



North South University
Department of Computer and Electrical Engineering

Project Proposal

Online Learning Platform

Database System Lab
CSE311L
Section: 5
Semester: Summer 2024
Group 12

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Submission Date: 9/16/2024

Introduction:

In the modern world, students encounter problems with conventional education such as lack of access or a fixed timeframe. On the other hand, this online educational platform seeks to provide quality education more broadly by making it available when learners demand it. The platform will cover interactive exercises, video instructions, tests and other teaching aids on different topics and levels. Moreover, she is sure that trainees will be able to plan their learning effectively by providing tailored modules with optimum workload and making their unique routes through the program taking their achievements. In addition, there will be forums for discussion, collaboration, and the achievement of guidelines regarding the content on the platform.

Objectives:

1. Flexible learning should be incorporated so it is easy to learn at anyplace and anytime.
2. Let the students proceed on their own and encourage self-taught learning.
3. Show students through the use of online forums and group work the importance of working in teams.
4. Provide a variety of material content including videos and quizzes to ensure students' attention.
5. Measure learning outcome through giving appropriate feedback to the students for them to improve.
6. Provide and facilitate education to pupils who are in regions that are far away or areas that lack proper educational facilities.
7. Develop skills necessary to enable continued learning and hence career growth.

Target Users:

Students: Primary and secondary school and college students interested in the way of education in which they can study conveniently.

Employees: People who are interested in acquiring different skills in order to better their jobs/careers.

Developers: Educationalists looking for a platform where they can design and operate courses.

Self Learners: Who wish to expand their horizons irrespective of academic or professional purposes.

Value Proposition:

The online learning platform offers flexible, self-paced learning that can be accessed anytime, anywhere. It includes diverse learning materials like videos, quizzes, and interactive tools to engage users. With real-time progress tracking and personalized feedback, it helps learners improve efficiently. The platform also fosters collaboration through group discussions and activities. It supports students, professionals, and educators by providing high-quality, accessible education while breaking down geographical and financial barriers, making learning available to all.

Web Application Feature and Description:

1. User Registration and Login System

Feature: Create an account system where students and teachers can sign up and log in.

2. Course Management

Feature: Allow teachers to create and manage courses (e.g., adding course names, descriptions, and categories).

3. Student Enrollment in Courses

Feature: Let students enroll in courses and view the ones they are taking.

4. Tracking Student Progress

Feature: Track the sections of each course a student has completed.

5. Quizzes and Results

Feature: Add quizzes for each course and let students attempt them, with their results being stored.

6. Course Recommendations

Feature: Recommend courses to students based on the ones they've completed or liked.

7. Consultation

Feature: The instructor will be able to share his/her google-meet/zoom link and meeting time .

8. Certifications and Achievements

Feature: Award certificates to students who complete courses.

Use queries to generate a list of completed courses and their corresponding certifications.

9. Search Functionality

Feature: Add a search bar where students can look for courses or instructors.

10. Leaderboards

Feature: Display a leaderboard showing top-performing students based on their quiz scores.

Tools and Resources:

- HTML, Bootstrap
- React.js
- MySQL
- Node.js
- Express.js

Challenges:

Building the online learning platform includes ensuring scalability to handle a large number of users, maintaining data security and user privacy, and delivering a seamless user experience across devices. Additionally, developing a personalized learning path requires advanced algorithms and data management. Engaging users with interactive content, quizzes, and forums demands constant updates and high-quality material. Moreover, providing real-time feedback, collaboration tools, and performance tracking, while supporting users in remote or underserved areas, adds to the platform's complexity.