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Course Management System

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Abstract: *A course management system is a set of tools that enables the instructor to create online course content and post on the Web. It enables the college or university to provide individual user account to each student. All the user accounts (instructors and students) are password protected. So, the database can be termed as secured. In Course Management System, only administrative section is allowed to create the account, but students and instructor can register with application. After creating the account, the user can view his/her detail by using SQL query. In the existing system, we can store all the record manually that require large manpower & place to store all the records but it does require only a database connectivity to store all the data. It can handle all details about a student. The details include college details, subject details, student personnel details, academic details, exam details. In this we can implement a facility that a faculty can be able to post Document such as word files and PDF in this and student those who have enrolled can able to access all of those documentations.*

Key Word: *User, database, application registry, password authentication, academic details.*

I.INTRODUCTION

The adoption of the technologies in education System has changed a lot and the way courses are designed and managed. Course Management System is a Web-based system for training programs and information sharing between individuals giving them the flexibility to access it from their workplace or home. Course management System provides a range of tools, such as document sharing, and grading, to facilitate communication and collaboration between instructors and students. Course management systems are the software hub of most online courses. Course Management Systems are being extensively used in schools, colleges, universities and of course organizations. These include Computer-Based Training or CBTs, Web-based Training or WBTs, continuous on-line assessment and management of training, collaborative learning application sharing, discussion, Web seminars and training resource management, etc. The teacher can their respective subject notes in the form of pdf. Moreover, you can create different types of users, such as teachers, students. In assignments or drop box, the responses to the questions remain private between the instructor and the student. It helps control which content a student can access, track studying progress and engage student with contact tools. Teachers can manage courses and modules, enroll students or set up self-enrolment.

II.LITERATURE SURVEY

History of Course Management System:

The First CMS was developed in early 90s, with the aim of providing instructors with a centralized platform for delivering course materials and assignments. The early CMSs were lacked many of the features and capabilities of modern CMS. However, they laid the foundation for the further development.

Features of Course Management System:

Modern CMS offers a range of features and functionalities, such as online discussion forums, document sharing, video conferencing, virtual labs, and gamification. CMS also provides instructors with tools to monitor student progress, identify learning gaps, and assess student performance.

Challenges of Course Management System:

Despite its advantages, CMS faces several challenges. One of the main challenge is the complexity of the system, which can be overwhelming for both instructors and students. Another challenge is the lack of personalization, as CMS often follow a one-size-fits-all approach that may not meet the individual needs of student, which can hinder their engagement and motivation.

Improving Course Management System:

Serval Studies have proposed ways to improve CMS. One approach is to in to incorporate AI, ML and natural language processing into CMS to provide Personalized learning experience for student. Another approach is to use chatbot,

voice assistants, and the other conversation agent to provide student with real-time support and guidance.

Future of Course Management System:

The future of Course Management System is likely to be shaped by emerging technologies such as augmented reality, virtual reality, and blockchain. Augmented reality and virtual reality can provide immersive learning experiences for student, while blockchain can provide a secure and transparent platform for credentialing and certification.

III.REQUIREMENT

This project is mainly based on database a web application to be developed in HTML, CSS, JSP and it requires a server toprocess the request produced by the user. The server used is tomcat and the database is MySql.

Tomcat

Apache Tomcat (called "Tomcat" for short) is a free and open-source implementation of the Java Servlet, JavaServer Pages, Java Expression Language and Web Socket technologies. Tomcat provides a "pure Java" HTTP web server environment inwhich Java code can run. it acts only as a Web server and Servlet container.

MYSQL

MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data types may be related to each other; these relations help structurethe data. SQL is a language programmer use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.

IV.PROJECT FLOW

This system architecture is based on client-Server Architecture which is the versatile and flexible in today's fast changingIT landscape. If the client who is the user sends a request to perform any functionality like uploading documents or accessing the documents those requests are send to the server in this case the server is the tomcat server where the request is processed and the change or modification in the data are made in the database MySQL and the tomcat server sends to response for the particular request by the user.

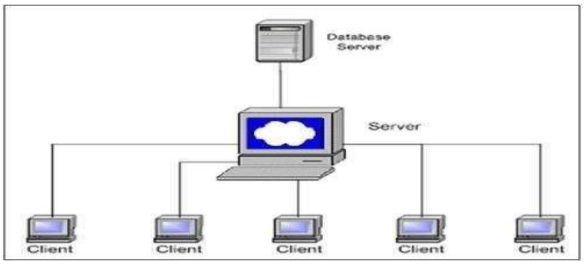

FIG-1 CLIENT-SERVER ARCHITECTURE

First of all, if the user is a faculty, he can access the faculty login if he is already register in the system or else, he/she will be redirected to a registration page by filling all the necessary details he/she can register themselves and after login the first page ofthe website will provide 3 options for the faculty to create a classroom and delete already existing classroom or join a class room and in a class the faculty have the faculty to upload the documents and can also delete the documents. Then the faculty can able to add works for the students

Another module is the student in which like the same as the faculty if he is a regular user can login the page and perform his/her functionality else he has to register himself. In the first page the student can only able to join the class and if he is already added bythe faculty to the class he/she not need to enter the class code and else he can directly access to the home page. The can't able to change the documents. If there is any work due to be uploaded, they can upload their own documents in the work due field.

Product features

The major features of the online course management system are listed below.

- Unauthorized access is prevented because only authorized or registered user can only process data and access resources
- Also, the users request without login in are also prevented from accessing the data
- And even a authorized user can't be able to join a class he/she can join the class if he have the classroom code or already been added in to the class by the faculty so as a result the security increases.
- It also establishes a smooth communication link between the different users like faculty, students by achieving the above features Responsiveness and hence outcome of the system features increases.

