

# PRESENTATION ON SYNTHMIND AI-CHATBOT



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# ACKNOWLEDGEMENT



We sincerely express our gratitude to our guide, faculty members, and everyone who supported us throughout this project. Their guidance, encouragement, and constructive feedback played a crucial role in the successful development of **SynthMind – AI Chatbot with User Authentication and Chat History**. We are also thankful for the tools and technologies that made this implementation possible.

# INTRODUCTION

In today's digital world, AI chatbots are becoming important for improving user experience. \*SynthMind\* is a smart chatbot application that uses modern AI and a secure backend to provide helpful, personalized conversations. It is built using Streamlit for the interface, Ollama's Gemma model for generating responses, and MySQL for storing user logins and chat history. Users can log in, chat with the bot, and view past conversations in a user-friendly layout. SynthMind focuses on ease of use, data security, and interactive design, making it a practical example of how AI can be used in real-life applications.

## OBJECTIVE

The main goal of the \*SynthMind\* project is to build an intelligent chatbot that offers secure, personalized, and smooth conversations using AI. It provides a simple and interactive chat interface, supports user login and registration, manages chat sessions with unique titles, and safely stores chat history using a MySQL database. Powered by the Gemma model through Ollama, it delivers quick, human-like replies without needing the internet. The project also encourages safe usage and shows how AI, frontend design, and backend systems can work together in a complete, real-world application.

## TECHNOLOGIES USED

- Streamlit – for creating an interactive, lightweight, and responsive web-based user interface.
- Ollama (Gemma:2B Model) – for generating AI-based natural language responses.
- MySQL – for backend database operations, including user authentication and chat history storage.
- Python – as the primary programming language for logic and integration.
- UUID – for generating unique session identifiers.
- datetime – for managing and storing timestamps of user activities.
- Logging – for debugging and backend event tracking.

## FUTURE SCOPE

The SynthMind AI Chatbot can be further enhanced by integrating voice input/output, multilingual support, emotion-aware responses, and advanced analytics on user behavior. Additionally, deploying the app on cloud platforms with scalable APIs will make it suitable for educational, business, and customer service applications. Adding role-based access and admin panels can also improve system control and monitoring.





# REQUIREMENT ANALYSIS

## **1. Functional Requirements:**

User registration and login system.  
Chat interface for human-AI interaction.  
Session-wise chat history storage and retrieval.  
Real-time response from Ollama AI model.

## **2. Non-Functional Requirements:**

Secure handling of user data.  
Fast and responsive user interface.  
Scalability for multiple users.  
Reliable database connection.

## **3. Software Requirements:**

Python 3.x  
Streamlit  
MySQL  
Ollama (AI model)  
Web browser

## **4. Hardware Requirements:**

System with minimum 4GB RAM  
Stable internet connection  
MySQL-supported server environment

# FEASIBILITY STUDY

The feasibility study for the **SynthMind AI Chatbot** ensures that the system is practical, achievable, and efficient for real-world usage. After careful analysis, the following feasibility areas were considered:

## **Technical Feasibility:**

The project is technically feasible as it uses widely available and well-documented technologies like Python, Streamlit, MySQL, and Ollama AI. These tools are compatible and provide seamless integration.

## **Operational Feasibility:**

The system is easy to operate with a simple interface for both end users and administrators. The login/register functionality and chat interface are intuitive and user-friendly.

## **Economic Feasibility:**

The cost of development is low, as open-source tools and frameworks are used. No expensive software or hardware is required, making it cost-effective for academic and personal use.

## **Schedule Feasibility:**

The project was completed within the planned timeline. With a modular development approach, key features were implemented and tested efficiently.



