EVICAB - An Open Source Portal for Internet Education

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Abstract— **Internet education has become more and more widely accepted format in higher education. There exist several different types of portals with different kind of philosophies to provide educational material on the Internet. Often these portals are composed from a rather large program and the code is not open. We have developed an educational portal which has very simple structure but despite of this it is very versatile and illustrative and easy to use. It is open source and may therefore be easily duplicated for various educational purposes.**

Keywords— **Internet education.**

I. Introduction

Internet education offers several benefits in higher education. It may be used both as a supporting method for traditional classroom lectures and as an independent means for students who do not have the access to classroom lectures. Because the personal computers and other media devices have become cheaper despite of their fast growing technical performance, all students who want to take higher education courses have sufficient technical facilities to make use of Internet education. Also the Internet connections have improved in speed and there are hardly any countries in the world where Internet education could not be easily reached independently on where the educational material is produced and the server is located.

Many of the portals providing Internet education are, however, rather complex to build up and setting up a new portal often needs special programming skills and large amount of programming labor. This restricts the setting up an education portal to the Internet.

We have developed the portal EVICAB [1], European Virtual Campus for Biomedical Engineering, which is open source and very easy to program. Despite of this it is versatile and easy to use.

II. General philosophy

There exist several different philosophies in the realization of Internet education portals. Here we describe some examples.

Yovisto [2] is a collection of academic videos, where anyone may upload video files. The videos may form a series of videos called Lecture. They are placed in different existing scientific fields. Though the Lectures include videos forming the material for a certain course, there is no information on the credit units and about the possibility to take an exam. The videos are either directly recorded from the lecturing hall presenting the speaker and what he/she draws on blackboard or a set of PowerPoint slides. The videos have, of course, the audio channel as well. Yovisto has free access.

Classroom video collections are provided by several universities like by University of Berkeley [3]. They provide a web site, where a selection of their courses is taken on video directly in the classroom, may be viewed. The videos show the teacher and what he/she presents on the blackboard. The videos are usually not edited and the courses do not provide additional educational material. The videos are free access.

IVIMEDS is a site which provides educational material on physiology and medicine [4]. IVIMEDS does not provide ready made courses. Therefore this material is mainly for help to the teachers to prepare their courses. IVIMEDS needs registration and its annual subscription is considerably high.

Moodle is an example of a very versatile site where the teachers may upload educational material, like lectures and exercises [5]. The students need to register to the platform and therefore its material is not found by general search engines. Moodle gives an excellent possibility to arrange Internet examinations, because the students may upload their answers to it.

EVICAB is an open, free access site. It provides lecturing courses which are selected by the steering group and which are recognized by universities. Therefore other universities may take EVICAB courses to their curriculum and the students may take an exam and thus earn the credit units to their studies. EVICAB also provides additional material supporting the video lectures.

III. EVICAB video material

We believe that a good video material includes both the video on the teacher and the educational material, like PowerPoint slides.

The video on the teacher enhances the feeling of personal contact between the teacher and the student. The teacher's

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www.springerlink.com

personality and mimicry strengthen the student's concentration to the teaching, which is typically much stronger in the classroom than when following the videos on the computer screen. To optimize the video file size and the requirements for the speed of the Internet connection, the size of this video screen does not necessarily need to be very large. We have used video image of the size less than 400x300 pixels. For the image showing the PowerPoint slides a more accurate image is needed. We have used the size 650x550 pixels.

In addition to the afore mentioned video material, which may be viewed with computer, EVICAB offers the PowerPoint slides also in m4v –format for iPod and in 3gp -format for media phones. The m4v –files may also be viewed with the Cinemizer binoculars produced by Carl Zeiss [6].

The technology for producing the video material is discussed elsewhere [7].

IV. Lectures and supporting material

The EVICAB lectures are at the moment primarily recorded from Graduate Courses and Intensive Courses given in Finland. One course is also recorded in Estonia. The teachers are recognized Finnish and international experts in their discipline. We have been glad to note, that the teachers appreciate EVICAB and the visibility which it gives to their teaching so high, that they have been glad to allow the video recording and their publishing free of charge. This is a fundamental precondition in making EVICAB free access.

EVICAB courses are selected by the steering committee and there is no possibility for free uploading of courses. Only courses which are recognized by a university are accepted. This ensures the high quality of the educational material. Courses may also be proposed by teachers outside the EVICAB consortium.

In addition to the videos, EVICAB portal offers various kind of material supporting the video lectures. These include eg. information on the teachers, the course and the book. If the book is available on the Internet it may be displayed simultaneously with the video lecture. Exercises are also provided. A collection of publications and lectures given on EVICAB in various conferences and other deliverables are also included.

The courses are also provided with a facility for the students to give rating on the quality of each lecture and giving comments and possible supporting information on the lecture topic. This is made real with the commenting platform provided by World Press [8].

EVICAB also provides a collection of links to similar educational material available on the Internet.

