Program Details

Program Name : **Microbit Workshop**
Program Code :
Duration : **1.5 hrs per Lesson (approx. 2 months to complete the course)**
Learning Material : **Microbit, Electronics Components**

Workshop Outline

1. Microbit Introduction

Lesson 1: microbit intro

2. Line Follower

Lesson 2: Motor control with microbit

Lesson 3: IR sensor reading with microbit

Lesson 4: Build the line follower robot

3. Maze Solution

Lesson 5: Ultrasonic sensor reading

Lesson 6: Build the maze solution robot

4. Co-operative

Lesson 7: Servo motor control with microbit – position control; angle

Lesson 8: Radio control with microbit – allowing multiple microbit to communicate with each other's

Lesson 9: Build the cooperative robot

Learning Outcomes

At the end of this course, students will be able to:

1. Build the basic robotics project with microbit.
2. Using drag-and-drop method of programming – Makecode
3. Grab the basic concept of microbit GPIO:
    a. input → sensors
    b. output → actuators, motors
4. Understand how dc and servo motor works.
5. Understand how IR and Ultrasonic sensor works.
6. Successfully program microbit to get the reading from the sensors.
7. Managed to control motor speed (PWM), direction (CW/CCW) and position (angle) based on decision (radio signal) or condition (sensors reading).