American International University-Bangladesh

Faculty of Science and Technology

Department of Computer Science

Project Proposal

Course: Software Development Project Management

Project Title: E-Learning Platform Management System

Section: B

Supervised by:

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Software Project Proposal

Date: April 26, 2025

To:

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Introduction

We are a team of dedicated and passionate software developers from Blueridge Software Firm, committed to delivering innovative, efficient, and user-centered digital solutions. Our firm specializes in creating modern educational technologies tailored to meet the growing demands of online learning. With expertise in web development, database management, and user experience design, we strive to transform traditional education models into accessible, engaging, and interactive online platforms. Backed by a strong technical foundation and a collaborative work ethic, our team—comprising Dip Achorjee Shokal, Rangon Kumar Shaha, S.M. Sayed Arifin Omi, and Foyjunnesa Mishkat—aims to empower institutions by offering reliable, scalable, and future-ready software solutions. With diverse skills in software engineering, user interface design, and project management, we aim to create innovative solutions that address modern educational challenges. In this proposal, we present a comprehensive plan for developing an E-Learning Management System, a robust digital platform to support online and blended education models in academic institutions.

Proposal

Overview of the Proposed System

The E-Learning Management System is a full-scale web-based application designed to modernize and simplify the educational experience by integrating online teaching, learning, and management into one centralized platform. This system will act as a digital bridge between educators and learners, providing a structured and interactive environment that is accessible from anywhere in the world, at any time.

The proposed E-Learning Management System will allow educational institutions to create virtual classrooms where instructors can easily upload course materials, assign tasks, monitor student performance, and facilitate active communication through discussion forums and messaging tools. Students will be able to access courses, view and download learning resources, submit

assignments, participate in quizzes, and track their academic progress through user-friendly dashboards.

Unlike traditional education methods that are limited by physical boundaries, the E-Learning Management System promotes flexibility by offering online access to learning materials and enabling real-time interactions between students and instructors. The platform will provide separate role-based access for administrators, instructors, students, and parents, ensuring each user type experiences the system according to their responsibilities and needs.

Administrators will have full control over managing users, monitoring platform activities, and ensuring the overall integrity of the system. Instructors will focus on content delivery and student evaluation, while students will engage in learning activities and self-assessment. Optionally, parents can log in to view the performance reports of their children, promoting transparency and involvement in the educational journey.

Technologically, the E-Learning Management System will be developed using modern web technologies ensuring security, scalability, and responsiveness. It will be optimized to work on desktops, tablets, and smartphones to support mobile learning trends. The system will also include key features like course management, assignment uploads, online quizzes, grade books, notification systems, and performance analytics to foster a complete and effective learning environment.

In conclusion, the proposed E-Learning Management System will not just facilitate remote education but will also redefine the learning experience by making it more organized, flexible, accessible, and impactful. This project aims to address current educational challenges and set a new standard for digital learning excellence.

Objectives and Sub-Scopes

Main Objective:

- To design and implement a centralized digital platform that facilitates efficient and engaging online learning experiences for students and instructors.

Sub-Objectives:

- Develop a role-based user system for Admins, Instructors, Students, Technical Support Staff and Parents.
- Provide tools for instructors to create and manage course content, assignments, and evaluations.
- Allow students to access resources, participate in discussions, and track their learning progress.

- Implement a notification and announcement system to keep users informed.
- Generate performance analytics and reports.
- Ensure data security, reliability, and scalability of the platform.

Justifications

The demand for flexible, accessible, and efficient learning systems has grown rapidly, especially in the post-pandemic era. Many institutions are now moving toward hybrid or fully online learning environments. Our proposed E-Learning Management System addresses this need by:

- **Enhancing Accessibility:** Students and teachers can access course materials anytime, anywhere.
- **Increasing Efficiency:** Automated grading, notifications, and centralized resource sharing save time.
- **Improving Communication:** Real-time messaging and discussion forums improve teacher-student engagement.
- **Monitoring Progress:** Educators can track student performance and make data-informed decisions.
- **Cost-Effective:** A one-time development and maintenance cost significantly reduces the need for traditional resources.

