WEB-BASED UPDATING OF STUDENT DATA USING CMS IN HIGHE TECHNICAL TECHNOLOGICAL SCHOOL TRSTENIK

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Abstract: Institutions are struggling to maintain their web sites. Outdated material, poor design and navigation controls, lack of control and authority as a restriction on the ability webmasters are well known to many higher educational / further educational sectors (HE / FE). Pre-Millennium Web has been characterized highly manual approach to site maintenance, while the post-millennium websites debuted highly successful automation. For this major milestone was responsible content management system (CMS).

K e y w o r d s: content management, information systems, web design, automatization, education.

1. INTRODUCTION

Currently CMS is a potentially higher risk for other major categories of information systems. IT literature on CMS is full of jargon terms such as personalization, syndication, content management, and reuse it seems that the boundaries of CMS are blurred. There is significant overlap with document management systems, knowledge management systems, systems integration business applications, e-commerce, and portals. Also there are still not recognizable but still significant overlap with grouped internet systems and virtual learning environment. Therefore, it often happens that one's virtual learning environment is CMS and not really LMS (Learning Management System).

2. CONTENT MANAGEMENT SYSTEMS

The key objective of CMS is the increased integration and automation of processes that support efficient and effective delivery of information on the Web. The ways in which this is accomplished, put in the context of a high school facility, as shown in Table 1 It is expected that these functions be changed in the near future or better yet modernized with additional applications to independently take care of each process individually. This ensures greater stability and security of the whole system, because if a process fails the system remains functional. Furthermore need to concentrate on the problems of content management with outside relevant institutional Web. Due to the large growth in the Intranet, outer web will become quantitatively minor part of the institutional Web, as shown in Figure 1 However, in the context of current challenges and risks, outer web will continue to be the main carrier of information exchange and management.CMS manages the time of editing and publishing using the scheme of workflow and providing a system for storage of content and integration.

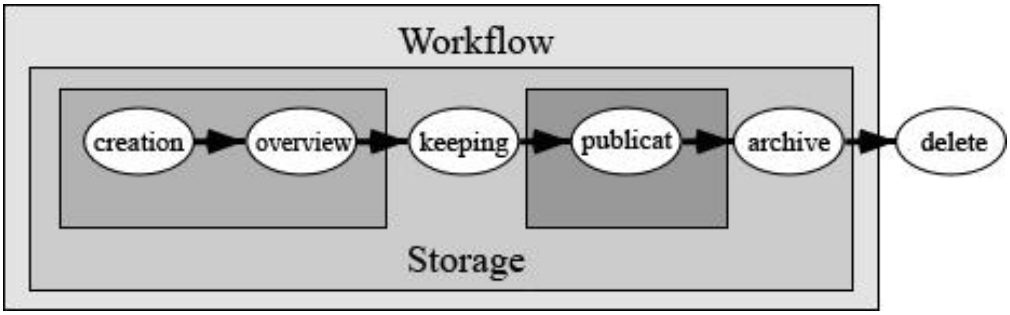


Figure 2: Functional overview of CMS and content lifecycle

Within this view, is CMS functions can be divided into four categories:

- **Authoring**
- **Workflow**
- **Storage and**
- **Publishing**

as shown on figure 1.

