



Universitatea
Ștefan cel Mare
Suceava

HARD & SOFT

Suceava 2012



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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

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The Task

OLLA

On-Line Laboratory

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- 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
and OLLFREE: experiment(s) you choose

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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

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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

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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

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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)

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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

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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.)

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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.

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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

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Public Viewing

On Friday afternoon you will have a
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

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Moodle site:

www.eed.usv.ro/edu/

Course: Hard&Soft2012

Key: hS20i2



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