

DESIGNING A WEB-BASED SYSTEM FOR TRAINING PORTAL ADMINISTRATION

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WEB-based Contents Managing Systems (CMS) allow laics in computer science to change and update their Web-sites. The advantage Web-based CMS has to the rest of the CMS is the fact that the Web-site can be accessed for editing via practically every PC working online. Web-based CMS are installed on the Web server and are being accessed via the clients' web browser.

The paper presents a project for training web-site managing system. The project system will follow the patterns of Web-based CMS, allowing the Web-site's updating and support.

Each one of the Web-site's pages will be dynamically generated as information will be poured into the design mould. Thus the info on the Web-site is completely independent of the site's design, which makes its filling in much more easily.

Keywords: designing, managing system, CMS, WEB

1. INTRODUCTION

Nowadays Internet is the main source of all kind of information. This necessitates the further making of web-sites, containing serious scientific data, too. A lot of web-sites have been created, featuring different fields of study, where students can easily access information, provided by their professors.

And for a web-site to be visited on a regular basis and by a lot of people, it must contain present-day information, as well as be constantly maintained and updated. Basically this is the underlying task that any Internet-based info source should take on initially. Standard methods necessitate hiring qualified specialists and this cost too much. According to some expert estimation, 60% of spending on WEB projects is made for updating the info database.

Contents Managing Systems (CMS) are providing a solution to this problem, allowing laics in the creating Internet applications to update the info on the Web-site. At the same time CMS offer sets of tools for administration, document editing, saving and far more options, related to the complete circle of filling in the site with informational and graphic contents. With the help of CMS one can create dynamic web-sites.

The paper presents a project for training web-site managing system. The project system will follow the patterns of Web-based CMS, allowing the Web-site's updating and support.

2. STRUCTURE OF THE SITE ACCORDING TO A SUBJECT.

Every WEB site consists of multiple pages that can be organized in a different way each. In case of static organization each page is written in HTML and the specialist that creates it must also take care of its graphical interface and its content.

In case of dynamic organization each page is based on a template, which defines its situation in the window of the WEB browser and its main components, and at the same time publishing of specific information can be done by standard and convenient means even by a non-specialist.

The WEB site is meant to be used mostly by students and will contain information that can meet their needs.

The WEB site is built through dynamic organization and its information is added dynamically, i.e. the initial structure of the site is developed as time passes by and the number of pages on the site cannot be defined in advance.

The element that combines all the pages is the main menu, which will contain links to all of the other pages in the site. This defines a flat architecture of the pages and all the pages are in the same hierarchical level.

When a certain link from the main menu is chosen, the corresponding page is opened and its information is presented. The information of each page begins with the headline of the page, which is the same as in the main menu.

Initially the main menu should contain links to pages "Introduction", "On Subject", "Lectures", "Course tasks and projects", "Gallery", "Useful links", "Applications".

There are two types of pages on the site. During the presentation of the first type – for example "Introduction", "On Subject" and "Useful links" – is shown the headline of the page and its very content, including text, links, images and/or files

A representative of the second type of pages is the page "Lectures" – after its first opening, initiated from the main menu, the headline of the page is visualized, as well as the headlines of every separate lecture. Each headline of a lecture should lead to the corresponding content of the lecture.

Creating a system for renewal of the content of WEB sites for disciplines is meant to throw opportunities for change and development of the initial structure of the site.

3. WEB-BASED CMS

WEB-based Content Management Systems allow people with no particular computer skills to change the content of their own WEB sites. The advantage of WEB-based CMS systems is the ability to manage a WEB site from every computer connected to the Internet. WEB-based CMS systems are installed on the WEB server and the access to them is realized through the client's WEB browser. The architecture of such a system is shown on fig.1.

The projected system will be built upon the same principles as WEB-based CMS systems. It will allow input and renewal of information on the WEB site.

Each page of the WEB site is dynamically generated when requested, while information will be "infused" in the template of design. In this way the information in the WEB site is absolutely undependable regarding its design, which makes its input and renewal easier.

In structuring the information in the site are used terms as "sections" and "records". The elements of the main menu are called sections. One piece of

information published on the site is conditionally called a record. One lecture is one record, or an image from the gallery with some explanatory notes attached to it is also a record. Each section contains different records that are unified according to their content. For example in the section “Lectures” there are only lectures on the discipline, or in the section “Useful links” there are only lectures, containing information on useful links.