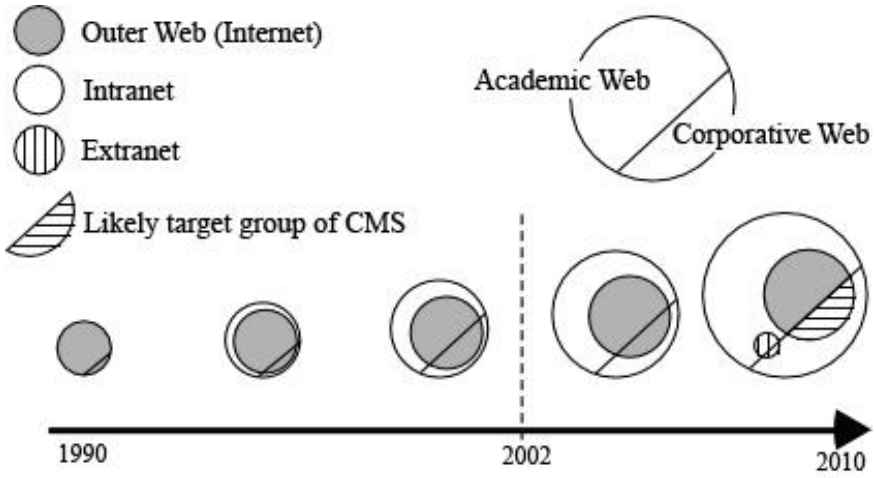


Figure 2: The evolution of institutional Web

3 STRUCTURE AND FUNCTION FOR CONTENT MANAGEMENT SYSTEM

Below we will show what is required of the elements for an information system could be called CMS. When broken down, the very structure of the CMS is simple and logical what is actually meaning of existence of such a system.

1) WCMS stores all documents and corresponding meta data in database documents.

2) The user connects to the WCMS via a standard browser.

3) If access to the WCMSis protected, users must register with a username and password. Access rights are usually kept in a per session basis document. WCMS has interface with user directories through LDAP (Lightweight Directory Access Protocol) or similar protocols.

4) Users often want to search folders for documents that contain keywords. Search engine is located in the WCMS. The machine searches for files other than HTML and other formats to such office doc, ppt, doc, xls, ps etc..

5) Search engine monitors user access rights in accordance with these shows only authorized results.

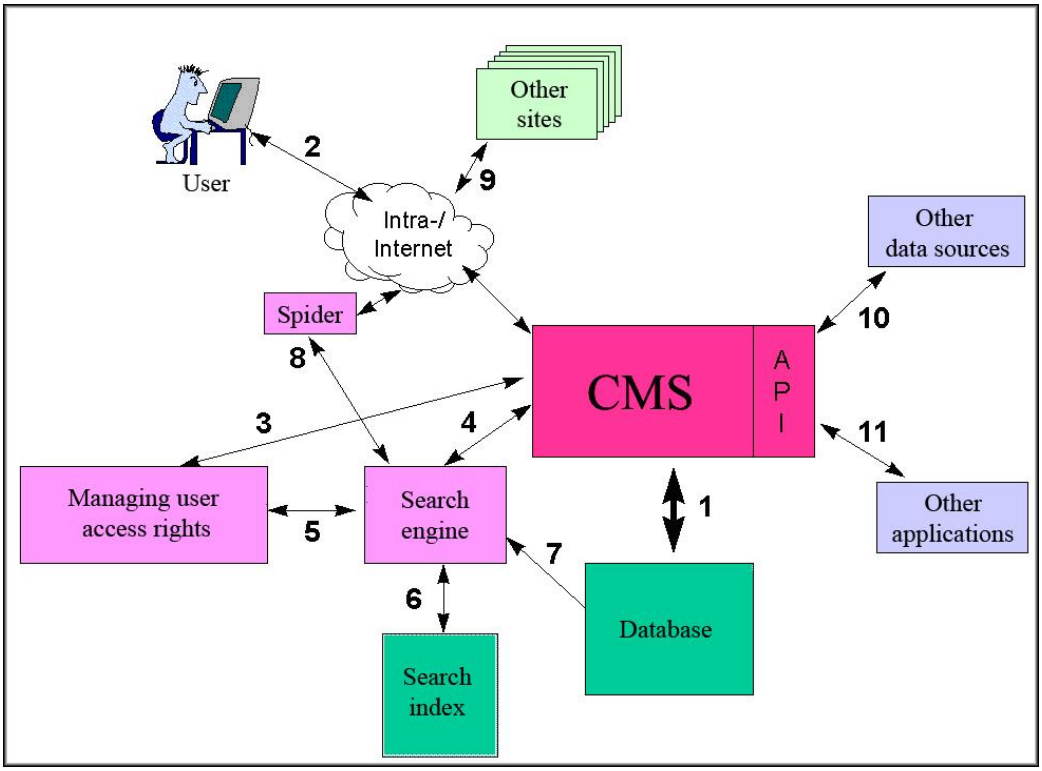
6) Search engine contains its own index files. If new file documents added to the database automatically updates the index WCMS.

