Building an AI Chatbot to Revolutionize Student and Faculty Support

Team : TM001369

Problem ID: PS003001

Sector Name: Smart Education

Made with Gamma

Introduction :

The Technical Education Department faces communication challenges that hinder the educational experience. An AI-powered chatbot can provide real-time assistance, streamline information, and personalize support.

Our project creates a chatbot that automates routine tasks, gathers insightful data, and enhances user satisfaction. The chatbot will be available 24/7 and improve the department's instructional program and overall effectiveness.

Made with Gamma

Goals of the Chatbot

- Efficient information retrieval
- Enhanced User Experience
- Reduced Workload
- Data Insights
- 24/7 Availability
- cost savings
- Scalability

Made with Gamma

Key Features of the Chatbot

- Scalability
- Efficiency
- Gives efficient info to user
- Better utilization of chatbot through visualization analysis
- Keeps user history in their profile
- Answers general FAQS
- Decrease staff cost of the Department

Made with Gamma

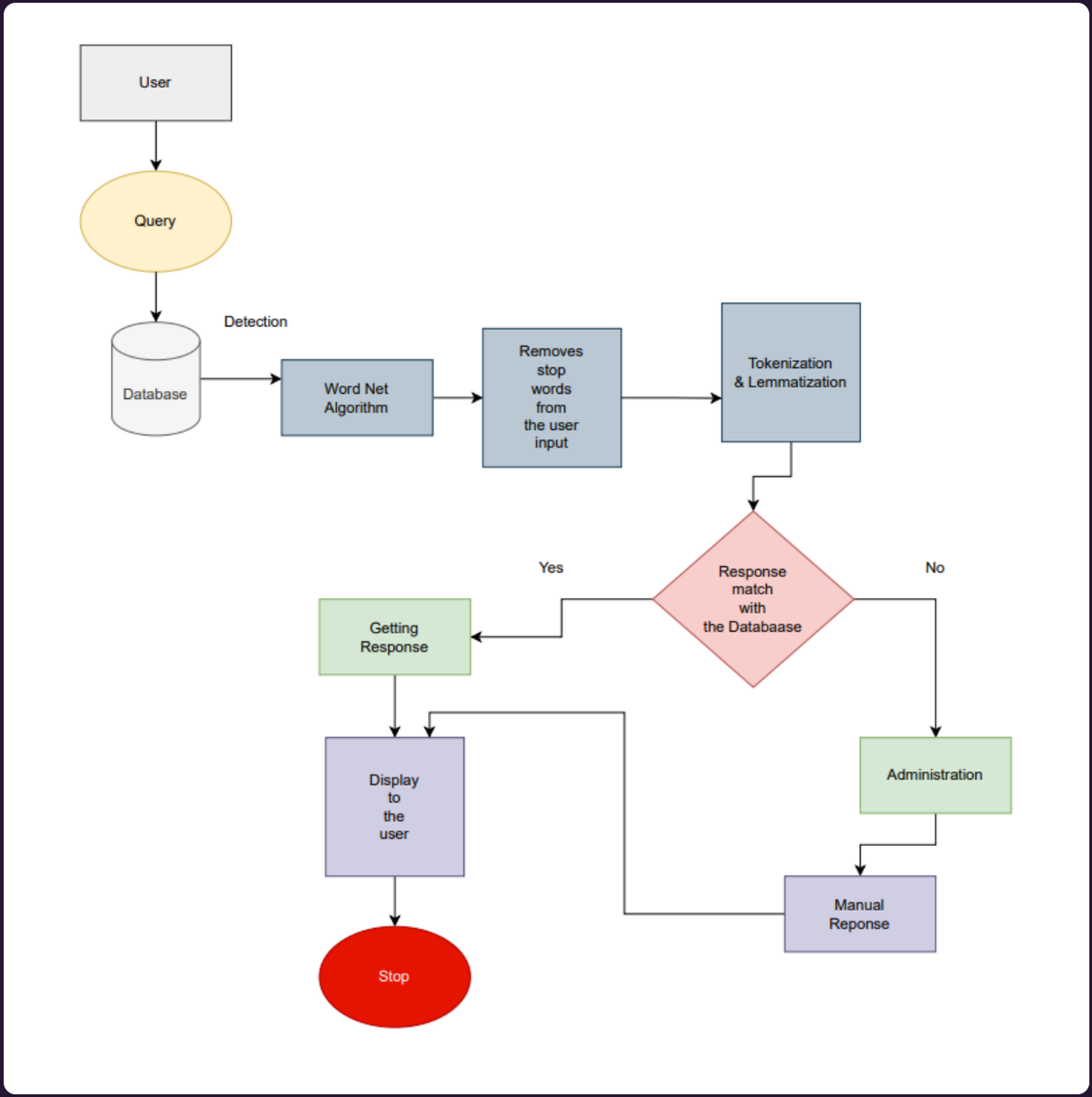
Technologies Used

- Natural Language Processing (NLP)
- Machine Learning
- Reinforcement Learning
- Deep Learning
- Dialog Management
- Information Retrieval
- Text Generation
- Clustering and Classification

