ICTSIG Junior Digital Class (May 2018)
S.T.E.M fun learning: Introduction to Physical Computing and Software Development
Organised by Information and Communications Technology Special Interest Group, IEM

SPEAKER BY: IR. AMIR HUSSEIN BIN JAAFAR
Equipment Sponsored by Micro Concept Tech

Date/Day	Venue:	Session:	Description:	Target Participants
7 March 2018, Wednesday	C&S Lecture Room, Second Floor, Wisma IEM	**Session 1:** 9:00am to 10:45am (1 hr 45 mins)	Introduction to Physical Computing and Software Development	Primary school students (**10 students / session**)
11 April 2018, Wednesday	C&S Lecture Room, Second Floor, Wisma IEM	**Session 2:** 11:15am to 1:00pm (1 hr 45 mins)	- Explore Microduino basics to build up their familiarity with the Microduino modules, sensors and trinkets and build **a solution for a day-to-day problem**	
16 May 2018, Wednesday	TUS Lecture Room, Second Floor, Wisma IEM	**Session 3:** 2:30pm to 4:15pm (1 hr 45 mins)		
6 June 2018, Wednesday	TUS Lecture Room, Second Floor, Wisma IEM			

SYNOPSIS

Ministry of Education Malaysia (MOE) and Malaysia Development Economic Corporation Sdn Bhd (MDEC) launched Science Technology Engineering Mathematics or STEM education initiatives to address the reducing number of students interested in Science studies. IEM being the forefront in promoting and advancement of the science and profession of engineering is taking up the challenge to deliver higher quality STEM activities for school students in the area of physical computing, software development and engineering design.

In this Junior Digital Class, students will first be introduced to STEM education. Then students will be introduced to physical computing and explore Microduino basics to build up their familiarity with the Microduino mCookie modules, sensors and trinkets. Microduino mCookie is Arduino-compatible open source electronic hardware for makers, designers, engineers, students and curious tinkerers of all ages. Next, students will assemble a prototype using Microduino mCookie and LEGO®-compatible building blocks. Students will then be introduced to Mixly, a software visual programming language created suitable as a STEM education tools. With Mixly students will program the software for the prototype they have assembled. Students will then finally present their prototype and the functionality.

Student will learn the basics of circuitry, **electronic controller, power source, mechanical sensor (switch), light sensor, buzzer output trinket and colour LED output trinket to construct a solution for a day-to-day problem.**

BIODATA OF SPEAKER

Ir. Amir Hussein Bin Jaafar graduated from University of Technology Petronas (UTP) with Bachelor Engineering (Electrical and Electronics) and from Universiti Teknologi Malaysia (UTM) with Master of Science (Real Time Software). He is registered as a Professional Engineer (Electronics) status with Board of Engineers Malaysia since 2007. He has more than 16 years of experience in electronics hardware and embedded software development projects, and development and testing of advance powertrain and electronic control system for automotive application. With the industry experience, he has been giving specialized green technology training to TVET trainers and also conducting STEM courses for school students since 2016. He is currently the Head of Design and Development Engineering of Eco Motive Sdn Bhd and Technical Director for Micro Concept Tech Sdn Bhd.

Ir. Chai Chen Sing
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