7) To generate an index, search engine scans the objects in the database documents.

8) and 9) Web Spider supports indexing remote sites. Users can therefore retrieve documents stored in the vast world of Internet.

10) Other data sources such as SQL (Structured Query Language), JDBC (Java Database Connectivity), or any other appropriate DB (Database) interface.

11) Other applications, such as support systems, they must communicate with WCMS through API.



Fiogure 3: Struktura i funkcija CMS-a

3.1. CMS FEATURES

The concept of self-editing service, where staff may not have special skills to manage content for which they are responsible, may be seen as a major step towards acceptance of the Web as a medium for communication by non-specialists. This is a key advantage of CMS. How to integrate the local information systems is becoming more and more convincing, self-editing service is extended to the concept of "write once, use anywhere", which treats the Web as another communication channel in addition to e-mail, word processors, presentation and so on. Following are some features of CMS:

- Free source code
- More and more interested user community and developers
- A simple workflow system
- Publication system for content
- File manager and administration for sending files
- A summary of the content in RSS format
- Trash for deleted content

- For search friendly URLs
- Managing banners
- Multilingual support for the website and the administration interface
- Administrative interface that is separate from the web site
- Macro language content (Utilities)
- The mechanism of caching for fast loading pages
- Easy to install additional extensions
- Powerful system of forms (HTML, CSS, PHP)
- Hierarchical user groups
- Simple statistics visitors
- WYSIWYG editor for content
- A system for rating content

Other features with some of the above are illustrated in Figure 4 are shown for the sake of better understanding.

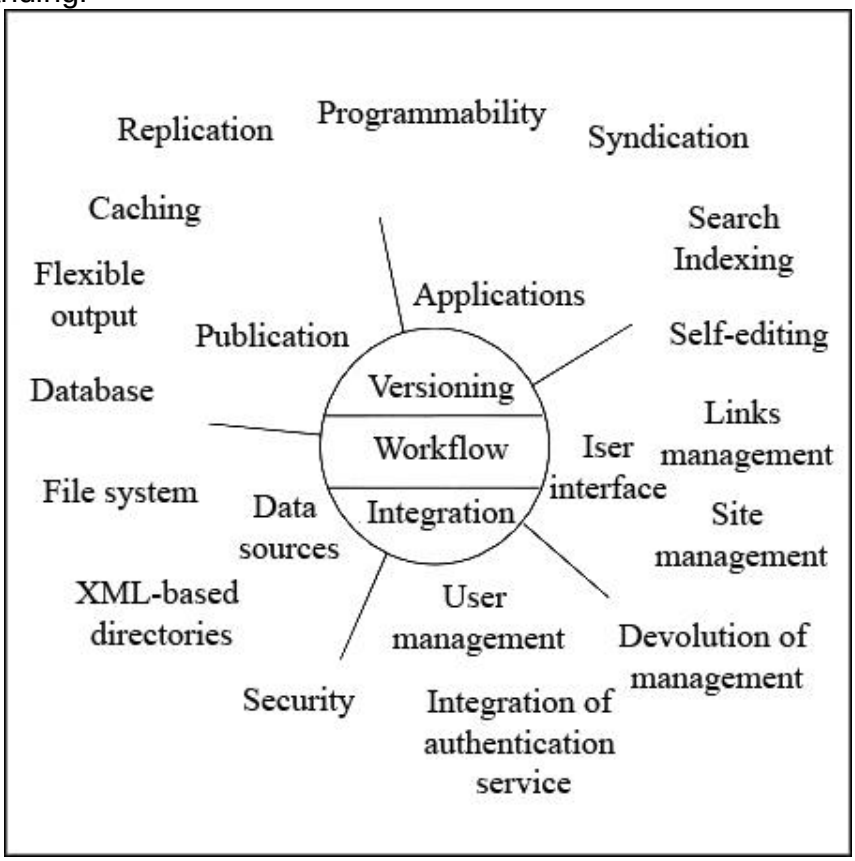


Figure 4: CMS features

4. IMPLEMENTATION OF CMS IN CONSTRUCTION OF VTMS WEB SITE

For the practical part of this workwe realized the implementation of content management systems HE / FE institution "High Technical Mechanical of Applied Studies" in Trstenik. For this purpose we chose Joomla! system because of its broad functionality, stability, security, and ease of management and implementation. Needs of the school are as follows:

