AI FUSION

Hackathon 2026

Problem Statement

"Project Nexus"

Building the Ultimate Campus Super-App

Innovate Integrate Transform

Where AI meets everyday campus life

Think beyond features. Build an ecosystem.

Contents

1 The Challenge: Project Nexus

Build a unified, full-stack **"Campus Super-App"** that integrates the chaotic fragments of college life into a single, seamless cockpit. Your challenge is to create an intelligent, interconnected platform that leverages modern development practices and **AI/ML capabilities** to transform how students experience campus life.

What is Project Nexus?

Nexus — a connection or series of connections linking multiple elements. Your mission is to identify the disconnected pieces of student life and weave them into an intelligent, cohesive digital ecosystem. The app you build should feel less like a collection of features and more like a unified nervous system for campus living.

Core Philosophy: Don't just digitize existing processes — reimagine them. Use AI/ML not as decoration, but as the intelligence that makes your app anticipate needs, reduce friction, and create delightful experiences.

2 Core Pillars (The Must-Haves)

To qualify for evaluation, your prototype must demonstrate **functional integration** across these four foundational modules. However, how you implement them, what additional layers you add, and how intelligently they interact is entirely up to you.

2.1 1. The Daily Pulse

Real-time campus information at your fingertips

2.1.1 Live Mess Menu

- Dynamic daily meal display
- Consider: nutritional tracking, dietary filters, crowd-sourced ratings, allergen warnings, meal popularity trends, prediction of mess crowd levels, personalized recommendations

2.1.2 Mail Summarizer [AI/ML Required]

- AI-assisted parsing of lengthy college-wide emails
- Extract and convert to one-sentence action items or notices
- Consider: NLP for categorization (academic/events/urgent), priority scoring, sentiment analysis, personalized relevance ranking, smart spam filtering, searchable archives, deadline extraction

2.1.3 Beyond the Basics

Think about: campus announcements aggregator, event countdowns, emergency alerts, weather integration, utility status (WiFi/power), real-time notifications, personalized news feeds

2.2 2. The Student Exchange

Your campus marketplace and collaboration hub

2.2.1 Lost & Found

- Report missing items and found items
- Consider: image upload with AI object recognition, location-based matching, smart notifications when items align, ML-based duplicate detection, reward systems, category tagging, timestamp tracking

2.2.2 Buy/Sell Marketplace

- Unified platform for textbooks, electronics, furniture, cycles, etc.
- Consider: price recommendation engines, image-based condition assessment, negotiation interfaces, rating systems, wishlists, price alerts, semester-end bulk deals, user verification, historical data analysis

2.2.3 Travel Sharing (Cab-Pool Coordinator)

- Match students traveling to common destinations (Chandigarh/Delhi/etc.)
- List departure times and find co-passengers
- Consider: cost-splitting calculators, route optimization, driver/passenger ratings, real-time tracking, recurring trip scheduling, carbon footprint tracking, safety features, emergency contacts

2.2.4 Expand the Exchange

Think about: skill exchange platforms, peer tutoring marketplaces, service bartering, group-buy coordinators for bulk discounts, shared subscription management, equipment/book rentals

2.3 3. The Explorer's Guide

Discover and navigate your local ecosystem

2.3.1 Nearby Hub

- Curated directory of Rupnagar/Ropar attractions, eateries, and hidden spots
- User-rated "vibes" and reviews
- Consider: AI-powered recommendation engines, trending algorithms, "vibe" tags (study-friendly/date-spot/budget), photo galleries, student discount tracking, distance calculations, operating hours, crowd predictions

2.3.2 Navigate Smarter

Think about: interactive campus maps with AR navigation, building/room finders, accessibility routing, real-time crowd density, event discovery engines, transportation hubs, bus tracking, auto-fare estimators, bike rental availability

2.4 4. The Academic Cockpit

Your command center for academic success

2.4.1 Live Timetable

- Customizable personal schedule
- Real-time updates for class cancellations and room changes
- Consider: multi-semester views, exam countdowns, free period finders, conflict detection, calendar exports, professor office hours, classroom occupancy status, smart reminders

