

3. VNIT Learning Management System

Problem Statement

Develop an integrated online portal where professors and academic representatives from all departments at VNIT can upload and manage study materials for students. Students should be able to access all the uploaded materials in an organized and user-friendly manner to enhance their learning experience.

The portal aims to serve as a centralized platform for academic resources, promoting accessibility, collaboration, and interactive learning among students and faculty.

Sub Problems

- **Disorganized Study Resources:**
Materials are scattered across Google Drive, WhatsApp, and email, making access difficult and time-consuming.
- **No Centralized Platform:**
Lack of a unified system for all departments leads to inefficiency and unequal access to academic resources.
- **Limited Interaction and Doubt Resolution:**
Students lack a structured, moderated space for discussions or resolving academic doubts.
- **No Progress Tracking Tools:**
Students can't monitor their learning progress, and professors can't assess engagement or assign tasks effectively.
- **Lack of Secure Management System:**
Absence of verified logins and role-based access causes risks of unauthorized use and poor content control.

Project Goal

To design and develop a centralized digital learning platform for VNIT that seamlessly connects professors, academic representatives, and students across all departments. The portal aims to simplify the management and accessibility of study materials, promote interactive and self-paced learning, and foster academic collaboration through features like course-based discussion forums, progress tracking, and AI-assisted doubt resolution.

Core Features & Modules

1) Admin Panel:

- The admin should be able to log in using authorized credentials.
- Admins should be able to upload, update, and categorize study materials (e.g., notes, videos, presentations, question banks) according to department and subject.
- Admins should also be able to manage professor and student accounts if necessary.

2) Student Panel:

- Students should be able to browse and access all available study materials uploaded on the portal.
- The interface should allow easy navigation through subjects, topics, and departments.

Bonus Features

1. Student Progress Tracking:

- Students should be able to enroll in courses and track their learning progress through completion metrics or module-based tracking.

2. Student Competitions:

- Students enrolled in the same course should be able to compete in a friendly manner to gauge performance.
- Competitions may include quizzes, challenges, or leaderboard-based rankings based on course progress and activity.

3. Professor Dashboard:

- Professors should be able to view the progress of students enrolled in their courses.
- They should also be able to assign additional tasks, quizzes, or assignments to enhance engagement and learning outcomes.

4. Doubt Resolver:

- Implement a fine-tuned AI chatbot capable of answering common student queries related to the course content.
- The chatbot should provide instant assistance and guide students to relevant study materials or resources.

5. Course-Based Discussion Forum

- For each course, implement a common group chat or discussion forum where students can post their doubts or questions.
- Other students or professors can respond, discuss, and collaborate to resolve queries, encouraging peer-to-peer learning and active participation.