1. Providing fresh information to students on exams, cases, news
2. Timely effective communication between students and professors and students themselves

3. Setting up and download teaching materials and guidelines
4. The stability of the system due to high traffic site
5. Data security of students through authorized access to the system
6. The ease of use system for teachers, without burdening tasks
7. Discussions on specific problems of students, cooperative way of solving problems
8. The system of voting on various issues related to school work

Below is given to what is required of the elements for an information system could be called CMS. When broken down, the structure of a CMS is very is simple and logical what is actually meaning of existence of such a system.

Front End and Back End, Access Rights, Content, Extensions, Components, Templates, Plug-Ins, Workflow, Configuration Settings, Application programming interface –API

Figure 5: Home page of www.vtmsts.edu.rs

4.1. STUDENT DATA ENTRY ON EXAMPLE OF CASE APPLICATION

For the purpose of case applications we implemented a form based application where students can fill their details and apply for a case exam. This form is connected to a students database from which it automatically reads predefined conditions upon which a registration takes process. For example if a student does not have a conditional case passed he can not apply for other exams. It also checks and verifies the data entered so it would math the records in the database. This prevents incorrect case applications. On Figure 6 is displayed the form for details entry in case application.

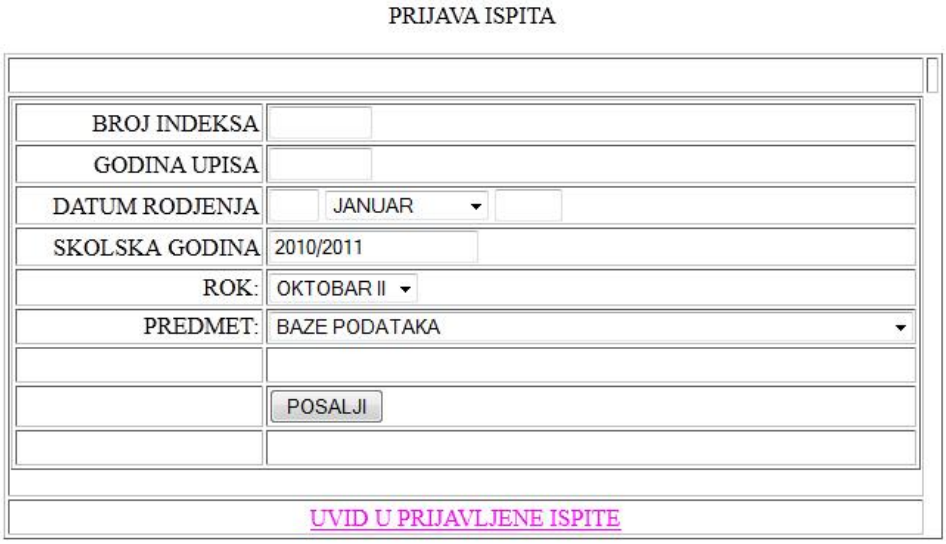


Figure 6: Case application form

5. CONCLUSION

The appearance of portal frameworks, whether they are free to use or not has done a lot for popularization of overlap and convergence for document management systems, knowledge management, systems integration of enterprise applications, e-commerce systems, virtual learning environment and content management systems. There is a pressing need for institutions to think holistically about the implementation of information systems and to invest in them and to develop open and expandable information systems. The managers of an institution must be aware of the costs and consequences of not accepting post-millennium web. The CMS may implement additional functions from the database, in addition to the basic function and purpose while the database can not perform any of the actions of CMS. I'm in this paper we tried to bring the theme of the next generation web and on a concrete example to show how a content management system works in the institutional HE/FE sector.

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