System design

Develop a framework that helps in building dynamic websites for schools. It will be used, to create, edit, manage, and publish content at runtime in an organized fashion. Our proposed system can handle blogs, documents, images, audio, and video files. The CMS gets and puts all its contents and the corresponding metadata into its database. Different users connect to the CMS by standard browser clients. If users have access rights, then they can create and manage web contents. Otherwise, they can only browse web pages depending on their privileges

A close up of a map

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CMS framework should include the following main functions: System and User Management, Web pages manager, file manager, page editor, template editor, and module manager.

The description of CMS components is presented below.

1. System and User Management: This manager organizes and maintains the system information. It is handling the database backup and the system

configuration functions such as themes, website title, language, date format, and

user privilege. There are four types of WCMS members: system administrator,

faculty and staff members, students, and parents. Each type of users has different access rights. The system administrators have the highest privileges. They can add or approve different users, and give other users the creating and managing privileges. Faculty and staff members can create, edit, manage and publish contents in a different format such as text, graphics, video, documents, etc. Students can browse the web contents and have additional functionality, such as submitting assignment or quizzes. Parents can view their child's record to follow up their learning progress or check their attendance.

1. Web pages Manager. This manager handles sections, categories, and web pages of the web sites. Section refers to a collection of web pages that can display in a menu. Category allows to create an extra hierarchal in the website menu and categorize pages within a section. Through this manger, the authorized users can create, edit and delete sections, categories, and web pages.

3. Files Manager. Files uploaded from the user's computer on to the server where the CMS manager is running. Files can be organized by different categories, such as text, picture, flash, video and audio. It allows to create directories for different categories. From there, teachers can upload their lecture notes and laboratory experiments in audio and video format. Authorized users can be added these files to web pages and to course contents or to classroom activities.

4. Page Editor. The CMS should be offered a fully featured editor to edit pages. The resultant files should be compatible with any web browser.

5. Template Editor. This editor helps nontechnical persons to create sophisticated templates for the website. It should provide easy tools and menus to handle the layout of different parts of the webpage. Additionally, any SWCM system should be offered preinstalled Templates.

6. Module Manager. Module is a program that can perform a determined function in the webpage. These functions include school administration, course,

classroom, test, send email and messages, search, calendar, forum, links, news,

and etc. The authorized users can use these functions in their web pages by

selecting the module name from modules list. The following paragraphs present

the key modules in CMS:

1. School Administration Module. School resources and records management

are daily functions for school administration staff. Records for students,

faculty and non-academic staff intended to store in the central database server.

Student records keep general information, attendance, and medical records, as

well as, grading information. The authorized users are responsible for adding a

new record and updating existing record information. These records used to

generate reports and perform statistical analysis. Parent can monitor their

child's learning progress. Additionally, faculty and non-academic staff records

include general information, contact numbers, and qualification. Through this

module, faculty members can create personal web pages or blogs to publish

their news and external information related to teaching courses.

2. Course Module. Authorized teachers can create a new course or modify

existing one. This process includes adding the basic information about the

course, course index, course contents, polices, grading system, and calendar

events. The course contents can be added from the files repository which are

uploaded to the system from file manager. The following process is the course

content approval and publishing which accomplished by authorized staff.

3. Classroom Module. New classroom object can be created and managed

through this module. Students who belong to one classroom should be added

to a classroom object. Classroom module intended to support different class

activities. It manages the learning resources and teaching activities. The

learning resources include learning materials in any format and teaching

activities, which include a bulletin board, learning record, quizzes, assignments,

homework and announcement. Additionally, Chat for each classroom

should be configured to support teachers and students interaction. In addition

to, messages broadcasted to classroom members. Each classroom administrated

by class manger (specific teacher) who is responsible for managing classroom

activities.

4. Parent Module. This module allows Parents to

* New Student Enrollment
* Access Student details & academic reports
* Parent Contact Information
* Pay off School Lunch or any outstanding balances
* Request for Student supplies
* Apply for Volunteer
* Schedule Parent Teacher Meet / Night
* Configure for Alerts – Email, Texts, Telephone call
* Student Leave/absence form

Presentation Design

A close up of text on a whiteboard

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