

SIT210: Embedded Device Development

Task 3.1P mBed: Setup an mBed using online compiler and drag-and-drop

Hardware Required

mBed

Software Required

Web browser

Pre-requisites: You must do the following before this task

- 1) Register an account with MbedOS at <https://os.mbed.com>

Task Objective

This is an introduction task to mBed platform and build a simple motion sensing circuit.

Steps:

- 1) Import the first program onto your mBed:
<https://os.mbed.com/docs/v5.6/tutorials/blinky-on-the-arm-mbed-online-compiler.html>
 - 2) Design a simple circuit board that use a distance sensor to activates the LE
 - a. Use: Sharp GP2Y0A21YK0F distance sensor.
 - b. Here is a tutorial for using the Sharp sensor with Arduino. Your task is to implement this step using mbed <http://www.instructables.com/id/How-to-Use-the-Sharp-IR-Sensor-GP2Y0A41SK0F-Arduin/>
- Hint: For testing purpose, you should print out distance value to terminal for testing. For windows you, can use PuTTY: <https://os.mbed.com/docs/latest/tutorials/serial-comm.html>
- 3) Modify your code to light up the onboard LED light whenever movement is detected.
 - a) Tip: You need to devise a logic to use distance sensor to achieve this task.
 - 4) Compile the code and copy to the mbed.

Task Submission Details

Q1: Submit a video in which you explain your circuit board and its functionality, explain the code and perform a demonstration of the outcome.

[Vid 1: Infrared Sensor](#)

[Vid 2: Ultrasonic Sensor](#)

Q2: Create a repository named mBedMotion on Github. Upload your code to the repository. Include the link to your repository here.

<https://github.com/stopkickingtherobots/mBedMotion>