1. FrameWork : Django
2. Backend : Python
3. Database : SQL ITE3
4. Frontend : HTML , CSS, Javascript
5. Natural Language Processing (NLP) Concepts : Pipelining
    - Worldnet library , lemmatization , tokenization , label encoding, vectorizer,
6. Used Model in Machine Leaning :
    - Decision Tree , Text Extraction , Cleanup, feature extraction, Multinomial Naivebayes

Made with Gamma

Flowchart

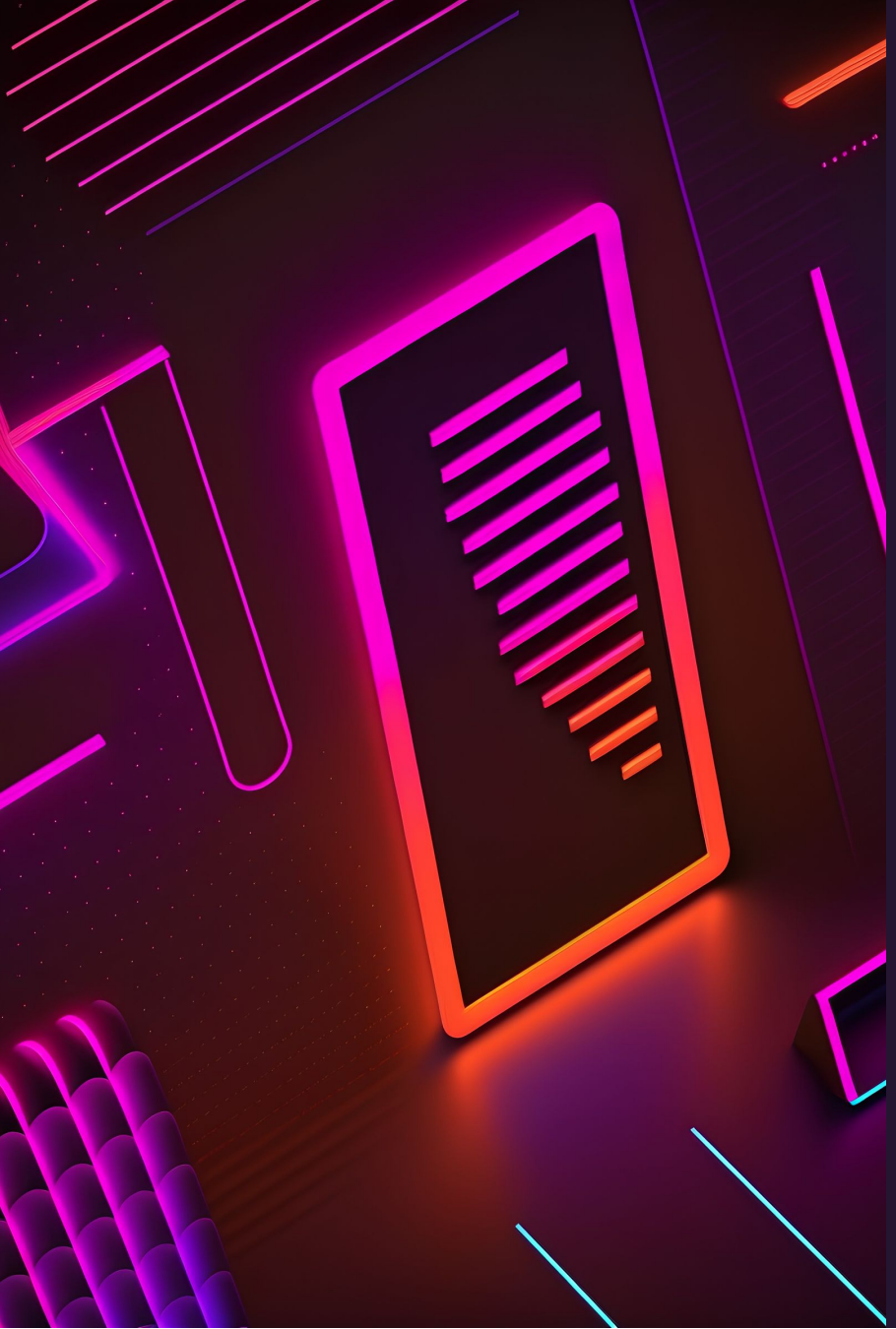


Made with Gamma

Challenges in Developing the Chatbot

1. User Adoption Challenges:
    - Initial Hesitancy Towards New Technology
2. Quality and Relevance of Responses:
    - Maintaining High-Quality Responses
    - Handling Complex Technical Subjects
3. Server Data Privacy and Security:
    - Compliance with Data Protection Regulations
4. Continuous Training and Improvement:
    - User Feedback Integration
    - Evolving User Needs
    - Technological Advancements
5. Complex Query Handling:
    - Advanced Natural Language Processing
    - Advanced Reasoning Capabilities

Made with Gamma



Conclusion

We created a college-specific chatbot for the education sector, boosting user engagement by offering accurate responses on the college website. We focused on system design and methods to enhance precision. Administrators must provide college-related data during training to improve response accuracy.

Made with Gamma

THANK YOU !!

Made with Gamma