

## S12-48752 Building Controls and Diagnostics Assignment 1

### **Web-based Database of IW systems**

Set up a web-based database for one of the following advanced building systems in the Intelligent Workplace (IW) at Carnegie Mellon University.

1. Hybrid rooftop unit for radiant heating/cooling system
2. Hydronic heating/cooling system
3. Louver and blinds daylighting control system

The web-based database should include the detailed system information, physical location, system diagram, current operation schedules and current system performance. The interface of the database should be active online and user-friendly.

#### **Step-by-step Guide:**

1. Form a group of two or three people. The systems above will be assigned.

- Hybrid rooftop unit for radiant heating/cooling system, 3 people
- Hydronic heating/cooling system, 3 people
- Louver and blinds daylighting control system, 2 people

2. Go to IW and do a system audit. You may need to do interview or questionnaire for technical details. The following parameters should be included but not limited to. More information can be added as bonus points:

- Static database:
  - Manufacture information
  - Installation date
  - System Description
  - Physical location: multiple images and drawings should be included
  - System diagram
- Active database:
  - Current operation schedule

- Current system performance, current research data
- Mathematical model (literature review is necessary)

3. Set up a website to store and display the system information. You may use Java and other programming tools, or Dreamweaver and other web development software. The website is required to be linked to a database, such as MySQL.

4. Publish your group website on the Andrew server: [andrew.cmu.edu](http://andrew.cmu.edu). Make sure the link is active by class time on Feb. 14<sup>th</sup>, 2012. Here is the link that tells you how to request and publish website: <http://www.cmu.edu/computing/doc/web/publish/andrew/pub-steps/index.html>

5. Write a report to summarize your work.

**Contacts:**

Prof. Khee Poh Lam: [kplam@cmu.edu](mailto:kplam@cmu.edu)

TA: Jie Zhao: [jayzhao@cmu.edu](mailto:jayzhao@cmu.edu)

Yuebin Yu: [yuebinyu@cmu.edu](mailto:yuebinyu@cmu.edu)