GENAI HACKATHON

Smart Campus Platform 🎓
A next-gen AI-powered campus management platform

The Smart Campus Platform revolutionizes education by using AI-driven face recognition and productivity insights to enhance student performance, streamline faculty tasks, and empower institutions with data-driven efficiency and engagement.

Problem Statement

Traditional campus management systems face:

- Lack of AI-driven insights & automation
- Outdated designs & poor user experience
- Manual attendance & fragmented analytics
- Difficulty in scaling for large institutions

Proposed Solution

Smart Campus Platform integrates AI, analytics, and automation:

- Role-based dashboards for Students, Faculty & Admins

- Facial recognition for instant attendance

- AI productivity nudges during free periods

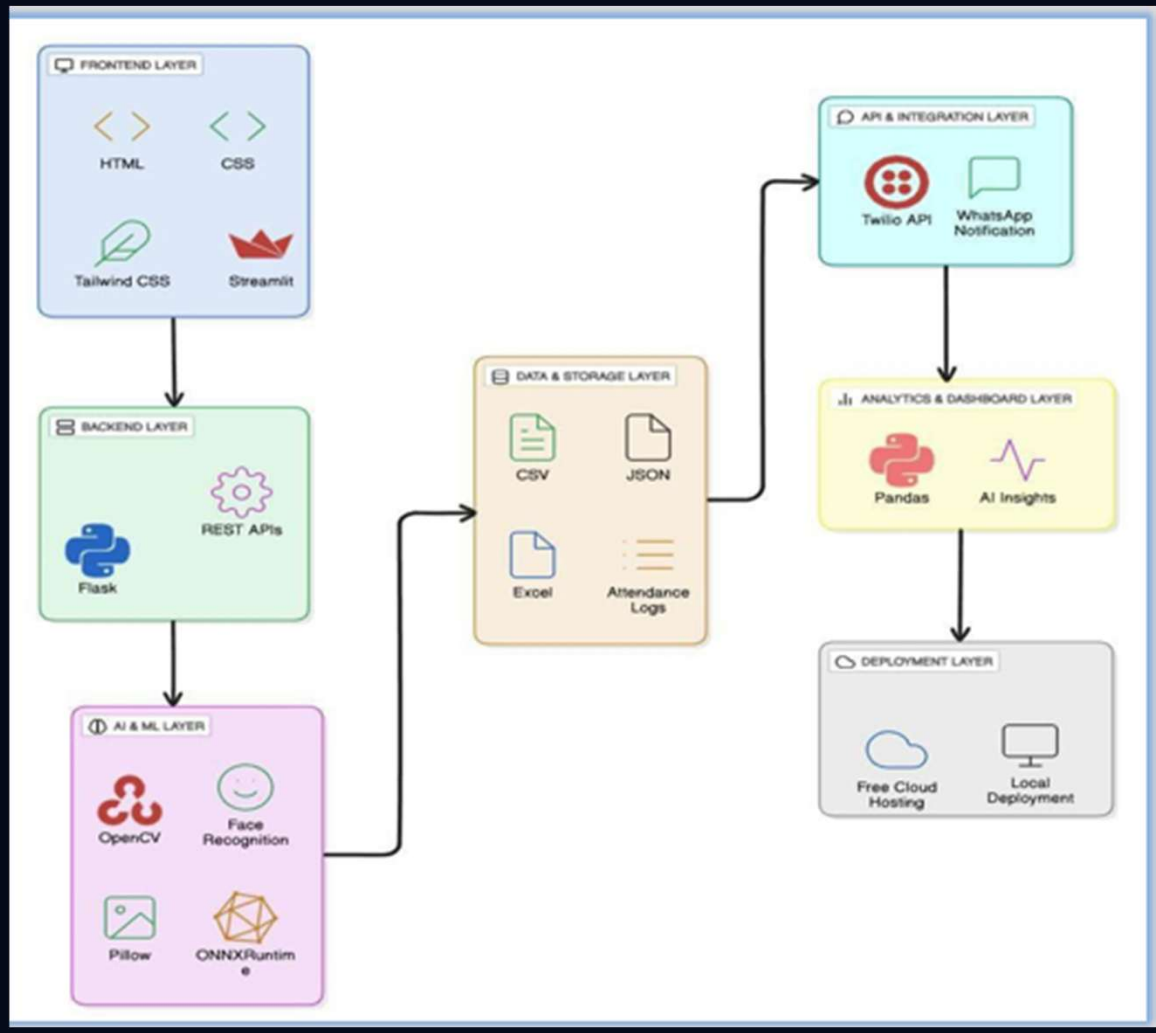
- Real-time analytics and institutional insights

