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FACULTY KIT

Objective–

The objectives of the A Cube Tech platform are centered around delivering a seamless, accessible, and effective digital learning experience. The system is designed to meet the needs of both learners and educators by creating an environment where knowledge can be shared, consumed, and improved continuously. One of the primary goals is to provide flexibility to students, allowing them to learn anytime and from anywhere with just an internet connection. Learners can revisit video lessons as many times as needed, enhancing knowledge retention. The platform is also cost-effective, eliminating the need for physical infrastructure and transportation. Another objective is to enable tutors to teach creatively, record lessons without time constraints, and earn revenue from course sales. A Cube Tech also incorporates feedback mechanisms to help instructors improve content quality and delivery. Administrators can manage user data, monitor activity, and generate insightful reports for business analysis. The system further aims to support global access, ensuring that education is not limited by geography. By offering high-quality, interactive content and maintaining a user-friendly interface, A Cube Tech aspires to be a comprehensive e-learning solution tailored for modern learners and educational content creators alike.

Requirements Specification–

The A Cube Tech will include:

- **Home:**
This page provides access to modules like Courses, Payment Status, Login, Sign Up, Feedback, and Contact.
- **User and Admin Roles:**
Admin creates and manages notification agents based on user behavior. Users receive automated alerts triggered by their actions such as login or course purchase.
- **Rule Engine for Conditions**
The rule engine lets Admin define conditions under which notifications are triggered.
- **Admin Dashboard**
The Admin Dashboard allows managing agents, viewing logs, and monitoring notifications.
- **Audit and Logs**
All admin actions and triggered notifications are recorded in system logs.

Technology Familiarization–

A Cube Tech is developed using HTML, CSS, JavaScript for the front end, and PHP with MySQL for the back end.

It uses Bootstrap for responsive design, Paytm for payments, and tools like Visual Studio Code and yEd Graph Editor for development and diagramming.

Database Creation–

The **A Cube Tech** will utilize both relational and non-relational databases to handle different data types:

- **Users** – Stores user details (ID, name, email, role, preferences).
- **Admins** – Stores admin credentials and activity logs.
- **Student** – Student can purchase, watch courses
- **Feedback** – Anyone can include their feedbacks

High Level and Detailed Design

System Overview

A Cube Tech is a modern, web-based E-Learning Management System that aims to revolutionize education delivery by enabling accessible, affordable, and efficient learning for all. In today's digitally driven environment, it is becoming increasingly difficult for learners to dedicate time for in-person training and classes. A Cube Tech resolves this by providing a robust platform that allows students to learn at their own pace, on their own schedule, from any location.

1. Frontend (HTML, CSS, JavaScript):

- **HTML** is used to structure the page, creating the necessary layout to display content.
- **CSS** is used for styling the page, ensuring the notifications are presented in a user-friendly manner.
- **JavaScript** will manage the frontend logic. It will handle receiving push notifications and displaying them in real-time using technologies like WebSockets or long polling.

2. Backend (PHP, MySQL):

- **PHP** handles the backend logic. It serves as the intermediary between the frontend and the database. PHP scripts will manage authentication, user data retrieval, and triggering of push notifications.
- **MySQL** is used for storing user data, push notification records, and history, ensuring that only authorized users receive notifications and that the notifications are logged.

3. Database (MySQL):

- **MySQL** stores user information such as login credentials, preferences. It ensures that users only receive relevant notifications.

Detailed Design

2.1 PHP

PHP is an open source language and all its components are free to use and distribute. PHP is server-side scripting language. It is embedded in HTML source code. PHP supports all major web servers such as Apache, Microsoft IIS and Netscape etc. All the major database such as Mysql, PostgreSQL, Oracle, Sybase, Microsoft SQL Server is supported by PHP. Following are the some major advantage:-

- Friendly With HTML - PHP and HTML are interchangeable within the page. You can put PHP outside the HTML or inside.
- Interactive Features - PHP allows you to interact with your visitors in ways HTML alone can't.
- Top-Notch Online Documentation - The PHP documentation is the best on the web. Hands down.
- Compatible With Databases - A good benefit of using PHP is that it can interact with many different database languages including MySQL.

2.2 MySQL

MySQL is the most popular open source relational database management system. It is one of the best RDBMS being used to develop web-based applications. It is easy to use and fast RDBMS. Following are the top reason to use MySQL:-

- High Performance
- Robust Transactional Support
- Strong Data Protection
- Open Source Freedom

2.3 HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

2.4 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Test Plan and Final Review

Our dedication to our Clients goes well beyond the deployment of our Application. We are committed to providing our Client with a positive experience that starts with a successful implementation.

Implementation is the stage in the project where the theoretical design is turned into a working system. The implementation phase constructs, installs and operates the new system. The most stage is achieving a new successful system is that it will work efficiently and effectively.

Security and integrity of database are very important for any software system because databases are the backbone of the system. Security need to be implanted at every level of the system so that only authorized user can access the system for updation and other significance process.

References and Documents used

- **HTML** - <https://www.w3schools.com/Html/> \
- **CSS** - <https://www.w3schools.com/css/>
- **Javascript** - <https://javascript.info/>
- **PHP** - <https://www.w3schools.com/php/>
- **MySQL** - <https://www.w3schools.com/MySQL/default.asp>

Conclusion

The E-Learning Resource Managment System has been computed successfully and was also tested successfully by taking "Test Cases". It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

The Software is developed using HTML, CSS, JS as front end and PHP, MySql as back end in windows environment.

The goals that are achieved by the software are:

- Simplification of the operations
- Less processing time and getting required information
- User friendly
- Portable and flexible for further enhancement

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