Stakeholders

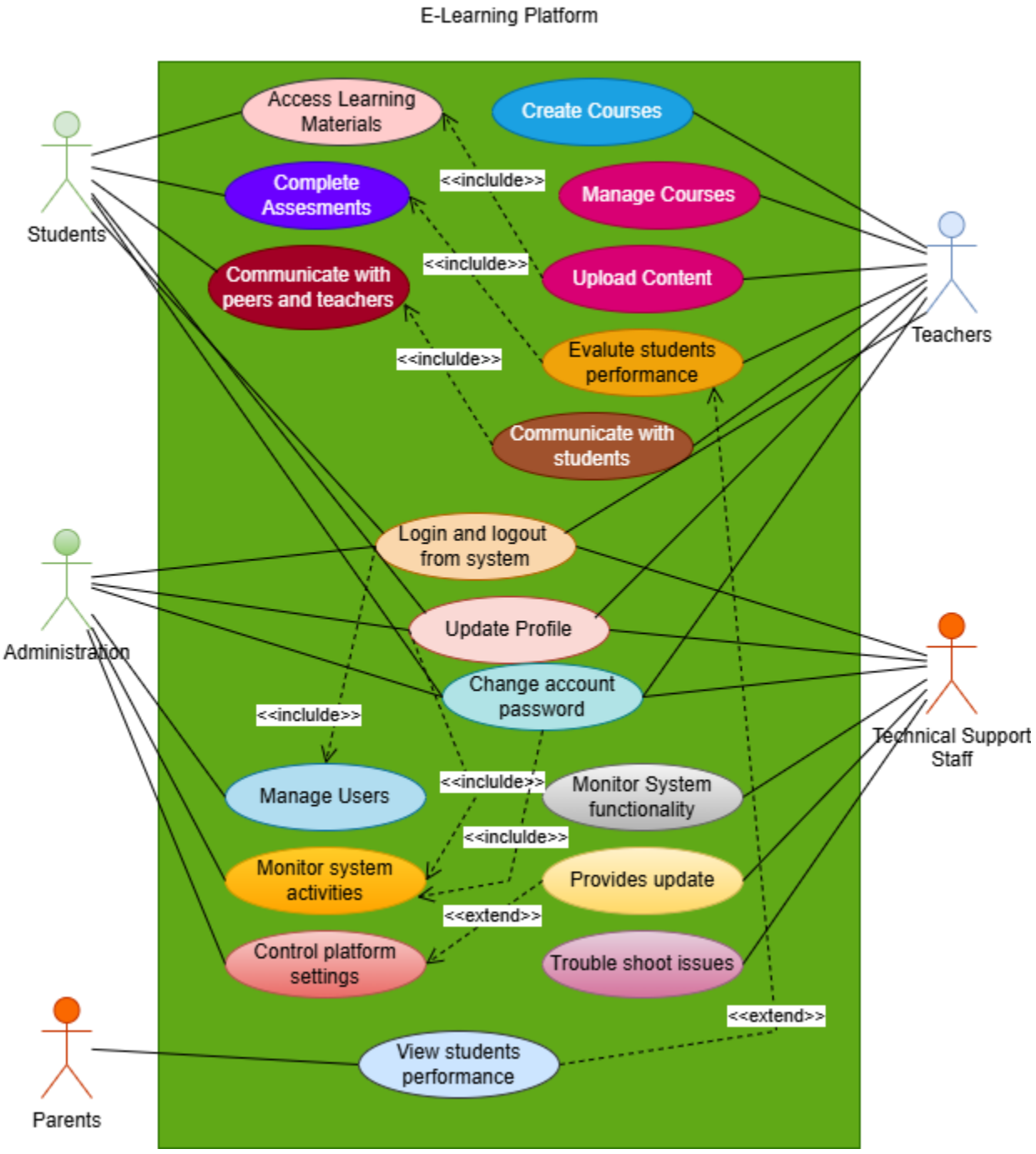
Primary Stakeholders:

- **Teachers:** Create and manage courses, upload content, evaluate student performance.
- **Students:** Access learning materials, complete assessments, and communicate with peers and teachers.

Secondary Stakeholders:

- **Administrators:** Manage users, monitor system activities, and control platform settings.
- **Parents:** View reports on student's academic progress and performance.
- **Technical Support Staff:** Maintain system functionality, provide updates, and troubleshooting issues.

