



Mindrix



Topic: AI powered campus automation

Team: Matrix

S.no	Name	Role	Department	Sec
1	Mohammed Faisar A	Firebase & Backend	B.Tech-IT	III year - B
2	Ram Kumar R	AI integration & Backend	B.Tech-IT	III year - B
3	Hariharan A	UI/UX	B.Tech-IT	III year - B





Challenges:

- Manual class/lab scheduling leads to time conflicts, room overbooking, and delays.
- Exam seating lacks fairness, students from the same section often sit together.
- Doubt clarification lacks personalization—students rely on generic bots or delayed faculty replies
- Complaint and feedback systems discourage students due to fear of identity exposure.
- Notifications about changes are either delayed or missing entirely.



Objective:

- Automate classroom/lab bookings using availability & faculty input.
- Ensure dynamic and fair exam seating with gender and section logic.
- Trigger automated notifications via n8n to stakeholders
- Build a syllabus-trained doubt-solving chatbot using LLaMA..
- Enable anonymous student complaints via blockchain to ensure privacy and trust.





Existing Solutions –Limitations



Current Institutional Tools - Limitations:

- Use traditional spreadsheets or portals without dynamic scheduling.
- Exam seat allotment is done manually or with basic tools — often unfair or repetitive.
- Bots like ChatGPT aren't trained on specific class content or notes.
- Complaint boxes or portals are traceable, discouraging sensitive feedback.
- Manual communication leads to late awareness about scheduling changes





Proposed Solution:

- **Use Automated Class/Lab Allocation:** Based on real-time room availability, request time, and course schedule
- **Exam Seating Logic:** Uses advanced logic to ensure no two students from the same section/gender sit together.
- **AI Notes Bot:** Built using LLaMA and hosted via Groq; trained on uploaded notes, syllabus, and materials.
- **Anonymous Complaint System:** Uses blockchain smart contracts to submit encrypted, identity-free complaints
- **n8n Email Automation:** Sends email notifications automatically to faculty, HOD, or students when schedules are updated.



Feature	Existing System	Mindrix
Class/Lab Scheduling	Manual / Static	Automated with conflict handling via Firestore
Exam Seating Arrangement	Repetitive, Section Overlap	Intelligent layout, section separation logic
Doubt Clarification	Google/ChatGPT (general purpose)	Notes-trained AI bot via LLaMA
Complaint Mechanism	Identifiable, fear of backlash	Blockchain-based, anonymous and secure
Notifications	Manual, Delayed	Real-time via n8n workflows
Data Auditability	None	Blockchain smart contracts provide verifiability



Main & Salient Features:



- **Real-Time Email Notifications** – Sends instant updates to users through n8n email automation.
- **AI-Powered Doubt Solving Chatbot** – Answers student queries using LLaMA trained on notes and syllabus.
- **Automated Classroom and Lab Allocation** – Assigns rooms based on real-time availability and faculty requests.
- **Role-Based Access Control** – Provides different access for students, faculty, HODs, and admin roles.
- **Blockchain-Based Anonymous Complaints** – Enables secure, private complaint submission via blockchain
- **Scalable Modular Design** – Easily extendable for future features like attendance or reports.





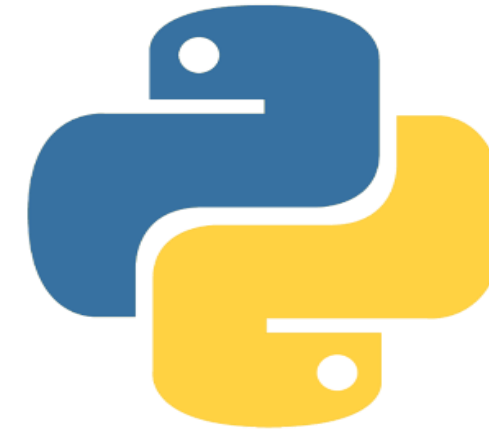
Technical Stack:



