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Online Learning Management System

Project Proposal (Milestone 1)

Section 1 | Group 2 | System Analysis and Design CIS 417 | 19/09/2024

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The Internet has become an invaluable tool for people looking to learn new skills and enhance their education. Modern learning management systems (LMS) are designed to meet the needs of both students and teachers with features such as online course delivery, progress tracking, and assignment submission. These platforms remove the constraints of traditional classrooms, allowing for flexible and remote learning. The goal of LMSs is to make education easier to manage and access to a wider range of learners, enabling them to study and collaborate from virtually anywhere.

I. Literature review and limitations

In the rapidly evolving landscape of online education, learning management systems (LMS) play a pivotal role in facilitating both teaching and learning experiences. Various platforms such as Canvas, Blackboard, and Rippling offer distinct features aimed at enhancing course management, content delivery, and student performance tracking. However, despite the advantages these systems bring to educational institutions and organizations, there remain limitations that affect their efficiency and user experience. This literature review explores the capabilities and challenges of these popular LMS platforms, highlighting their strengths and areas for improvement, particularly in terms of scalability, usability, and functionality for students and educators alike.

1. **Canvas:** Instructure's Canvas is known for its clean interface and ease of use. It provides powerful course management features such as assignment creation and grading, discussion boards, and file management. The system easily integrates with external tools and apps like Google Drive and Microsoft Office 365. As a cloud-based platform, Canvas can be accessed on any device with a mobile-responsive design. Analytics help instructors monitor student performance and participation, while responsive learning pathways and content delivery are designed to support student success. (Canvas, n.d.)

2. **Blackboard:** Blackboard is an all-in-one LMS, and it's common in higher education. It has a lot of features for course management, content delivery and can include communication tools. Blackboard supports virtual classrooms and many integrations with external apps. Blackboard offers great analytic tools to help you track student performance and identify where they need help, as well as a solid gradebook and several avenues for assessment including tests or assignments. The design of Blackboard's UI makes it conducive to both teaching organizations and learning students but due to its robust nature can be overwhelming at times. Regular updates are typically released, and a large support system comes standard with the platform. (Blackboard, n.d.)

3. **Rippling :** Rippling LMS is part of a complete HR and IT solution designed to help employees develop and thrive.

Rippling's connection with other HR and IT operations, such as payroll, making it ideal for organizations who want to operate everything in one location, such as small and medium-sized firms.

Rippling's user-friendly interface and mobile learning capability allow you to utilize it for course administration, compliance training automation, and hundreds of ready-to-use templates. (Rippling, n.d.)

There are many limitations for the previously mentioned apps, which make them a bit inefficient for users like students or tutors. Firstly, on Canvas and Blackboard there's a limit for uploading files (whether it's a document or a video, etc.), which is not very useful for students with big projects, for example, CS students. Also, Canvas has a problem when giving feedback individually for each student, so teachers use another app to give them feedback on their work.

II. Problem Statement

Because of the increasing demands for remote learning options in the past years, there has been an enormous rise in demand for flexible and accessible education in recent years. Delivering a smooth, user-friendly experience is a major problem for the online learning management systems (LMS) that are now in use. Many platforms have poor scalability and user interface design, which makes it challenging for educational institutions to deliver online courses efficiently, learner face difficulties navigating through inconsistent system structure, lack of interactivity, and poor mobile accessibility. These limitations restrict the potential of online education to offer a flexible, engaging, and personalized learning experience, preventing students from achieving optimal educational outcomes. As institutions are shifting towards digital platforms, the need for more efficient, scalable LMS is necessary.

III. Aims & objectives:

i. Aims:

- **Optimized user experience and scalability:** Design an online learning management system that provides an ideal, intuitive user interface with a consistent system structure, making navigation and accessing the course easier for both students and instructors by ensuring the system can scale effectively as the number of users and courses grows, avoiding any bottlenecks.
- **Mobile compatibility**: Create an adaptive learning system for different devices, which allows students to simply access and interact with course materials at any time and from any location.
- **Highly Interactive and Engaging Learning Environment:** combine features like immediate feedback, interactive multimedia content, and discussion boards to motivate participation and deeper understanding.

ii. Objectives:

- Develop a responsive interface that adapts to different screen sizes and is easy to navigate, minimizing the confusion learners face in current LMS platforms.
- Ensure that course materials and interactive features are accessible offline, empowering students in areas with unstable internet access to continue learning seamlessly.
- Implement a cloud-based infrastructure to accommodate the growing number of users and courses, making sure that the system remains efficient and scalable as demand continues to rise.

In conclusion, learning management systems (LMS) that serve both instructors and students have been made possible by the Internet, which has completely changed the educational landscape. These technologies remove the hurdles associated with traditional classrooms by enabling online course delivery, progress monitoring, and assignment submission. The growing demand for remote learning has brought attention to the necessity for LMS platforms to provide a seamless, intuitive user experience. Nevertheless, a lot of the systems in use today have issues with mobility, UI design, and scalability, which reduces their efficacy. Developing LMS systems that are highly interactive, scalable, mobile-friendly, and optimized for user experience is crucial to addressing these issues. By doing this, we can make sure that online learning is adaptable, interesting, and available to a wider variety of students, allowing them to fulfill their academic objectives.

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