Use Case Diagram of the Proposed System



Scope and Features

The E-Learning Management System (ELMS) is designed to serve as a centralized, web-based educational platform that supports virtual classrooms, content delivery, assessments, and

communication between educators and learners. The project is scoped to include the following core features:

1. Role-Based Authentication System

- Users will register and log in using a secure system.
- Each user will be assigned a role: Administrator, Instructor, Student, or Parent.
- Each role will have different levels of access and control.
    - Admins manage users and system settings.
    - Instructors manage content and assessments.
    - Students access learning resources and submit assignments.
    - Parents (if applicable) can view their child's progress.

2. Course Management

- Instructors can create, update, or delete courses.
- Courses can include multiple modules and lessons.
- Each course will have a title, description, image/icon, and tags for easy search.

3. Learning Material Upload

- Instructors can upload:
    - PDF files
    - Video lectures
    - Slide presentations
    - External links (YouTube, articles, etc.)
- Students can download or stream content directly from the platform.

4. Assignment and Quiz Module

- Instructors can create:

    - Assignments with deadlines
    - Auto-graded or manually graded quizzes
- Students can:
    - Submit written or file-based assignments
    - Attempt quizzes with immediate feedback (if enabled)

5. Student Submission Portal

- Students can upload assignment files directly through their dashboard.
- Submission time is tracked for deadline enforcement.
- Instructors can review and provide feedback or grades.

6. Progress Tracking and Gradebook

- Students can view:
    - Completed vs. pending tasks
    - Grades and feedback
- Instructors can access performance reports and attendance logs.
- Admins can generate analytics for all users.

7. Forums and Messaging System

- Each course includes a discussion forum for collaborative learning.
- A built-in messaging system allows:
    - Student–instructor communication
    - Peer-to-peer chat (optional, can be moderated)

8. Notification and Announcement System

- System sends automatic notifications for:
    - New assignments

    - Deadlines
    - Grades released
    - Forum replies
- Instructors can post course-wide announcements.

9. Responsive and User-Friendly Interface

- Intuitive navigation and dashboard for each user role.
- Fully responsive design for desktops, tablets, and mobile devices.
- Minimal learning curve for non-technical users.

10. Administrative Dashboard

- Admin users can:
    - Monitor system activity
    - View total user count by role
    - Generate usage reports
    - Manage technical and content settings

11. Data Security and Privacy

- Password encryption using industry-standard hashing algorithms.
- User data protection aligned with GDPR-like principles.
- Role-based permission system to prevent unauthorized access.

Optional/Advanced Features (Future Scope)

- Integration with video conferencing tools (e.g., Zoom, Google Meet).
- Mobile app (Android/iOS).
- AI-based learning path suggestions.
- Gamification (badges, points, leaderboards).

Technical Requirements

Operating Systems:

- Windows 10/11
- Linux (Ubuntu)
- macOS (for access and development)
- Android/iOS (for future mobile app support)

Implementing Software Requirements:

- **Frontend:** HTML, CSS, JavaScript (ReactJS)
- **Backend:** PHP / Node.js / Django (Python)
- **Database:** MySQL / PostgreSQL
- **Web Server:** Apache
- **Version Control:** Git & GitHub

Hardware Requirements:

- Server: Minimum 8GB RAM, 4-core CPU, SSD storage (100GB+)
- Client: Any internet-enabled device (PC, tablet, or smartphone)

Human Resource Requirements for Operation

Role	Count	Responsibilities
System Administrator	1	System setup, maintenance, user control
Web Developers	2–3	Design, coding, deployment
UI/UX Designer	1	Interface design and user experience testing
QA Tester	1	Testing and bug reporting
Support Staff	1–2	User support and training

Pricing

Our fee for the entire development of the project, from planning to final deployment, is **4,00,000 BDT**. The breakdown is provided below:

Task	Estimated Cost (BDT)
Requirement Analysis	45,000
System Design	55,000
Frontend Development	1,00,000
Backend Development	1,05,000
Testing & Debugging	60,000
Deployment & Documentation	35,000

Warranty & Limitation of Liability

We offer a **60-day warranty** from the date of deployment. During this period, we will provide free bug fixes and technical support. The warranty covers only technical issues within the scope of the original proposal. Future feature requests or enhancements will be handled through separate agreements.

Contact Us

You can reach out to us through the following channels:

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- **GitHub Repository:** github.com/elearning-project