HTML



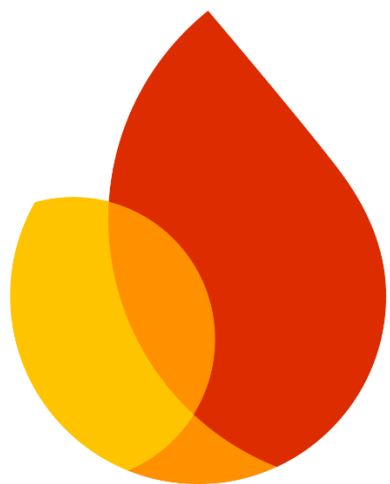
CSS



Python



Flask



Firebase



Llama 3.3-70b



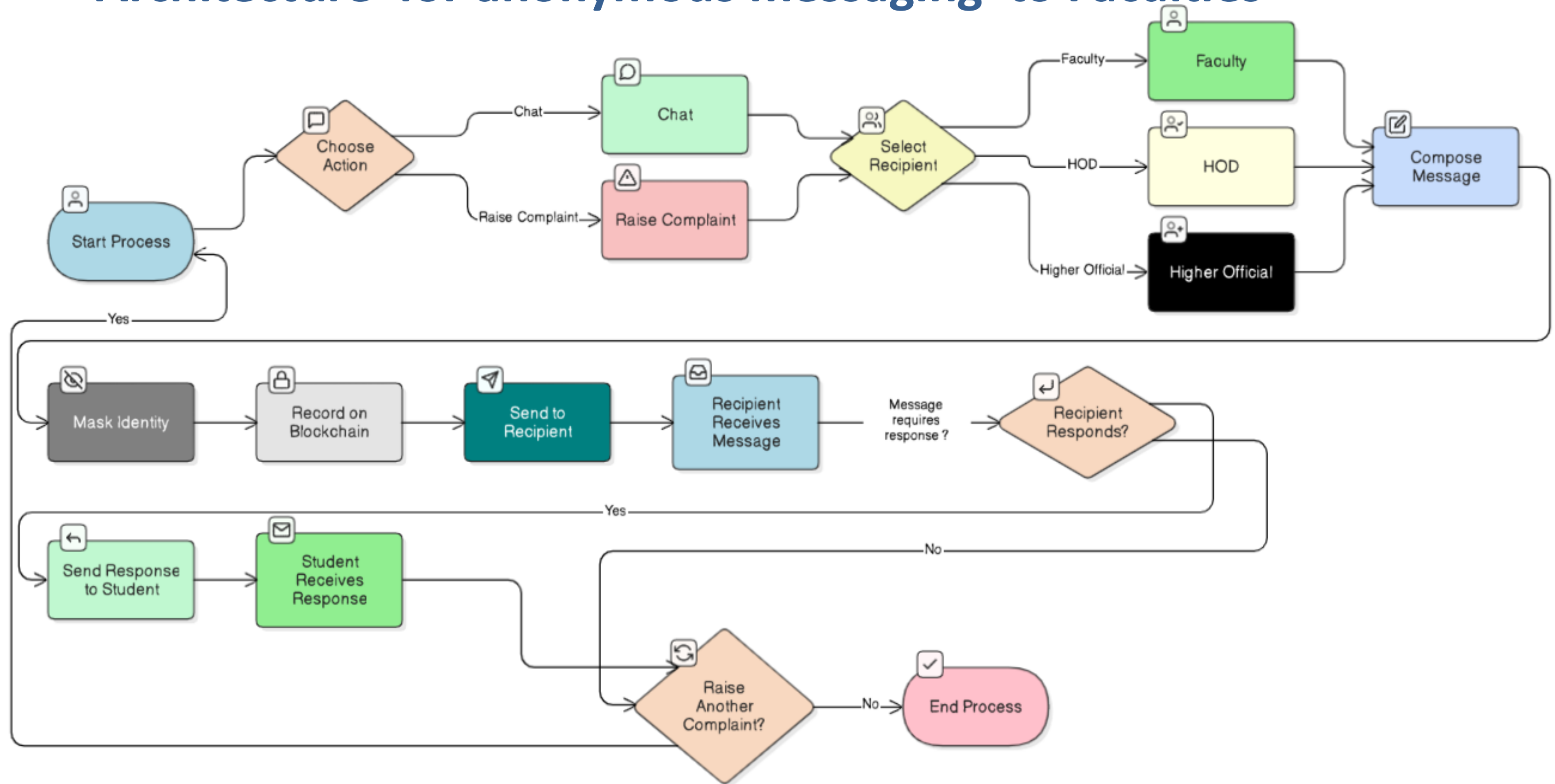
n8n



Multichain



Architecture for anonymous messaging to Faculties





Benefits:

- Saves administrative effort by reducing manual work.
- Builds student trust with transparent & secure communication.
- Improves academic integrity with smart seating logic
- Real-time notifications reduce miscommunication.

