The Islamia University of Bahawalpur

(Project Proposal)

By

Student Name: Marab Shahzad

Roll No: F22BINFT1M01153

Session: 2022 – 2026

Supervisor: Sir Muzammil Ur Rehman

Bachelor of Science in Information Technology

Project Title

Virtual Classroom: An Online Education Platform

1. Introduction

With the rise of digital education, traditional learning methods face challenges in accessibility and engagement. Virtual Classroom aims to provide a smart, user-friendly platform that integrates online teaching, learning resources, and student management into one system.

2. Problem Statement

Many institutions struggle with managing online classes, assignments, and assessments in one place. Existing systems are often complex or costly. This project solves that by offering a simple, scalable, and efficient learning management solution.

3. Objectives

- Develop a responsive LMS for students, teachers, and admins.
- Enable course creation, online classes, assignments, and grading.
- Provide secure authentication and role-based access.
- Ensure smooth performance across devices.

4. Scope

- **Teachers:** Manage courses, upload materials, evaluate students.
- **Students:** Access courses, submit assignments, view grades.
- **Admins:** Oversee user activity and generate reports.

5. Methodology

The project follows an **Iterative and Incremental Development Model**, improving the system through continuous testing and feedback.

Key Steps:

1. Gather user requirements from students, teachers, and admins.
2. Design a simple and responsive system architecture and UI.
3. Develop the frontend using **React.js** and backend with **Node.js/Express**.
4. Integrate the **MongoDB/MySQL** database for secure data management.
5. Test functionality, usability, and performance iteratively.
6. Deploy the application and prepare final documentation.

6. Tools & Technologies

React.js • Node.js • Express.js • MongoDB/MySQL • TailwindCSS • GitHub • Postman • Vercel/Render

7. Timeline

[Phase]	[Task]	[Duration]
Phase 1	Requirement Analysis	2 Weeks
Phase 2	System Design	2 Weeks
Phase 3	Frontend Development	4 Weeks
Phase 4	Backend & Database	3 Weeks
Phase 5	Testing	2 Weeks
Phase 6	Documentation	1 Week