2.4.2 LMS Lite (Learning Management System)

- Portal for instructors to post assignments
- Students can view grades and submissions
- Consider: assignment submission tracking, GPA calculators, performance analytics with visualizations, course material repositories, announcement boards, achievement badges, peer comparison (anonymized), deadline calendars

2.4.3 Academic Intelligence

Think about: AI study schedule generators, exam preparation timelines, topic difficulty prediction, study group matchers, flashcard generators from notes, quiz creators, resource libraries, past paper archives, academic planners, credit trackers, prerequisite checkers

3 Beyond the Pillars: Open-Ended Innovation

The four core modules are your **foundation**, not your **ceiling**. The best projects will identify unique pain points and create intelligent solutions. Here are domains to explore — but don't limit yourself to these:

3.1 AI/ML Enhancement Opportunities

- **Conversational Interfaces:** Chatbots for app navigation, voice commands
- **Predictive Analytics:** Course difficulty prediction, optimal study time suggestions, grade forecasting
- **Computer Vision:** Document scanning, handwriting recognition, automatic note digitization
- **Sentiment & Behavior Analysis:** Campus mood tracking, personalization engines
- **Recommendation Systems:** Content personalization across all modules
- **Anomaly Detection:** Identify spam, price manipulation, unusual patterns
- **Natural Language Generation:** Auto-summarization, report generation

3.2 Social & Community Features

Student networking, club directories, discussion forums, mentorship matching, polling systems, gamification (achievements/leaderboards), group chats, ephemeral stories

3.3 Wellness & Lifestyle

Mental health resources, fitness tracking, workout partner matching, sleep optimization, meditation reminders, sports coordination

3.4 Administrative Integration

Fee tracking, library integration (book reservations), digital ID cards, attendance analytics, leave applications, scholarship deadline trackers

3.5 Utility Features

Laundry trackers, printer locators, power backup alerts, water schedules, maintenance requests, night canteen ordering, hostel amenity management

3.6 Safety & Security

Emergency SOS, safe walk companions, security contacts, anonymous reporting for harassment/discrimination, attendance-based safety check-ins

3.7 Smart Integrations

Calendar sync (Google/Outlook), payment gateways, push notifications, cloud storage, third-party APIs (maps/weather/transport), IoT device controls

3.8 Data & Analytics

Personal activity dashboards, campus insights (anonymized trends), usage statistics, data export features, granular privacy controls

3.9 Accessibility & Inclusivity

Multi-language support, dark mode, text-to-speech, dyslexia-friendly fonts, offline functionality for critical features

4 Technical Requirements

- **Full-Stack Implementation:** Frontend + Backend + Database
- **Minimum 2 AI/ML Components:** Must include Mail Summarizer + at least one other intelligent feature
- **Real-time Functionality:** At least one feature with live updates/notifications
- **Authentication & Authorization:** Secure user login with role management
- **Responsive Design:** Functional on both mobile and desktop
- **API Documentation:** Clear, well-documented endpoints
- **Data Privacy:** Implement responsible data handling practices
- **Version Control:** Code hosted on Git repository

5 Submission Deliverables

5.1 Required Artifacts

1. **Working Prototype** : Deployed application with demo credentials. One working feature is better than 5 non-working features.
2. **Source Code** : Public GitHub repository
3. **Documentation** : A comprehensive README along with repository of working features.
4. **Demo Video** — This is optional but if you want to showcase working features for ease of evaluation.

6 Design Philosophy & Tips

Think Ecosystem, Not Features
Don't build isolated modules. Create connections:

- Can your mess menu connect to health tracking?
- Can timetable data inform study group matching?
- Can travel sharing integrate with event discovery?
- Can marketplace behavior predict student needs?

Use AI/ML Intelligently
Machine learning should solve real problems, not check boxes:

- Predictive, not just reactive features
- Reduce cognitive load for users
- Automate tedious tasks
- Surface insights from data
- Personalize experiences meaningfully

Project Nexus is not just about building a website.

It's about understanding the intricate web of student life and using technology, especially AI/ML to make it **simpler, smarter, and more connected**.

The elements we've outlined are *starting points*. The white spaces between them? That's where innovation happens.

Think holistically. Build intelligently. Create something you'd use every single day.

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May the best fusion of AI and development win!