

**DHOLE PATIL EDUCATION SOCIETY**  
**DHOLE PATIL COLLEGE OF ENGINEERING**  
**DPCOE HACKATHON 2025**

**Organized By**

Coder's club and Cybersecurity club

**Problem Statement: Language Agnostic Chatbot**

**Team ID:**

**Team Name:** Code Yatra

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Under The Guidance of

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## **1 .Problem statement:**

- College offices face a large number of repeated student queries about fees, scholarships, timetables, and forms. Many students prefer Hindi or regional languages, causing communication gaps and long queues.
- Although information exists in PDFs and circulars, students want quick, conversational guidance. A multilingual AI chatbot can handle routine queries, maintain context, provide accurate answers, and reduce staff workload.

The chatbot must support multiple languages, handle follow-up questions, log daily interactions, integrate with websites and messaging platforms, and remain easy to maintain. The goal is to deliver a student-friendly, privacy-safe, 24/7 information assistant.

## **2.Innovation:**

The innovation lies in creating an AI-driven chatbot capable of understanding and responding to student queries in multiple Indian languages

- A language-agnostic chatbot capable of understanding and replying in multiple Indian languages.
- Uses AI-based intent recognition and context management to handle follow-up questions naturally.
- Offers drag-and-drop friendly backend so college staff or student volunteers can easily update FAQs.
- Provides daily interaction logs for improvements and transparency.
- Integrates with college website + WhatsApp/Telegram for maximum reach.
- Privacy-respecting architecture with fallback to human support when the bot is unsure.

### **3.Objectives:**

- To build a multilingual virtual assistant for students.
- To reduce repetitive workload on campus staff.
- To provide instant, accurate, context-aware answers.
- To enable students to access information in at least five regional languages.
- To create a solution that is easy to maintain after the hackathon.
- To ensure round-the-clock availability of institutional information.

### **4.Problem relevance:**

- Students face confusion due to last-minute timetable updates, exam instructions, and administrative announcements.
- Many students are more comfortable communicating in Hindi, Marathi, or other regional languages, making English-only notices difficult.
- Staff spend significant time answering repetitive questions instead of handling critical tasks.
- A multilingual chatbot ensures equitable access to information, especially for first-year and rural-background students.
- Enhances digital enablement and supports inclusive campus communication.

## **5.Feasibility:**

- Conversational AI tools (LangChain,etc) make implementation achievable within hackathon timelines.
- Data (PMIST FAQs, notices, PDFs, academic calendars) is readily available for training.
- Deployment on website and WhatsApp is technically straightforward.
- Student IT teams can maintain and update content regularly.
- Hardware requirements are minimal—cloud hosting or light local servers can run the system efficiently.

## **6.Requirements:**

### **Technical Requirements**

- NLP model for multilingual intent recognition
- Training dataset: institutional FAQs, circulars, academic policies
- Backend for content management
- Conversation logging system
- Context manager for multi-turn conversations
- APIs for website and messaging platform integration
- Optional: Voice input/output support

### **Non-Technical Requirements**

- Properly curated FAQs from departments
- Privacy policy and consent for data logging
- Testing with diverse student groups
- Regular updates by student volunteers

## **7.Applications:**

- 24×7 Student Helpdesk for admissions, fees, academics, and exam queries
- WhatsApp-based Information Assistant for quick responses
- Website chatbot widget to reduce navigation effort
- Department-specific FAQ responder (e.g., Library, Accounts, Examination Cell)
- Event announcement assistant for fests, deadlines, workshops
- Support for new students during orientation or admission season