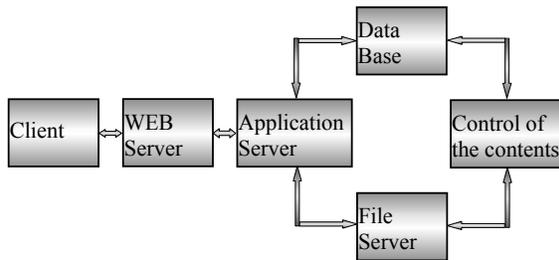


Fig.1. Architecture of the WEB based CMS

After the user chooses a link from the main menu, he sees information that has specific meaning, i.e. choosing a specific section means showing all records in it.

Kinds of visualization

Within the WEB site description there will be two types of pages – pages, where the contents are an integrated text that can be seen with the initial appearing of the page, and pages, where information is divided into separate records, as each entry’s title is a link to its contents.

Two kinds of visualizations are used to achieve the dynamic generation of these pages.

The first kind of visualization is in the case of showing a section that usually contains a single record – in this case the record’s contents are shown immediately.

The second kind of visualization has two layers – displaying both section and records on it as links and showing the corresponding record.

In the case of displaying a given record, a lecture for instance, the site displays the title of the section it belongs to, the title of the given record and its contents. The section’s title is a link that leads to its initial appearance, which is to the index of all records.

Several templates are used for the realization of the programmed visualizations. The main design of the site is set in the main template. It defines menu margins, section title and section contents.

To display the correspondent records in the section two more templates are used depending on the kind of visualization. They also define the text formatting within the WEB site – in the first case the title of the records appears and it should be a link to the corresponding contents, while in the second case both the title and the contents of the record are displayed.

The very realization of the main idea for visualizing the WEB site requires the following from the system that runs it:

- possibility for creating or erasing entries;
- possibility for creating or erasing sections;
- possibility for managing and editing data.

To meet these requirements the system is realized through three modules – „Creating new entry“, „Section management“ and „Editor's control“.

Editor's control

This is the first module that users see after entering the system. Here they can operate with the entire present information.

To be able to deal with the information on the given site, users should be able either to publish it or cancel it. When an entry is unpublished it is not seen on the Web site, but it is present within the database and it is spotted in the system, too. Thus users are able to partly insert the information and store it in the database without website visitors having any clue of it.

Creating new entry

The 'Creating new entry' model opens in the case of new entry creation or editing one that already exists. Choosing the 'Edit' button from the 'Editor's control' module is not leading through an interim window for section selection, because the entry belongs to a section and the latter is automatically activated. When changing an existing entry the fields for editing are filled in automatically with the data of the given entry, while in the case of creating a new entry just some of these fields are specified by default and the rest is empty.

Each entry must contain a certain number of characteristics. To put in some information, we need fields for the title, the contents and the resume. The title is displayed in all cases of entry visualization. The resume is used when a given section contains a lot of entries and their initial visualization is in the form of links to their full contents. For example the visualization of section 'Lectures' displays the list of the lectures' titles.

Managing the sections

The 'Managing the sections' module must contain a list of the names of all sections. In it, users can pick up an already existing section and edit it. This is the place where the visualization of a given section is selected, i.e. the way entries are displayed.

Within the designing of the site two main visualizations are created, meeting all primordial needs of the site. The first one is dubbed 'Full Infos' and choosing it makes all published entries to visualize with titles and contents, put in order according to the entry. Picking up the other visualization – 'Link Infos' makes all published entries to visualize as titles and resumes, as their titles are links to the entire content of the given entry.

4. CONCLUSION

Internet is making its way into all aspects of human activity, but its development is most dynamic in the fields of services and education. WEB sites should be created and updated in a hasty and easy manner so that they can meet the growing necessities of access to information.

A new trend in this aspect is the emerging of the CMS - Contents Managing Systems, allowing the laity in WEB design to create dynamic and interactive WEB pages on their own.

The elaboration of a designed WEB-based system for maintaining and updating WEB sites will help professors without any special knowledge in computers to manage processes on the site. The very system allows the insertion of texts, images, files, tables and links to other WEB sites and internal links as well, which would presuppose the creation of a modern WEB site, a Web site that meets all users' requirements.

5. REFERENCES

[1]. Nikolova I. E-education in Bulgaria. In 2003 Annual E-Readiness Report, Center for Study of democracy, Sofia, 2003.

[2]. Georgieva E., M. Teodosieva, S. Smrikarova Web – Based Teaching in Java. Proceeding of the International e- Learning Conference, Brussels, 2004.

[3]. Georgieva G., G. Todorov, A. Smrikarov A model of a virtual university – some problems during its development. Proceeding of the CompSysTech'2003, Sofia, 2003.

[4]. Shoikova E., V. Denishev eLearning Technology Standards Overview. Proceeding of the CompSysTech'2002, Sofia, 2002.