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e-Tutoria -A Smart Learning Management System

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Abstract: We rely heavily on web-based programs in our daily lives, thus it's critical to guarantee their dependability and quality. In order to improve the learning experience for users of current Learning Management Systems (LMS), it is critical to address difficulties with the rapid growth in the usage of web- based applications for online and distant learning. The primary goal of this project is to effectively construct an LMS that is safe, dependable and cost-free so that students can study for free and without interruption. The project's major goal is to create an LMS with features for managing users, organizing courses and their contents and keeping up a library. Additionally, it offers a variety of functions for various user kinds. Creating courses, uploading resources in the form of PDFs or videos and allowing students to enroll in courses that interest them are just a few of its features. You may join up as a student or a teacher.

1. INTRODUCTION

e-Tutoria is the term for the use of technology to support learning remotely and deliver instructional information. It involves accessing educational materials and resources at any time and from any location by using digital devices like computers, tablets or smartphones and the internet. Numerous benefits come with e- learning, including cost-effectiveness, ease, flexibility and customized learning opportunities. It is a well-liked choice for working professionals, students and anyone else looking to learn new skills and information since it enables learners to access educational materials and communicate with peers and instructors at their own speed and convenience. e-learning is a fast expanding sector driven by changing educational demands and technology breakthroughs. Consequently, it presents an array of stimulating prospects for both students and instructors, and holds the capacity to revolutionize education and learning to a great extent.

A cutting-edge e-learning website called e-Tutoria seeks to completely transform the accessibility and delivery of education. Our website is made to offer students of all ages and backgrounds a thorough and interesting educational experience. Our mission is to enable anyone to study at anytime and anywhere by emphasizing accessibility, flexibility and individualized learning.

Technology breakthroughs and shifting educational requirements are driving a rapid evolution in the e-learning space. Because of this, it provides a variety of fascinating options for both educators and students and it has the power to fundamentally alter education and learning.

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Our e-learning website also places a strong emphasis on community development and collaboration. Students may participate in online forums and chat rooms, which promotes communication among peers and the exchange of information. Our website also makes it easier for students to network and links them with knowledgeable teachers and mentors, fostering a lively and encouraging learning environment. Here in this website, we think that education has the ability to change people's lives. Our online learning website aims to remove obstacles, democratize education and provide every student equal access to learning possibilities.

2. LITERATURE SURVEY

EXISTING WORK

Moodle: One of the most widely used open-source e-learning systems out there right now is Moodle. It offers an extensive feature set for collaboration, assessment, grading, content production and course administration. Numerous instructional formats are supported by Moodle, which also offers customization and system integration options.

Blackboard: A popular commercial learning management system (LMS), Blackboard provides a powerful toolkit for communication, assessment, content distribution and course administration. In addition to supporting a variety of learning activities including discussion boards, tests and assignments, it has an intuitive user interface.

Canvas: Canvas is another popular commercial LMS known for its intuitive interface and mobile-friendly design. It offers features for course creation, content delivery, collaboration and assessment. Canvas also provides a range of integrations with external tools and services to enhance the learning experience.

Google Classroom: Google Classroom is a free LMS designed specifically for schools and educators. It integrates with other Google tools like Google Drive, Docs and Calendar, making it easy for teachers to create and manage assignments, communicate with students and provide feedback.

Schoology: Schoology is a cloud-based LMS that focuses on collaboration and communication. It offers features for course management, content creation, assessment and analytics. Schoology also provides a social learning environment where students and teachers can interact and share resources.

Edmodo: Edmodo is an LMS that emphasizes communication and community building. It provides tools for course management, content sharing, assessment and collaboration. Edmodo also offers

features for parent involvement and has a strong focus on security and privacy.

3. PROPOSED METHODS

ADMIN

One unique function in the LMS is the administrator. It is the sole function with complete control over the whole platform and it is at the top of the hierarchy. To be clear, this kind of administrator is not the same as the administrator responsible for LMS maintenance, who needs to handle the server and troubleshoot any difficulties.

Conversely, similar to a school's administrative office, this function, which is filled by one or a small number of persons, is in charge of all the administrative issues pertaining to the training process. Among the core functionalities of the Admin we can find: enroll new users to the platform (in all the different ways), assigning roles, associate teachers to courses, enroll students in training courses.

