NC 812/ESD 812: Internet of Things

Lab 2

Indoor environment monitoring using Raspberry Pi

(Part 1)

Due: 7/2/17

This objective of this lab is build a Raspberry Pi based setup for indoor environment monitoring. This may be achieved by interfacing environment monitoring sensors to Pi, collecting data and analysing the same in order to control certain ambience parameters like temperature, humidity, light, pressure, air quality, moisture, human occupancy etc. In this lab, we will be using a temperature/humidity or light sensor for ambient temperature/humidity or light sensing, respectively.

1. Study the specifications of a temperature/humidity or light sensor available in lab. Create a pin diagram to show the sensor interfacing to Raspberry Pi.
2. Connect the sensor to Pi. Set up the system to read the sensor data from terminal or using Python.
3. Print this sensor data on screen.
4. Write a program to log/ store sensor data.
5. Check the improvement in data accuracy by adding second temperature/humidity or light sensor (if available or share with other project group) to the Pi-based setup.
6. Upload a one page report on LMS.

References:
http://www.cl.cam.ac.uk/projects/raspberrypi/tutorials/temperature/