Jury:

Prof. Timothy Hall, EMRC University of Limerick, EI
Dr. Ciaran MacNamee, Dept ECE, University of Limerick, EI
Patrick Coman, University of Limerick & ITT Dublin, EI
HARD & SOFT Suceava 2012

The Task

OLLA
On-Line Laboratory
• Using the mbed microcontroller supplied construct a remote access on-line lab accessed and supported by a Moodle environment

• The lab is to have two experiment sets:
  - OLLIC: Instrumentation & Control
  - OLLFREE: experiment(s) you choose
OLLIC:

On-Line Lab Instrumentation & Control

Series of experiments to illustrate key topics, signal capture, signal conditioning, control loop, set point, PID control

Based on a simple temperature controlled “oven”

Suggested topics to include are in the full specification
OLLIC:
The topic instrumentation & Control was chosen because it is a common component of university programmes in computers, electronics and applied physics (you will have studied it but it’s not your specialism).
The level of detail should be suitable for 3rd students
OLLFREE:

Your free choice of experiment(s), on a different topic that is common in university programmes: computers, electronics, applied physics using the same mbed core as OLLIC.
The Jury will expect

Experimental set-up is controlled by the mBed with require little or no human intervention

User interface through a Moodle LMS,

(Each team has its own course site. The Jury do not expect you to write full experiment text, outlines/notes are OK so long as your intent is clear)
The Jury will expect:

Wireless and/or mobile data and control used somewhere in your design

Your design, both hardware and software, to be inexpensive, easy to set–up and maintain and easily expanded with more experiment
The Jury will expect:

All features of your design to make a direct contribution to the experimental set-up, the learning, or be associated with the management, maintenance, or expansion of the system.

A final requirement: You may use only equipment and components supplied or approved by the contest organisers. (You are allowed to use your own laptops and smart devices.)
Moodle

To enable you to concentrate of the hard and soft aspects of your task and minimise the “courseware” writing each team has been given a Moodle course environment, access to and activation of your OLLA solution must be through this.

The Jury also have a Moodle “course” for the contest, further information about the task and contest is there.
Judging:
The Jury will visit each team at least twice. Wednesday to gain an idea of what you are doing and for a progress report. Friday (morning) for final judging.
You are required to submit through the Moodle a design briefing by Wednesday 10:00 and a final report by Friday 9:00.
Public Viewing
On Friday afternoon you will have an opportunity to demonstrate your work to a wider audience.

Award Ceremony
The Jury will give their adjudication at the Award ceremony later on Friday afternoon.
Moodle site:

www.eed.usv.ro/edu/

Course: Hard&Soft2012
Key: hS20i2