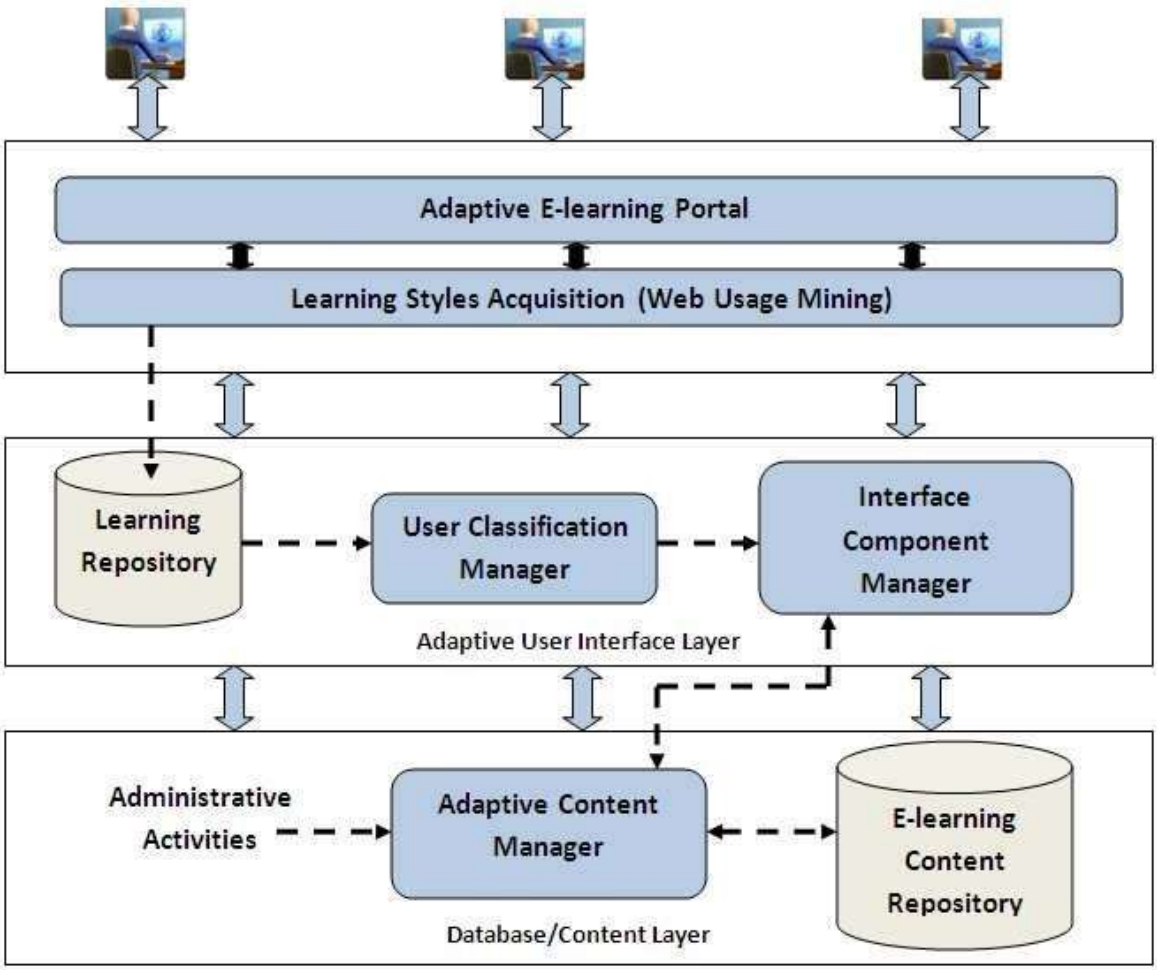

Figure: Architecture Design

4. TECHNOLOGY DESCRIPTION

HTML: The common markup language used to construct web pages is called HTML (Hypertext Markup Language). It uses a range of tags and properties to specify the layout and content of a web page. Each nested element in an HTML document has a start tag, a content tag and an end tag. The fundamental building blocks for the organization and display of online pages are provided by HTML, which is a core web technology. HTML is often used to construct dynamic, interactive web pages together with CSS and JavaScript. Developers may use HTML to produce a vast array of online content, ranging from simple static sites to intricate interactive apps.

