CST 333 Distributed & Grid Computing
Semester 1, 2013/2014

ASSIGNMENT 2 – REPORT
(Group Work)

Objective:

- To develop a distributed client server program.
- To demonstrate distributed data collection.
- To demonstrate a client-server computing using Intel Galileo board.

Instruction:
Students are encouraged to form a team with maximum of 3 members. The assignment will be evaluated based on group work and as well as individual performance via peer review process. Every group must produce a written report for submission.

Dateline: Wednesday 17 December 2014 (12:00 pm), submit your hard copy report and slides during the class time and your softcopy of your report, and video/slides through CST 333 e-learning portal.

Assignment problem:

1. Write client server programs utilizing Intel Galileo board by using sensor.
2. The Intel Galileo board has dual functions: Web Server and Sensor.
3. The clients can be any PC, laptop and mobile devices.
4. First, gather and store the temperature and humidity for total of at least 4 hours via Galileo.
5. Each hour with different locations. (i.e. lab, canteen, hostel, outdoor, indoor etc)
6. Each hour with different time of the day. (i.e. morning, noon, afternoon and night)
7. For each hour: location, temperature and humidity - (min, max and avg).
8. After the last computation: compute the average temperature and humidity. Which location gives the highest and lowest reading.
9. Create a web interface that allows the client to retrieve the temperature and humidity reading based on location, highest, lowest and overall average measurement.
10. Displaying the temperature for every 20 minutes and average temperature in three different units: Kelvin, Celsius and Fahrenheit.
11. Similar display for humidity reading: every 20 minute per hour and overall average.
12. Explain how your system collect, store and retrieve the collected data.
13. Explain what you have learned from this assignment
14. In your report include the source code, output and documentation about your program. The documentation will explain how your program works, show some abstract design diagrams such as class diagram or sequence diagram of UML.
15. You have to record your presentation and demo save them in a CD/DVD along with the report and source code and submit along with the hardcopy.
16. Lab sessions 10, 12, 13, 17, 19, and 20 November 2014 in Lab 1, School of Computer Science during the class time.

Deadline for submission is 17 Dec 2014, by 12:00 pm. Please bring your hardcopy submission to the class.