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 LED
    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.

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

Remember to submit this to Doubtfire, and check the status of any existing tasks. You may need to fix and resubmit some of your work. You want to check out why, so that you can learn from this and make it faster and easier to get later work to the required standard.