

## **Project Title:**

Educational Platform for Teachers & Students

## **Purpose:**

The purpose of this project is to develop a digital educational platform that enables instructors to create and manage interactive courses, and allows students to access learning materials, complete assignments, take exams, and track their academic progress. This document outlines the functional and non-functional requirements of the system.

## **Project Scope:**

The platform will support instructors in uploading content, assigning work, grading (with AI assistance), and monitoring student activity. Students can enroll in courses, view lessons, submit assignments, and track their performance. The system will focus on accessibility, security, scalability, and user-friendly design to support quality education for a wide audience.

## **Project Description:**

A digital educational platform allows teachers to create and manage interactive courses, upload video lessons, assign homework, conduct quizzes and exams, and track student performance.

Students can easily enroll in courses, access high-quality learning materials anytime, interact with instructors, and monitor their academic progress. The platform aims to bridge the educational gap using technology, reduce the need for travel, and make quality learning accessible to everyone, everywhere.

## **Functional requirements :**

### **Instructor module**

#### **1. Instructor Registration & Profile Management**

- Sign up using email or phone number.
- Create and update personal profile (name, photo, subjects, qualifications, bio).
- Connect to payment method (bank account or digital wallet). So instructor can determine the payment method

#### **2. Course Creation**

- Create multiple courses.
- Define course title, description, subject and duration.

### **3. Lesson & Content Management**

- Create lessons within each course.
- Upload video lectures
- Upload PDFs, PowerPoint files.
- Reorder, edit, or delete lessons at any time.

### **4. Assignments & Homework**

- Create assignments with essay / true or false / multiple choices or matching questions.
- Set deadlines for submissions.
- Enable students to upload files.
- Grade assignments manually or automatically. ( AI technology will be used for exams correction)

### **5. Exams & Quizzes**

- Create timed quizzes and exams for each lesson or unit.
- Support for MCQs, True/False, and essay-type questions.
- Automatic or manual grading. ( AI technology will be used for exams correction)
- Display results upon submission.

### **6. Revisions & Final Reviews**

- Upload recorded revision videos or files.
- Schedule live review sessions before exams.
- Upload pdfs

### **7. Student Communication**

- Respond to student questions under each lesson.

### **8. Dashboard**

- View total enrolled students.
- Monitor lesson views and student engagement.
- View assignment and quiz completion rates.

## **Student Module**

### **1. Student Registration & Profile**

- Sign up using email or phone number.
- Create and update personal profile (name, grade level, profile picture, etc.).

### **2. Course Enrollment**

- Browse available courses by subject, teacher, or grade level.
- View course details including syllabus, teacher info, and pricing.
- Subscribe to courses through monthly payment.

### **3. Lesson Access & Learning Materials**

- Access lessons within each course.
- Stream video lectures 5 times maximum.
- View or download supporting materials (PDFs).

### **4. Assignments & Homework**

- Receive assignments with submission deadlines.
- Submit text answers or upload files for homework.  
(How ever the teacher likes the submission method)
- View grades and teacher feedback after review.

### **5. Exams & Quizzes**

- Take quizzes and exams set by the instructor.
- Answer MCQs, True/False, essay and multiple choices questions.
- See scores
- Track performance history over time.

### **6. Revisions & Live Sessions**

Access recorded revision sessions.

### **7. Communication with Instructor**

- Comment under lessons to ask questions.
- Receive replies or clarifications from instructors.

## 8. Dashboard

- Track completed lessons, assignments, and exams.
- View progress within each course.
- Monitor grades

## Non functional requirements :

- **Content Security:** Secure all uploaded materials to prevent downloading or unauthorized use.
- **Performance :** Video streaming must support adaptive quality for different internet speeds.
- **Reliability & Availability**
  1. The platform should be always available and accessible for users.
  2. It should offer **automatic recovery** from server failures or crashes.
  3. Daily backups must be taken to prevent data loss
- **Usability :** The user interface should be intuitive and user-friendly for all age groups.

## Technologies & Tools

- **Frontend:** Angular and Bootstrap framework
- **Backend:** .Net mvc core,API, Entity Framework Core and LINQ
- **Database:** Microsoft SQL Server