V. Accessibility and statistics

Because EVICAB is on an open Internet portal and its use does not need registration, the search engines find it easily. EVICAB has reached world wide interest and it is visited monthly over 1.500 times with over 20.000 hits from all around the world.

We have implemented the follow up of the visits with three different statistics program which allow us to carefully follow the number of visits to each page of the site and the country of the visitors [9]. The demographic information is also displayed graphically on world map [10].

The statistics is very informative and serves as the basis for developing the EVICAB. It indicates what lecturing courses are more popular and therefore, in which areas more courses should be offered. In this issue also the aforementioned commenting and rating facility is for help.

The use of EVICAB by the students and quality of the lectures are also evaluated with questionnaires among the students of those EVICAB courses which are also given as traditional lecturing courses.

VI. conclusions

Internet education is coming more and more important format in higher education. Its wider application needs an open source and simple portal which may be made real with small amount of labor and without high expertise in Internet programming. We have developed the EVICAB portal which fills these requirements. Its frequent and worldwide use has shown that we have succeeded in this task.

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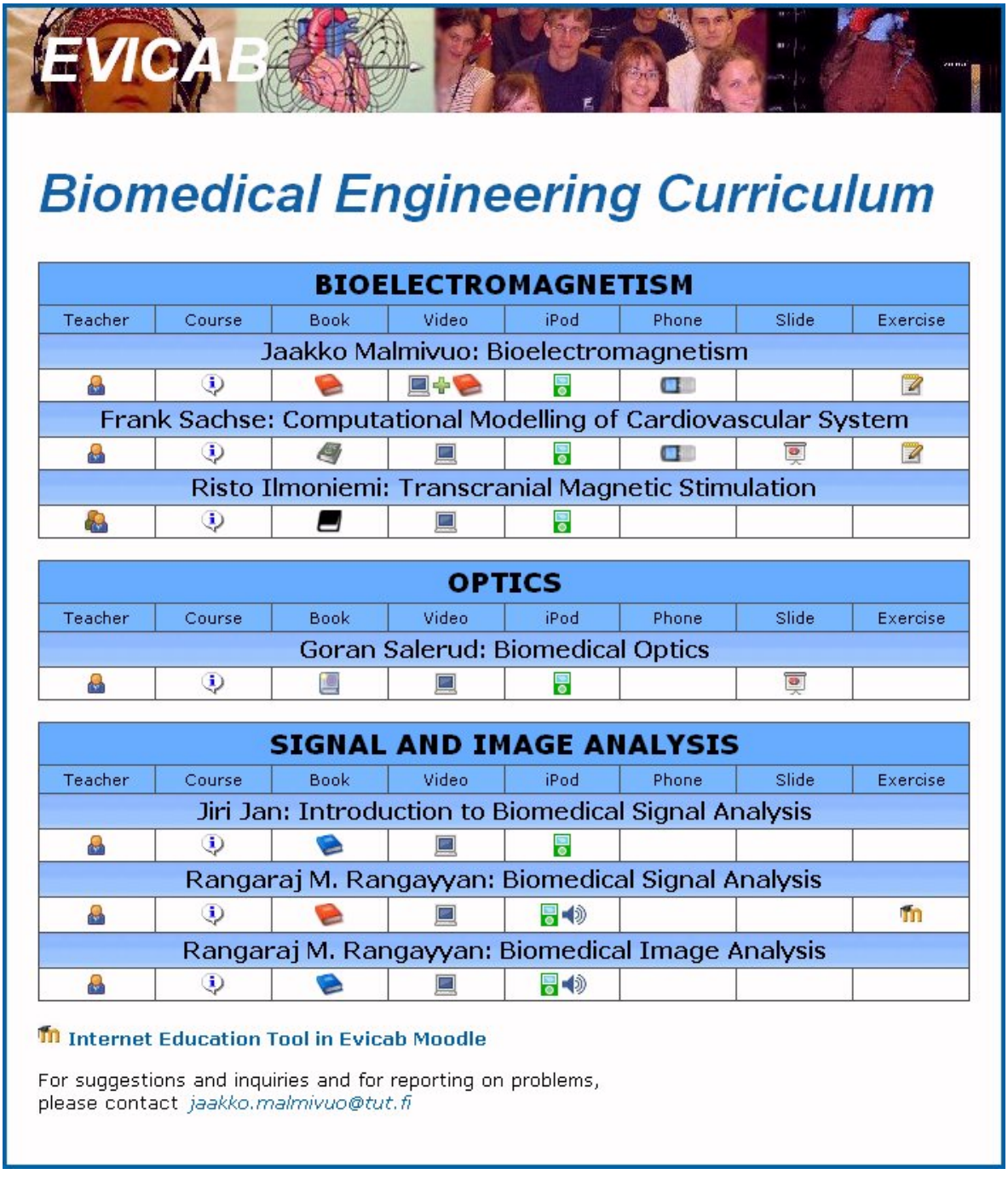

Fig. 1 EVICAB curriculum page at www.evicab.eu