Use Cases:

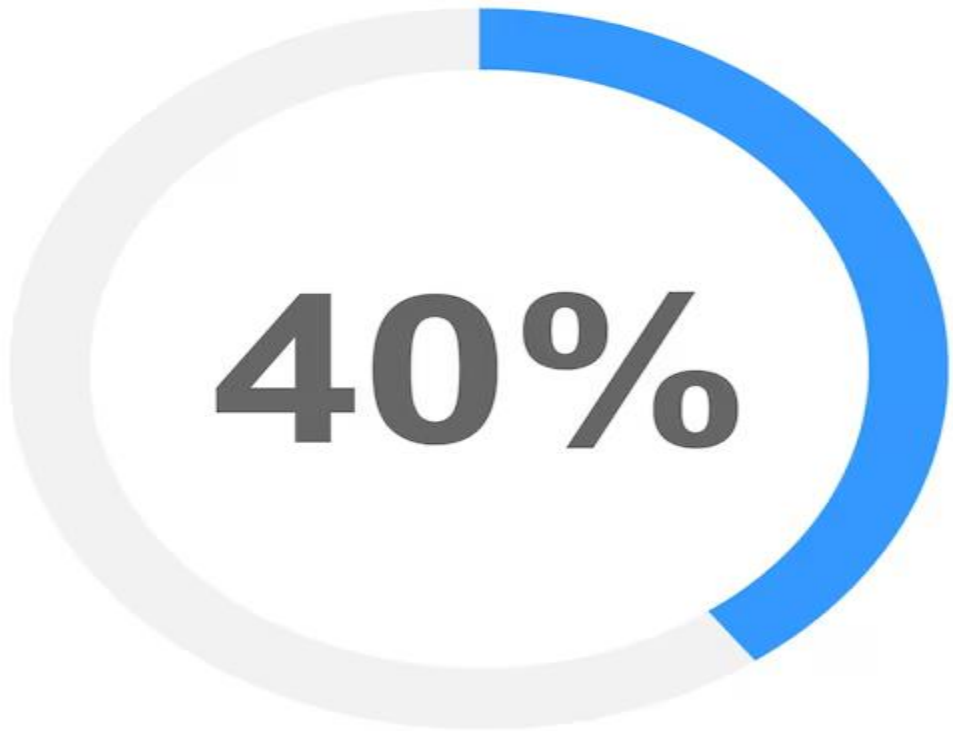
- University campuses for exam and class scheduling..
- Coaching centers managing multiple batches
- Schools needing anonymous grievance redressal systems.
- Online/Hybrid learning models that want smarter student engagement






Project progress:

- Front –end development →



 **EduManage**

Dashboard


Room Allocation

Exam Seating

Notes & AI Chat

Anonymous Chat

Settings

 **Anonymous Communication**

Secure blockchain-based messaging system

Recipient


Select Recipient

Category

Select Category

Message

Type your message here... Your identity will remain completely anonymous.

 **Privacy Guaranteed**

This message is encrypted and stored on blockchain. Your identity cannot be traced back to this communication.

Send Anonymous Message

Track your anonymous submissions

#ANC001

Academic Issue

Under Review


2 hours ago

#ANC002

Infrastructure

Resolved

1 day ago


 Your concern has been addressed. Thank you for bringing this to our attention.

#ANC003

Administrative

In Progress

3 days ago

 **How it works**

• Messages are encrypted with blockchain technology

• Each submission gets a unique tracking ID


• Responses are posted anonymously to this portal

• No personal data is ever stored or linked





Screenshots of our project

 **EduManage**

Dashboard


Room Allocation


Exam Seating


Notes & AI Chat


Anonymous Chat

Settings


 Active Bookings
24


 Available Rooms
12


 Pending Requests
8


 Active Complaints
3

Quick Actions


 Book Room/Lab >


 Create Seating Plan >


 Upload Notes >

 Anonymous Message >

Recent Bookings

 Lab A-101
9:00 AM - 11:00 AM
confirmed

 Classroom B-205
2:00 PM - 4:00 PM
pending

 Lab C-301
10:00 AM - 12:00 PM
confirmed



Screenshots of our project

PAGE 12



Conclusion:

Mindritx introduces a **revolutionary shift** in how academic institutions manage operations. It goes beyond digital forms— **AI-driven learning support, automated infrastructure use, and blockchain-backed student voice protection**

We are not just automating tasks.

We are empowering **institutions to be smarter**, and **students to feel safer**





References:



- **Firestore:** <https://firebase.google.com/docs>
- **Flask:** <https://flask.palletsprojects.com>
- **Meta AI LLaMA Research:** <https://ai.meta.com/llama>
- **Groq :** www.groq.com.
- **n8n Docs:** <https://docs.n8n.io>
- **Firestore Database Docs:** <https://firebase.google.com/docs/firestore>



Thank you

