice and Visual Basic. Since, students had exposure to visual programming environment, they could appreciate drag and drop feature of visual and graphics based program development environment.

Students were introduced to MIT App Inventor, which is block based programming tool. Students were guided to install **MIT_Appinventor_Tools_2.3.0** which is required for using the emulator and AI Companion App from Google Play to their Android devices.
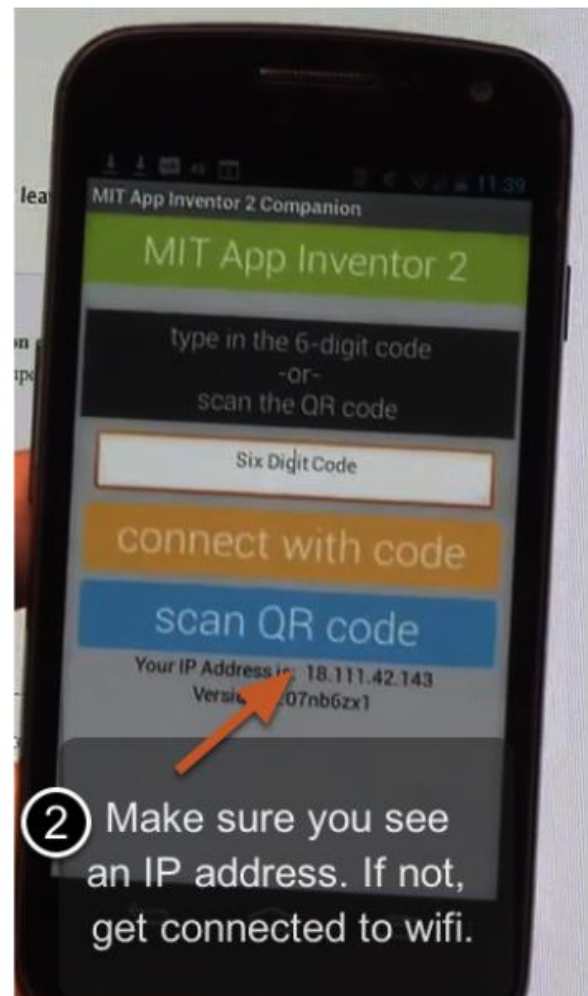


Students were very excited when they could setup their laptops and pair it with android devices using AI Companion. Students developed interesting apps like multiple type question quiz. Students were guided for setting up App Inventor account and could pair it up with their Android devices for development and debugging.  Students enjoyed using different basic components and created various

Apps on first day itself which are listed below:

a.    LoudMouth App (TextToSpeech Component)

b.    StopShakingMe App (AcclerometerSensor Component)

c.    TheDictation App (SpeechRecognizer Component)

d.    JoinTheDots App (Canvas Component)

e.    MoveTheBall App (Ball, ImageSprite, Player Components)

Students developed different projects and showed their creativity. It was a very happy moment when one student shared his idea for creating App using speech recognizer component for blind/partially blind students so as to help them during Exams.

Ms. Rashmi Kathuria, Mathematics teacher at KHMS, coordinator of this workshop from KHMS created a blog [http://khmsandroid.blogspot.in](http://khmsandroid.blogspot.in) and uploaded recorded videos of students and teachers. Dr. Manas Ranjan Panigrahi, Programme Officer, CEMCA and Ms. Sneh Verma, Principal, KHMS distributed certificates to all the participants on the culmination day.



On behalf of CEMCA, Dr. Manas Ranjan Panigrahi honoured Mrs Sneh Verma with an appreciation certificate and a memento. A certificate of honour and memento were given to resource persons.

| | **Workshop on**<br>**Educational (Android) App Development**<br>**Toolkit for Students**<br><br>**Commonwealth Educational Media Centre for Asia**<br>in collaboration with<br>**Kulachi Hansraj Model School, Ashok Vihar, Delhi** | |
|---|---|---|