Technology Stack

Backend
- Python, Flask, face_recognition, Numpy

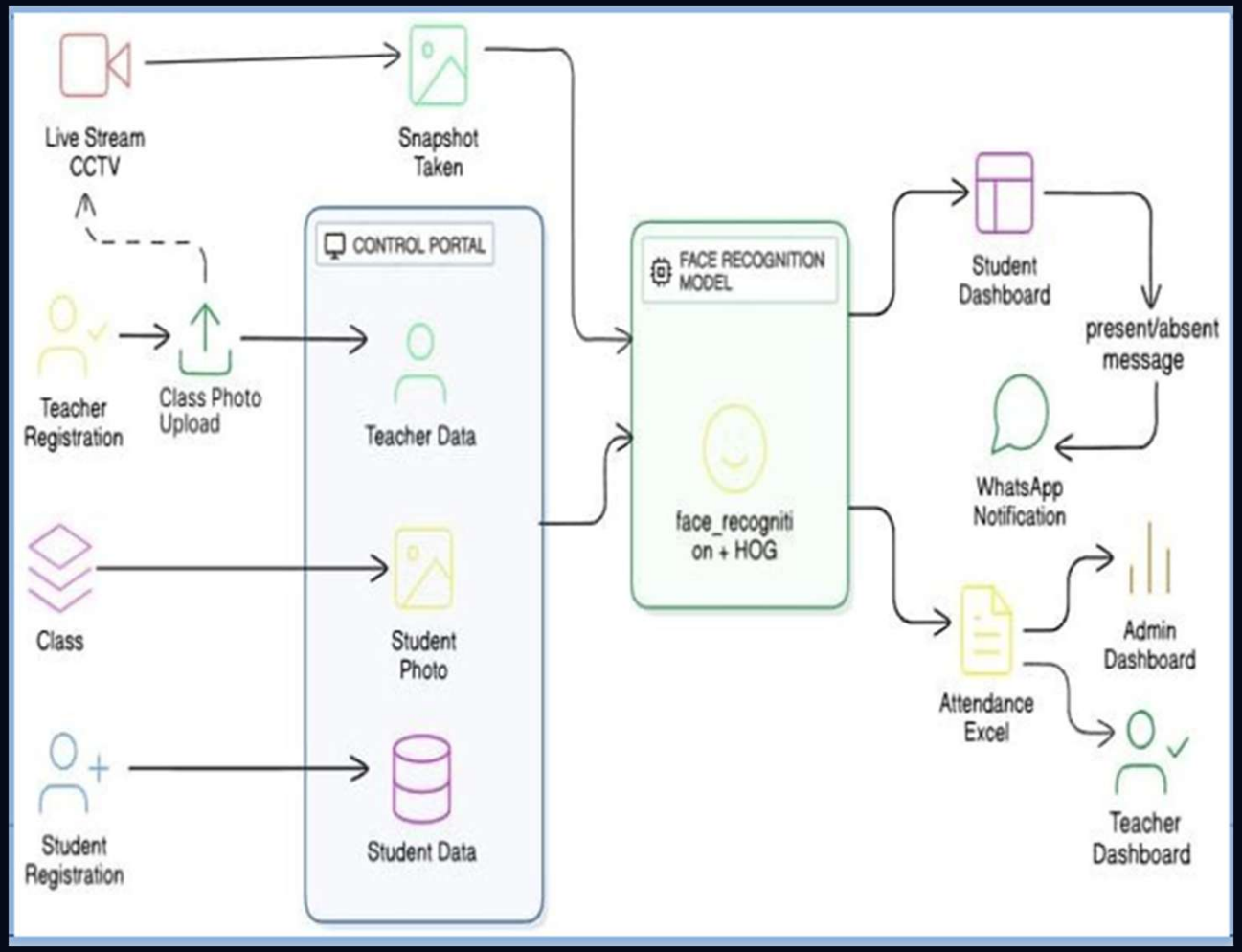
Frontend
- HTML5, Tailwind CSS, JavaScript (ES6+), Chart.js

DevOps & Tools
- Git & GitHub for version control
- virtualenv for isolated environment
- Firebase for authentication & data



