Nursing College Admission Chatbot

AI-Driven Conversational Flow Documentation

Prompt Engineering Assignment

LiaPlus AI

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Key Features:

- Multi-language Support (Hindi/English)
- Intelligent Response Detection
- Complete Admission Information Flow
- Professional User Interface
- Session Management
- Real-time Language Switching

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1. Project Overview

The Nursing College Admission Chatbot is an AI-driven conversational system designed to provide comprehensive information about B.Sc Nursing program admission. The chatbot handles multi-step queries and maintains a professional, user-friendly tone throughout the conversation.

Key Features:

- Multi-language Support (Hindi/English)
- Intelligent Response Detection
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2. Conversation Flow Structure

The chatbot follows a structured conversation flow with 11 main states, each handling specific information requests and user interactions. The flow is designed to be intuitive and comprehensive.

Detailed Conversation Flow:

Step	State	Bot Question	User Response	Next Action
1	INITIAL	Are you interested in admission?	Yes/No	Check Biology
2	BIOLOGY_CHECK	Did you study Biology in 12th?	Yes/No	Program Details
3	PROGRAM_DETAILS	Want more program info?	Yes/No	Fee Structure
4	FEE_STRUCTURE	Want hostel facilities info?	Yes/No	Location
5	COLLEGE_LOCATION	Want location details?	Yes/No	Recognition
6	RECOGNITION	Want clinical training info?	Yes/No	Scholarship
7	CLINICAL_TRAINING	Want scholarship info?	Yes/No	Total Seats
8	TOTAL_SEATS	Want eligibility criteria?	Yes/No	Eligibility
9	ELIGIBILITY	Final information provided	Any	END

3. Language Detection System

The chatbot implements intelligent language detection to provide responses in the user's preferred language. The system detects Hindi (Devanagari script) and defaults to English for other inputs.

Language	Detection Method	Example Inputs	Response Language
Hindi	Devanagari Script	■■■, ■■■■, ■■■■	Hindi
English	Latin Script	Yes, No, Tell me	English
Mixed	Script Detection	Haan, Yes, ■■■■	Detected Language

4. Response Pattern Analysis

The chatbot uses pattern matching to understand user responses and determine the appropriate next action. This ensures smooth conversation flow and accurate information delivery.

Response Type	Patterns	Examples
Positive	haan, yes, batao, tell me, kya hai, more, ok, sure	Haan, Yes, Tell me more
Negative	nahi, no, not, dont, nope, not interested	Nahi, No, Not interested
Clarification	unclear responses	Maybe, I think so, Not sure

5. Fee Structure Details

The chatbot provides detailed fee information including annual costs, installment plans, and payment schedules to help students understand the financial requirements.

Fee Component	Amount (INR)	Due Date
Tuition Fee	■60,000	Annual
Bus Fee	■10,000	Annual
Total Annual Fees	■70,000	Annual
1st Installment	■30,000	At Admission
2nd Installment	■20,000	After 1st Semester
3rd Installment	■20,000	After 2nd Semester

6. Eligibility Criteria

Clear eligibility requirements are presented to help students understand if they qualify for the B.Sc Nursing program.

Requirement	Details	Status
Biology in 12th	Mandatory subject	Required
PNT Exam	Must be passed	Required
Age	17 to 35 years	Required
Health	Good health and fitness	Required
English Proficiency	Basic English knowledge	Required
Commitment	To nursing profession	Required

7. Technical Implementation

The chatbot is built using Python with Flask framework, featuring state machine architecture for conversation management and responsive web interface for optimal user experience.

- Backend: Python Flask
- Frontend: HTML5, CSS3, JavaScript
- State Management: Custom state machine
- Language Detection: Unicode script analysis
- Response Patterns: Regular expression matching
- Session Management: User session tracking

8. User Interface Features

The web interface provides a modern, responsive design with intuitive navigation and user-friendly features.

- Modern, responsive design
- Quick reply buttons (Haan, Nahi, Yes, No)
- Real-time typing indicators
- Session persistence
- Reset functionality
- Mobile-responsive layout
- Professional color scheme
- Smooth animations and transitions

9. Testing and Validation

Comprehensive testing ensures the chatbot meets all requirements and provides accurate information delivery.

- Positive conversation flow testing
- Negative response handling
- Language detection accuracy
- Biology requirement validation
- Fee structure accuracy
- Eligibility criteria verification
- Session management testing
- User interface responsiveness

10. Conclusion

The Nursing College Admission Chatbot successfully implements all required features including multi-step conversational flow, language detection, comprehensive information delivery, and professional user experience. The system provides accurate, helpful information to prospective students while maintaining a friendly and professional tone throughout the interaction.