Modules

There are two different modules present in the system each module will have different functionalities to be performed.

The different modules are as follows.

Faculty:

The role of the faculty is to create a class room by providing the classroom name and code for that respective class and add students in the class and can also join another class and can able to drop the class that he/she have create but can't able to delete the class created by another faculty. In a classroom faculty have the right to post assignments and documents. They can alsoable to chat privately or to each and everyone present in the classroom can also delete a document he or she posted. Also, can evaluate the responses submitted by the students for the assignments and add private commands to those whom have submitted. They also have a feature of kicking the student out of a specific classroom and can able be able to leave a classroom.

Students:

Students can able to join a class only if they have the class room code or else if they are already added by the faculty who created the class room and can access all the documents posted in the classroom and can able to submit their works in the work dueprovided. They can able to chat with the faculty privately and can also add class comments which will be visible to all the members present in the classroom. If they are not interested with the course, they can leave the particular class, if they change theirmind can also join the classroom back.

Database:

In this back end we are using the MySQL database for storing and the retrieval of data and there are two table one is thestudent and faculty. If the registered user is a student, he/she is a student their details will be stored in the student table and else user is a faculty details will be stored in the faculty table.

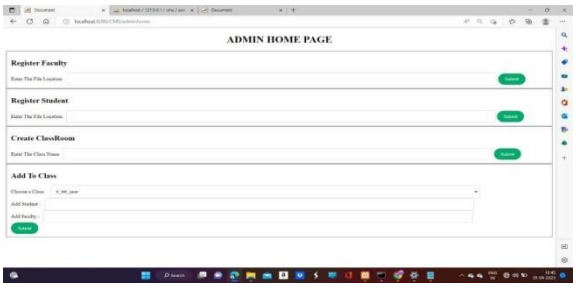

FIG-2 ADMIN PAGE

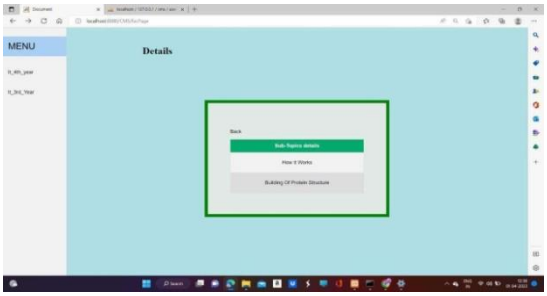

FIG-3 STUDENT ENROLLMENT

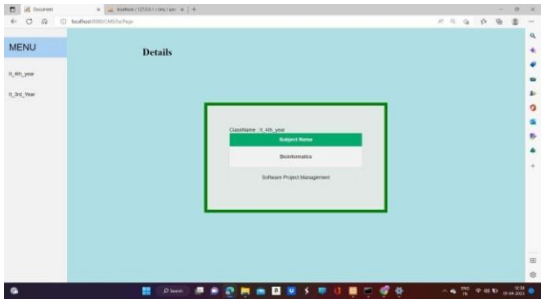

FIG 4 SUBJECT ADDING

V.TESTING AND EVALUATION

The reason behind testing was to find errors. Every program or software has errors in it, against the common view that there are no errors in it if the program or software is working. Executing the programs with the intention of finding the errors in itis therefore testing; hence a successful test is one which finds errors. Testing is an activity; however, it is restricted to being performed after the development phase is complete, but is carried parallel with all stages of system development, starting with requirement specification.

Test cases were devised with a purpose in mind. A test case is a set of data that a system will process as normal input.

The software units developed in the system are modules and routines that are assembled and integrated to perform the required function of the system. Test results once gathered and evaluated, provide a qualitative indication of the software quality and reliability and serve as the basis for design modification if required. In this phase, testing is done at different levels. Actually, testing phase of the implementations works accurately and efficiently before live operation commences.

Unit testing was done after the coding phase. The purpose of the unit testing was to locate errors in the current module, independent of the other modules. Some changes in the coding were done during the testing phase. Finally, all the modules were individually tested following bottom to top approach, starting with the smallest and lowest modules and then testing one at a time.

Once the unit was over, all the modules were integrated for integration testing. External and internal interfaces are implementedand work as per design, the performance of the module is not degraded.

At the culmination of integration testing, the software is said to be completely assembled as a package; interfacing errors havebeen uncovered and corrected. Then as a final series of software test, validation tests were carried out.

VI.RESULT

We have developed a webpage which contains modules they are admin, faculty and student. The student able to view and read thecourse that have been uploaded on the portal and as well as if there is any doubt that can be leave in a comments. The faculty can able to upload the course in a video, word or PDF format document in the portal. The admin can give access to the faculty so that the classroom has been created and then the faculty has to separate the student in course wise order and then they can able to join in the classroom by the specific roll number will be given so that they can be able to view the courses in the portal. Finally, the students can able to give a review of the course that has been upload by the faculty.

VII.CONCLUSION

Online course portal project is developed in java platform. The main aim of this system is to implement an online based mostly portal with education data which is able to be helpful for faculty students. on-line education is one of the quick growing field on internet wherever users will directly solve issues by visiting web site with none facilitate from academics. This method had inflatedscope of on-line education and on-line courses. in conjunction with on-line courses this computer are often updated with alternative data like job updates, on-line communication details, coming events, government job, and tips for teaching. For every education or course there should be consistent interaction between students for submitting assignments and home works, projects, and thesis and acquire feedback. In this exiting system students need to visit faculties and take appointment from faculties or instructors to submit work. The system has been developed considering every single quality factor. Due to this reason the system isextremely secure from the crash down downside. Moreover, the system is very reliable and attributable to the safety features, provides for the course management system, unauthorized users cannot access the system.

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