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Inventory of Robotics Education in Europe

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Inventory of Robotics Education in Europe

EURON's education group is building a data base providing information about the contents of European courses on robotics. The aim of this action is to collect information of the courses active in the different institutions and degrees all around Europe.

Many courses related to Robotics are included in the universities websites around Europe. Their contents, multimedia materials, lab experiences, bibliographical sources, assessment methods, etc, have been generated or selected by teachers during years and in many cases they are so different and so original that could serve as a good example to others.

We propose to share this information by means of a EURON Robotics Courses Data Base containing only those relevant data which permit future searches. The result will be a list of links to courses web pages that match the search parameters.

This initiative is basically addressed to help the mobility of students and professors. It also could be a source for inspiration of new subjects contents, and probably it will serve to unify these contents. This will facilitate interchange of educational materials between the teachers and it will help the administration in the recognition of foreign courses ECTS.

This data base will permit the search of courses based on the following essential information:

- Contents keywords/Topics
- Course language
- Level
- Country
- Materials Availability

Of course it also will include the course URL and the mail address of a contact person.

For such a system to be updated periodically, it is imperative that the contents is very easy to maintain so as to assure that the responsible of courses react to the reminder to be send to them every 6 months in order to review the existing information. It is expected that the responsible of a course has to spend less than 10 minutes the first time he or she enters the requested data, and just 2 minutes to review the status of the course information every half year.

The information is organized in such a way that information of courses can be found searching by countries, by language, education level or main thematic. Therefore, students can find easily potential courses of their interest to attend within a mobility program. For academics it is also useful to see how other courses are organized, what it is taught, what kind of practices a course have, how students are evaluated, what kind of teaching material or bibliography is used, or even contact the responsible for sharing experiences.

As an additional output of the system, it is hoped that we can move towards some sort of standardisation of the courses, or establish equivalences, recommendations etc., and also advance towards better course credit transfer possibilities through wider use of ECTS.

The data base is available, an improved version of that proposed 6 months ago, an available at: <http://euron.upc.es/rcdb/search>

An example of a search is:

ROBOTICS EURON ROBOTICS Courses Database Version 1.0
Friday, June 3, 2005

The RCDB Project Indexed Course Course Registration Search Contact Us Login: Password: →

Search Robotics Courses

► In this Country: Portugal

► And this language: Any Language

► And this level: Master

► And, at least, one of the selected keywords

<input type="checkbox"/> Application Areas	<input type="checkbox"/> Architectures
<input type="checkbox"/> Biological Inspired	<input type="checkbox"/> Control
<input type="checkbox"/> Fundamentals on Robotics	<input type="checkbox"/> Human Machine Interface
<input type="checkbox"/> Manipulation	<input type="checkbox"/> Micro- and Nanotechnology
<input type="checkbox"/> Navigation	<input type="checkbox"/> Programming
<input type="checkbox"/> Sensing	<input type="checkbox"/> Sensors, Power and Actuators
<input type="checkbox"/> Trajectory Planning	<input type="checkbox"/> Any of them

Search Course in RCDB

And the result:

ROBOTICS EURON Robotics Courses Database Version 1.0
Friday, June 3, 2005

The RCDB Project Indexed Course Course Registration Search Contact Us Login: Password: →

Your Query Results

Your query has **3 matches**

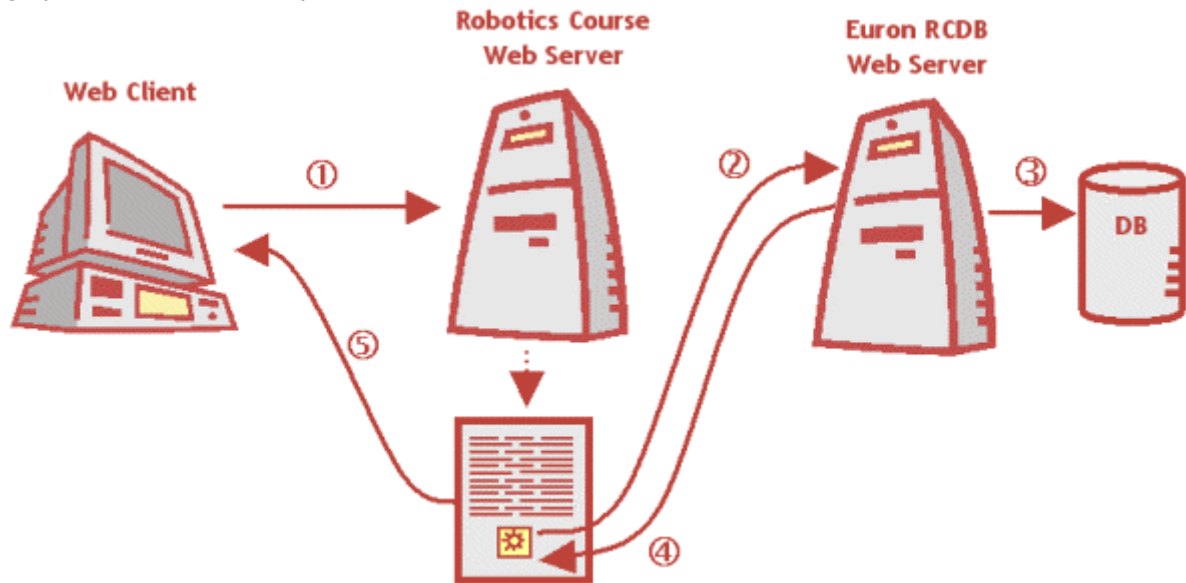
- Robótica Móvel (Mobile Robotics)**
Instituto Superior Técnico, Lisbon Technical University - Lisboa (Portugal)
- Robótica (Robotics)**
Instituto Superior Técnico - Lisbon (Portugal)
- Industrial and Service Robotics**
University of Minho - Guimarães (Portugal)

For the updating of the information, the responsible has uniquely to check if there are changes, additions, cancellations etc. to inform. For this reason the data base does not require a new format, other than the existing at each university. There is a minimum of information for the different queries and a link to the respective course webpage.

The system works as follows:

How it works?

Next graphic summarizes its operation:



1. A remote user from a client workstation requests a robotics course website to the «course server».
2. The «course server» receives this request and proceeds to build the webpage. In this process it must include the logo "EURON RCDB Indexed Course". To get it, it must make a request to the Euron RCDB web server.
3. When the Euron RCDB Web Server receives the logo request, it saves a statistical report in a Log Data Base.
4. Then our server sends the logo to the «course server» which has requested it.
5. The «course server» receives the logo and can continue building the webpage to send to the client workstation.

What responsible of "course server" must do?

When course is accepted to be included in the Indexed RCDB, we provide the HTML code to be inserted in the course webpage. This code will be similar to:

```
<!-- (BEGIN) Euron RCDB Indexed Course -->  
<!-- (TITLE) Underwater Robotics -->  
<a target="_blank" href="http://euron.upc.es/rcdb/index.php"  
title="Euron RCDB">  
</a>  
<!-- (END) Euron RCDB Indexed Course -->
```

From this information some statistics can be extracted.

What kind of statistical data can be collected?

Some basic information can be collected in order to check the registered courses' URLs:

- **Course ID.** In order to identify the course requested by the user.
- **Date and hour.** To know last visit and number of visits in a period of time.
- **URL.** To check if it is the same as registered in the RCDB.

This data will be used for extracting global information and give some advice.

Once the data base is public on the web, as it is now, it is expected to collect the information for most of the institutions within Euron, in three months and try to extract from them relevant information as indicated.

June 2005