



A Project Proposal on UniShareSync

UniShareSync: A Centralized University Collaboration and Management Platform

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Introduction:

In today's digital era, higher education institutions are increasingly dependent on technology to support communication, collaboration, and learning. However, most universities still lack a unified digital platform that connects students, faculty, and administrative activities effectively. Instead, various disjointed tools are used for academic materials, event updates, project coordination, and routine management, creating inefficiencies and reducing engagement. This project, UniShareSync, seeks to address these challenges by developing an all-in-one web-based solution that centralizes academic and non-academic interactions into a single structured system. Through this platform, the project aims to strengthen collaboration, foster community engagement, and streamline academic workflow for a more connected university experience.

Problem Statement:

University students and faculty face significant challenges in managing academic resources, collaboration, and campus activities due to the lack of a centralized platform for sharing course-specific notes and resources, which leads to scattered materials and inefficient access. Ineffective communication and collaboration tools for group projects, coupled with limited real-time updates and role-based notifications, hinder productivity. Additionally, difficulty in accessing campus-wide information, such as club activities, event schedules, lost and found items, and academic routines, along with the absence of a secure, anonymous channel for feedback and suggestions, results in missed engagement opportunities and a fragmented university experience.

Proposed Solution:

UniShareSync proposes a modern, comprehensive, and interactive platform built using the MERN stack (MongoDB, Express.js, React.js, Node.js). The system integrates academic and extracurricular modules under one interface, allowing seamless interaction between students, teachers, and administrators.

It will support course-wise note sharing, advanced resource searches, team project tools, announcements, routine management, and automatic schedule conflict detection. Furthermore, it will feature a Clubs and Events hub, a Lost & Found section, and an Anonymous Feedback Box promoting better communication, transparency, and participation across the university. By merging academic and social digital spaces, the platform will create a holistic and engaging university experience.

Feature List:

1. **Course-wise Resource Sharing:** Upload and download academic materials based on course, subject, or tags.
2. **Smart Resource Search:** Quick, filtered access to study materials using keywords or uploader names.
3. **Project Collaboration Tools:** Shared spaces for group projects, document management, and progress tracking.
4. **Role-Based Notifications:** Customized alerts for students, faculty, and admins.
5. **Lost & Found Portal:** Centralized place for reporting and finding lost campus items.
6. **Clubs and Events Hub:** Access to club activities, upcoming events, and registration options.
7. **Routine and Academic Scheduler:** Automatically detects and resolves scheduling conflicts.
8. **Anonymous Feedback & Suggestion Box:** Secure feature for open and private communication.

Expected Tech Stack:

Component	Technology	Description
Frontend	React.js	For building an intuitive and interactive UI.
Backend	Node.js with Express.js	For building RESTful APIs and managing backend logic.
Database	MongoDB	For efficiently storing flexible, document-based data.
Authentication	JSON Web Token (JWT)	For secure login and role-based access control.
Cloud Storage	AWS S3 / Firebase Storage	For storing uploaded resources and media files.
Real-Time Notifications	WebSocket / Firebase Cloud Messaging	For instant updates on announcements and uploads.
Deployment	Vercel / Netlify	For online deployment and project accessibility.

Conclusion:

UniShareSync is envisioned as a comprehensive digital ecosystem for universities that unifies academic, social, and administrative operations under one smart platform. By streamlining access to resources, improving communication, and fostering collaboration, the system will enhance transparency and efficiency in everyday university activities. Developed using the powerful MERN stack, the project also serves as a practical application of modern web development principles and real-world problem-solving in the academic context.