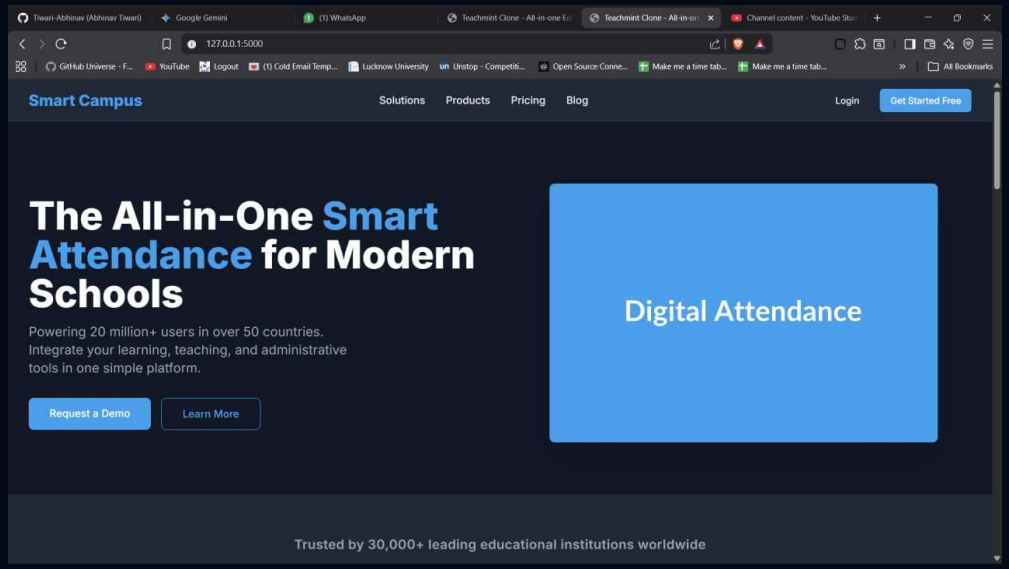
Architecture/Design

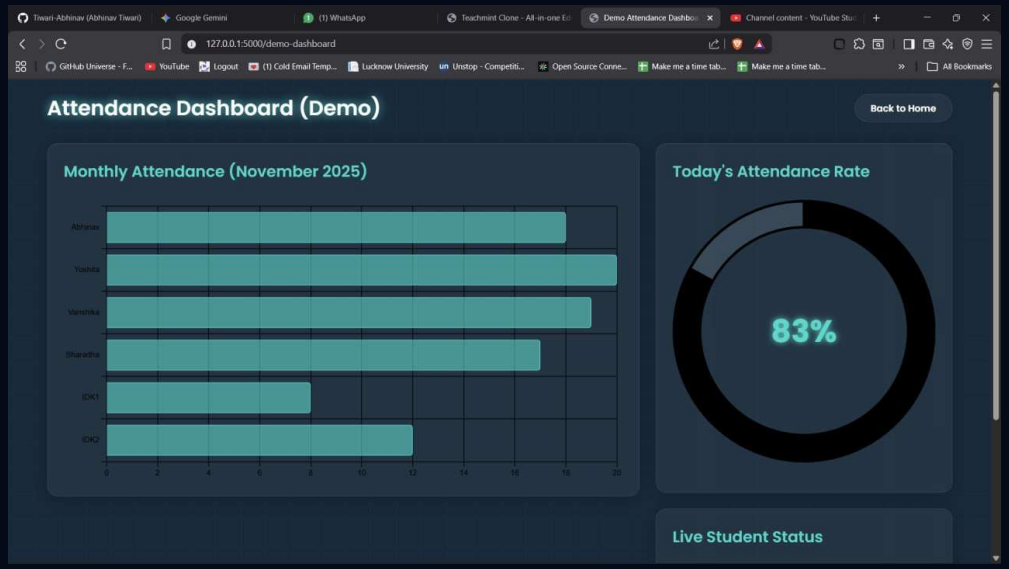
Frontend (React + Tailwind) interacts with Flask backend via REST API.
Firebase manages user authentication & data storage.
AI layer handles facial recognition & productivity analytics.
Admin dashboard displays real-time institution metrics.



Demo/Screenshots

Youtube link - https://youtu.be/eWTIUUoy_M8





Impact & Use Cases

💡 Impact

- Boosts institutional efficiency with AI automation
- Saves 60% faculty time through facial recognition attendance
- Enhances student focus via smart productivity nudges
- Provides real-time insights to administration
- Reduces data handling errors & paperwork
- Strengthens transparency and accountability

📘 Use Cases

- Real-time attendance analytics
- Early identification of low-performing students
- AI-based scheduling & resource optimization
- Predictive analytics for student success

Future Scope

🔮 Future Enhancements

- Integration with IoT sensors for smart classrooms
- AI-driven campus security and automated surveillance
- Predictive academic performance insights using ML models
- Mobile app for students and staff
- Voice assistant for real-time campus queries
- Integration with Learning Management Systems (LMS)
- Cloud-based scaling for multi-campus institutions
- Virtual reality-based student orientation

Team Members

Developed by Team Casual Engineers

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