CSS: A language called CSS (Cascading Style Sheets) is used to style and arrange web pages. By separating appearance from information, it enables developers to produce aesthetically pleasing and unified designs. Typography, color, spacing and other aesthetically pleasing designs may all be precisely controlled using CSS. To construct dynamic and interactive user interfaces, it may be used with JavaScript and HTML. New features and functionalities are often introduced to CSS, which is always changing.

JS: JavaScript is a high-level interpreted programming language used for developing web applications and dynamic user interfaces. It is often used in conjunction with HTML and CSS to create interactive and responsive web pages. JavaScript is a versatile language that supports object-oriented, functional and imperative programming paradigms. It is supported by all major web browsers and has a large and active community of developers constantly working to improve and expand its capabilities.

React JS Framework: **React** (also known as **React.js** or **ReactJS**) ReactJS is a simple, feature rich, component based JavaScript UI library. It can be used to develop small applications as well as big, complex applications. ReactJS provides minimal and solid feature set to kick-start a web application. React community compliments React library by providing large set of ready-made components to develop web application in a record time. React community also provides advanced concept like state management, routing, etc., on top of the React library. Instead of manipulating the browser's DOM directly, React creates a virtual DOM in memory, where it does all the necessary manipulating, before making the changes in the browser DOM.

5. IMPLEMENATION

The application is implemented based on the following approaches:

- Client-Server Model
- REST based APIs for handling requests corresponding with various functionalities.
- Authentication with the help of internet standard encryption.
- Document oriented NoSQL database for storage and to perform CRUD operations.

6. RESULTS AND TESTING

The project is tested upon various test cases whose details and corresponding results

Figure: Home Page

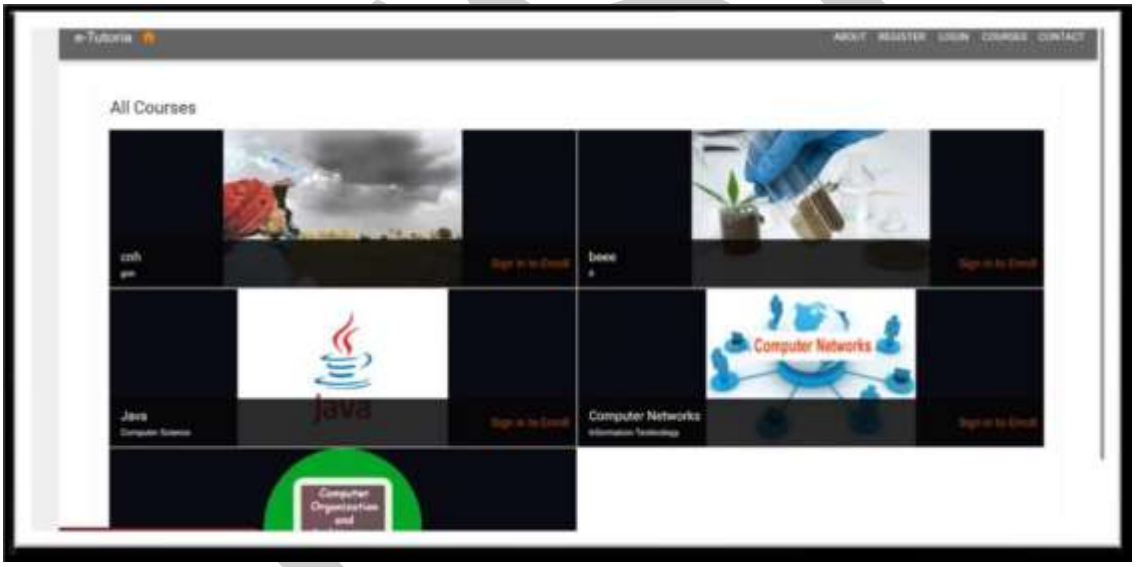

Figure: Courses Page

Figure: Course Description Page

Figure: Creating new Account

5. CONCLUSION

The study's result indicates that, in order to improve educational effectiveness, LMS should be integrated into these learning institutions' core operations. e -learning encourages adaptability and improves solitary study. Over time, the pupils' increased commitment improves their time management abilities. When students ask their teachers for clarification on unclear issues, the

cooperation between them during online learning using an LMS is improved. Students develop critical thinking abilities via more independent study, which enables them to approach tasks in new ways. It gets students ready for the real world of work, where most employers are looking to recruit people with these kinds of abilities.

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