**List of Participants**

| Sl. No. | Name of the Students | Male/Female | Grade |
|---|---|---|---|
| 1 | Tanishq Taleraja | M | 8 B |
| 2 | Ashlesha Dikshit | F | 8 B |
| 3 | Idhika Minocha | F | 8 B |
| 4 | Mahim Kapoor | M | 8 F |
| 5 | Tanishq Gupta | M | 8 J |
| 6 | Aishwarya Raman | F | 9 A |
| 7 | Namit Soneja | M | 9B |
| 8 | Mitul Bharti | M | 9 B |
| 9 | Apoorva Jain | F | 10 B |
| 10 | Abhishek Vashisht | M | 9 B |
| 11 | Vaibhav Sharma | M | 9 B |
| 12 | Sarthak Khandelwal | M | 9 C |
| 13 | Garvit Arora | M | 9 E |
| 14 | Akshit Goyal | M | 9 F |
| 15 | Samarth Mehta | M | 9 J |
| 16 | Jaya Jain | F | 10 B |
| 17 | Manav Aggarwal | M | 10 E |
| 18 | Diksha Dogra | F | 10 I |
| 19 | Jatin Aggarwal | M | 10 I |
| 20 | Kunal Ratra | M | 10 J |
| 21 | Harshit Gupta | M | 11 |
| 22 | Anubhav A. Kumar | M | 12 C |
| 23 | Arnav Chaudhary | M | 12 C |
| 24 | Shubham Sharma | M | 12 C |
| 25 | Paras Kapoor | M | 12 C |

| | **Workshop on**<br>**Educational (Android) App Development**<br>**Toolkit for Students**<br><br>**Commonwealth Educational Media Centre for Asia**<br>in collaboration with<br>**Kulachi Hansraj Model School, Ashok Vihar, Delhi**<br>**Date: 8th, 9th and 11th April, 2015** | |
|---|---|---|

**Venue: Computer Lab, Kulachi Hansraj Model School, Ashok Vihar, Delhi**

Prerequisites:
- Each participant MUST have a Google/Gmail account
- Laptop, Dongle and Android Smart phone/Tablet (Desirable)

| TIME | DAY 1 (8th April, 2015) |
|---|---|
| | **Getting started with Android  App Development** |
| 8:15-8:30 am | Inauguration |
| 8:30-8:8:45 am | Icebreaking – Objective of the workshop |
| 8:45-9:45 am | Introduction to Visual Programming and MIT App Inventor<br>• Downloading of QR Droid App on Android device<br>• Downloading AI2 Companion on Android device<br>• Creating an App Inventor Account |
| 9:45-10:00 am | Break |
| 10:00-10:30 am | • Introduction to development environment (Designer and Blocks editor)<br>• Introduction to available modules |
| 10:30-11:00 am | App development Using basic components :<br>1. TextToSpeech : App : *Loud Mouth* |
| 11:00-11:30 am | Lunch Break |
| 11:30-1:00 pm | 2. AcclerometerSensor- App: *Shivers*<br>3. Speech recognizer-   App: *Speak to Me*<br>4. Canvas-              App: *Scribble* |
| 1:00-1:10 pm | Break |
| 1:10-2:00 pm | 5. Orientation, Sensor and clock- App :*Move the Ball (Image Sprite)* |
| 2:00-2:10 pm | Wrap-up |
| TIME | DAY 2 (9th April, 2015) |
| | **Intermediate Concepts** |
| 8:15-8:30 am | Quick Recap |
| 8:30-9:30 am | App development Using basic components : (Contd.)<br>1. Camera App- App: *Say Cheese* |

| | |
|---|---|
| | 2. Camcorder and Video Player- App: *Action Capture* |
| 9:30-9:45 am | Break |
| 9:45-11:00 am | Tutorial 1: *Pet the Kitty* |
| 11:00-11:30 am | Lunch Break |
| 11:30-12:30 pm | Tutorial 2: *Dice* |
| 12:30-12:40 pm | Break |
| 12:40-2:00 pm | Tutorial 3: *Swat the Mosquito* |
| 2:00-2:10 pm | Q & A Session and Wrap up |
| TIME | **DAY 3 (11th April, 2015)** |
| | **Advanced Concepts** |
| 8:15-8:45 am | Using advanced concepts:<br>1. Built-in blocks<br>2. Procedures<br>3. Variables<br>4. Arithmetic and Boolean Algebra<br>5. Control Structures<br>6. Database and storage<br>7. connectivity<br>8. Exception Handling * |
| 8:45-9:45 am | Tutorial : Database Handling and storage |
| 9:45-10:00 am | Break |
| 10:00-11:00 am | Tutorial: Database Handling and storage Contd..... |
| 11:00-11:30 am | Lunch Break |
| 11:30-12:00 pm | Packaging and distribution<br>Publishing Apps on Google play |
| 12:00-12:15 pm | Important Links |
| 12:15-12:30 pm | Break |
| 12:30-2:00 pm | • Showcasing<br>• Certificate Distribution |