Conception of the educational portal*

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Abstract

Nowadays wide variety of electronic/digital educational tools are available. At the Eszterházy Károly College a gallup poll based survey has been performed to discover which supporting tool is the most preferred by the students. The main result of the study was that that the educator's web page (portal) seemed to be by far the most popular supporting tool.[1] Regrettably most of the educators' portal holds only general informations related to the subject or updated inordinately and seldom reviewed. Rarely keeps the student posted about the modifications of the schedule or location of the forthcoming lectures. Only a fraction of them are updated with actualities or fresh professional news. An optimal subservient interface could be very useful to develop based on a comprehensive survey of the demands of both students and educators.

The aim of this project is to introduce the detailed results and conclusions of the survey performed and to review our proposal of a new portal system designed for educator use. By this handy tool we provide an option for teachers of tertiary education regardless of one's deftness in web design. We provide a well documented package, which enables one to construct, maintain and ran one's educator's portal without any further informatical assistance.

Keywords: educational portal, user-centered design, repository, handy tool

1. Introduction

Well designed and appropriately structured instructor portals providing relevant and useful information content are indispensable for students of the digital age. A sophisticated instructor website facilitating access to sound and proper information, educational and support materials offers reliable and safe support for the learning process. A professional site or link collection of a well-known instructor is a much

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more trustworthy source than any hit list or link assortment provided by any search engine.

2. Conceptual framework and the proceeding

The building of the educational portal sablon based on the User-Centered Design method. It is to the fore of the whole design process that the proposed system must be equipped with all the components demanded by either the students or the educators. Additionally the designers can also recommend useful features and/or content elements to improve the utility of the system.

It is of high importance to design the system such a way that the process of update, uploading new educational materials and providing up to date informations for the students can readily be put through by the operator of the portal. To achieve this goal pedagogical and technical considerations should be to the fore of the design procedure. The outcome of the project is not only the framework itself, but also a theoretical conception is set out which calls more effective support of the education/learning process. This conception is based on preliminary researches.

Nowadays several LMSs (Learning Manangement System) are in use, some of them are free license systems just like the one which is about to be developed in the frame of the project. Furthermore this system is unique in the sense that its conception is based on preliminary discovery of the demands of both the educators (operators) and the students (users). We aim to build in the most simple and most necessary components to ensure a readily and handy way of operation, getting rid of seldom used elements featured in other learning management systems.

2.1. User-Centered Design

In order to obtain a useful and handy portal the User-Centered Design [2] has been applied. Each step of the project corresponds to a certain phase of the model.

Figure 1: Use-Centered Design process [3]

2.2. Proceeding

1. Plan: In the first step the main objectives related to the proposed instructor's portal template have been framed and the target audience has been adumbrated. The content elements and functions to feature on the portal has been picked and chosen with professional exaction. As a result two different questionnaire has been set up to discover the demands, one for the students and one for the educators.

2. Survey: Demands of students and educators has been surveyed by means of the questionnaires set up in the previous phase. The filled questionnaires clarify the requirements Furthermore the general awarding of the educators' portals has also been charted.

Additionally, the questionnaire also opened the door to rank certain requested services and content elements. This information enables to achieve the optimal design and ideal organization of the components on the web page.

Important informations have also been found out related to the requested authority levels. Namely that which functions/elements should be accessible for all users and which ones should only be accessible for certain students registered for the given course.

3. Design:

a. The technical design of system is based on the newest Standards of the W3C Organization (HTML5, CSS3, WCAG 2.0. A) and the general software quality principle.

b. The content and functional component choices are based on the questionnaire results and the design of these components are based on Quality Factors of Web Development Applications in the EEQM [4], general web-ergonomic rules and applicability aspects. The design of the system as a whole, necessitates advanced system management and development experiences, complex education related experiences and a decade long routine of several sort of e-learning system application we do have.

4. Adapt: The educational portal concept is going to be implemented in Drupal 7 CMS.

5. Measure:

- a.** Technical test of the system.
- b.** Questioning the users about the system already in operation.
- c.** Getting usability tests of the system done by students and educators.
- d.** Test of the portal by means of the following tools: TestCompleted and Ogama sw with an eye movement tracker hardware device (eyetracker).
- e.** EEQM model based evaluation.

6. Recursion: Elimination of the eventual malfunctions is carried out such a way, that each buggy component or function are traced back to the first step.

Viz. in order to repair a malfunction located in a block or a micro-application, the whole Centered Design model. By this method the malfunctions can be eliminated recursively, which means that the reprocessing is still kept on until the test

results confirms the flawless operation. Inasmuch as all component works perfectly, the system as a whole becomes as expected. Its essential precondition is that the separated units should co-operate in accordance. For this end the coupling and co-operation between the units are also carefully checked.

3. Results of the survey

An optimal subservient interface could be very useful to develop based on a comprehensive survey of the demands of both students and educators.

3.1. Related to Content

Figure 2: Demands of both students and educators related to the content

3.2. Related to Functions

Figure 3: Demands of both students and educators related to the functions

4. Decisions related to the conception of the educational portal

The portal consists of three main parts:

- News feed and information service;
- Education;
- Research.

Figure 4: The conception of the educational portal

4.1. Decisions related to News feed and general informations

1. A profile photo of the educator, general and contact informations should be placed on the title page
2. Students registered for certain courses receive news and blog posts, calendar events related only to the given course. These informations are hidden from public by default, but can be set to be accessible for all on the title page, insofar as the educator requests from the system.
3. Students registered for certain courses receive news and informations also by email, insofar as the educator requests from the system.

4.2. Decisions related to educational issues

1. The contents of the site are supported by a central repository accessible only by educators. The educators pick and choose the support materials from the repository and can upload to certain course.
2. The educational part is organized according to the courses. Some informations must appear on the main page of a given course, which is public:
 - Courses Bibliography;
 - Courses Topics;
 - Courses Bibliography.

3. Beyond the the elements mentioned above further ones pertain strictly to a given course. The latter ones are strongly recommended to use, but not compulsory. (permission to access these contents is granted only for the registered students):

- Support materials for each course chosen from the repository by the educator:
 - Curriculum in electronic form,
 - presentations of each lectures/seminars,
 - exercises (completed on seminars and the homeworks),
 - tests, written examinations and little gos
 - exercises and templates to be submitted, exact description of the tasks to be completed;
- News feed/blog;
- Messaging;
- Calendar;
- Forum;
- Tagcloud.

4. The News feed/blog and the Calendar items above are optional to be displayed at other courses or/and on the main page.

5. The students can register to courses. It can be indicated on the list of subjects which courses they are interested in, which contents they apply for access (later optionally commutable). Successful registration grants access for one semester. Ignoring the warning email sent by the system, results the access to be automatically denied.

4.3. Decisions related to the research topic

On the page dealing with the research topics the following informations should be displayed (the educator decides about the read permissions):

- CV;
- Publications;
- research topic and field of interest;
- recommended topics of thesis for the master's degree;
- short descriptions of the educator's current scientific projekts;
- scientific papers, most recommended articals related to the research topic.

4.4. Decision related to technical realization

The main outcome of the project is going to be an easy-to-install, Drupal based installation profile, and/or a MultiSite opened for latter registration for the educators.

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