EchoCampus

Meet. Learn. Build.

1. Project Objective & Problem Statement

New students often struggle to connect with peers, access essential information, and stay informed about campus activities. **EchoCampus** addresses these challenges by creating a unified digital platform where students, faculty, and administrators can seamlessly connect and collaborate.

2. Project Overview

EchoCampus is a student-centered platform designed to simplify campus life and foster meaningful connections. Through an integrated digital ecosystem, the platform helps students connect, collaborate, and stay informed about everything happening on campus.

3. Key Features

- 📣 Announcements
  Keep the campus community engaged and informed with curated lists of upcoming events, hackathons, and campus festivals.
- 💬 Anonymous Chat
  Enable open, judgment-free communication among students. This feature encourages honest discussions and peer support while maintaining user privacy.
- ⚖️ **Complaint System**
  - Students can anonymously report campus-related issues.
  - Peer-driven visibility through an upvoting mechanism.
  - Student-only posting ensures authentic, peer-generated feedback.
- 👥 Faculty Directory
  Quick access to comprehensive faculty information including names, experience, office locations, and contact details.
- 🔍 Lost & Found
  A dedicated section for reporting and recovering lost items such as earphones, ID cards, wallets, and other personal belongings.
- 🛒 Marketplace
  A secure platform for students to buy, sell, or exchange items within the campus community, fostering a sustainable sharing economy.

4. Technology Stack

Component	Technology
Frontend	Mochaa AI + Google Gemini

Backend	Next.js (built-in)
Database	Supabase
Real-time Chat	Firebase
Authentication	SupaAuth

5. Core Infrastructure & Implementation

Architecture & Security

- ✅ **Layout Structure:** Organized three-tier layout (app, auth, main).
- ✅ **Authentication:** Credential-based login with role-based access control (students vs. faculty).
- ✅ **Security:** Route protection via ProtectedRoute wrapper and comprehensive security policies.

User Identity

- ✅ **Profile System:** Permanent "Random Name" assigned at first login.
- ✅ **Privacy:** Unique identity generation and persistent session codes.

Module Specifics

- **Faculty Directory:** Card-based display with advanced filtering and search.
- **Communication:** Text-based chat with privacy identifiers; complaint_box and complaint_upvote tables for feedback.
- **Marketplace:** Item listings with strict 20-word description limits and "Mark as Sold" functionality.
- **Lost & Found:** Supports image uploads, location tags, and contact fields.
- **Announcements:** Faculty-exclusive publishing rights with read-only access for students.

Rate Limiting

- ✅ **Automated Enforcement:** Database triggers and functions prevent spam and ensure fair usage.

6. Usage Limits

To ensure fair platform usage and prevent spam, the following restrictions apply:

Feature	Limit
Complaints	1 per week
Marketplace	1 listing every 3 days
Lost & Found	2 posts per day

Mission Statement

EchoCampus aims to build a connected, collaborative, and resourceful student community—helping every learner meet, learn, and build together.

EchoCampus — *Building a more connected campus, one interaction at a time.*