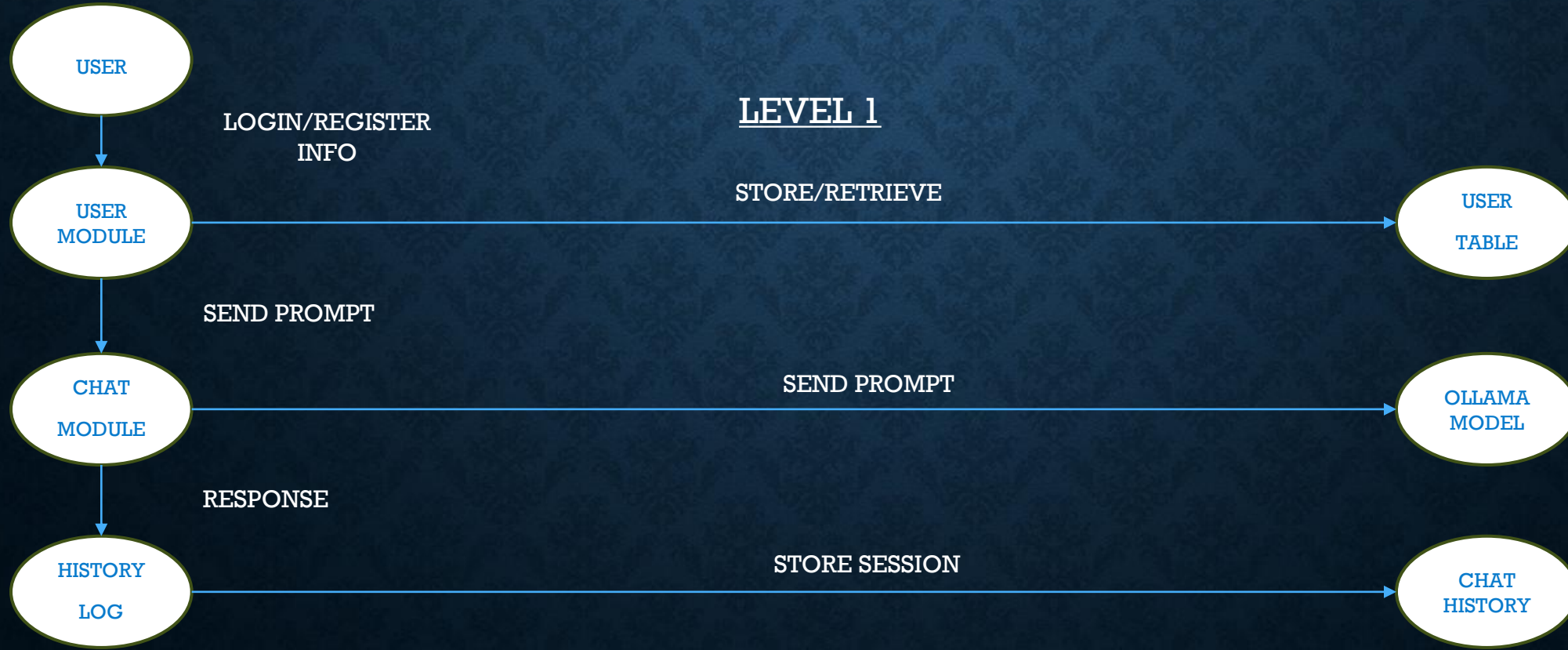
# DATA FLOW DIAGRAM

LOGIN/REGISTER

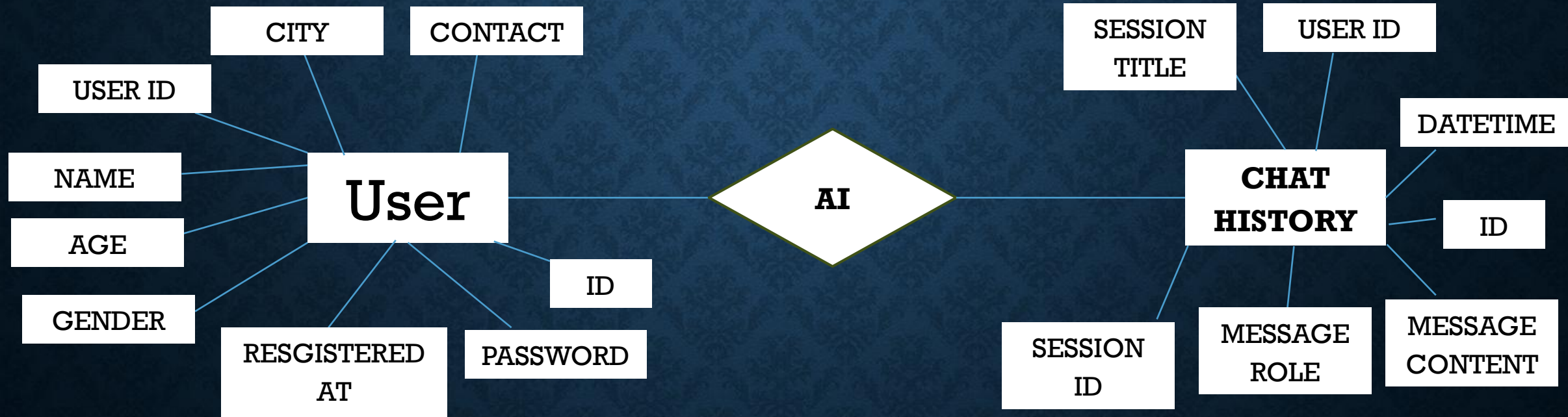


LEVEL 0

LEVEL 1

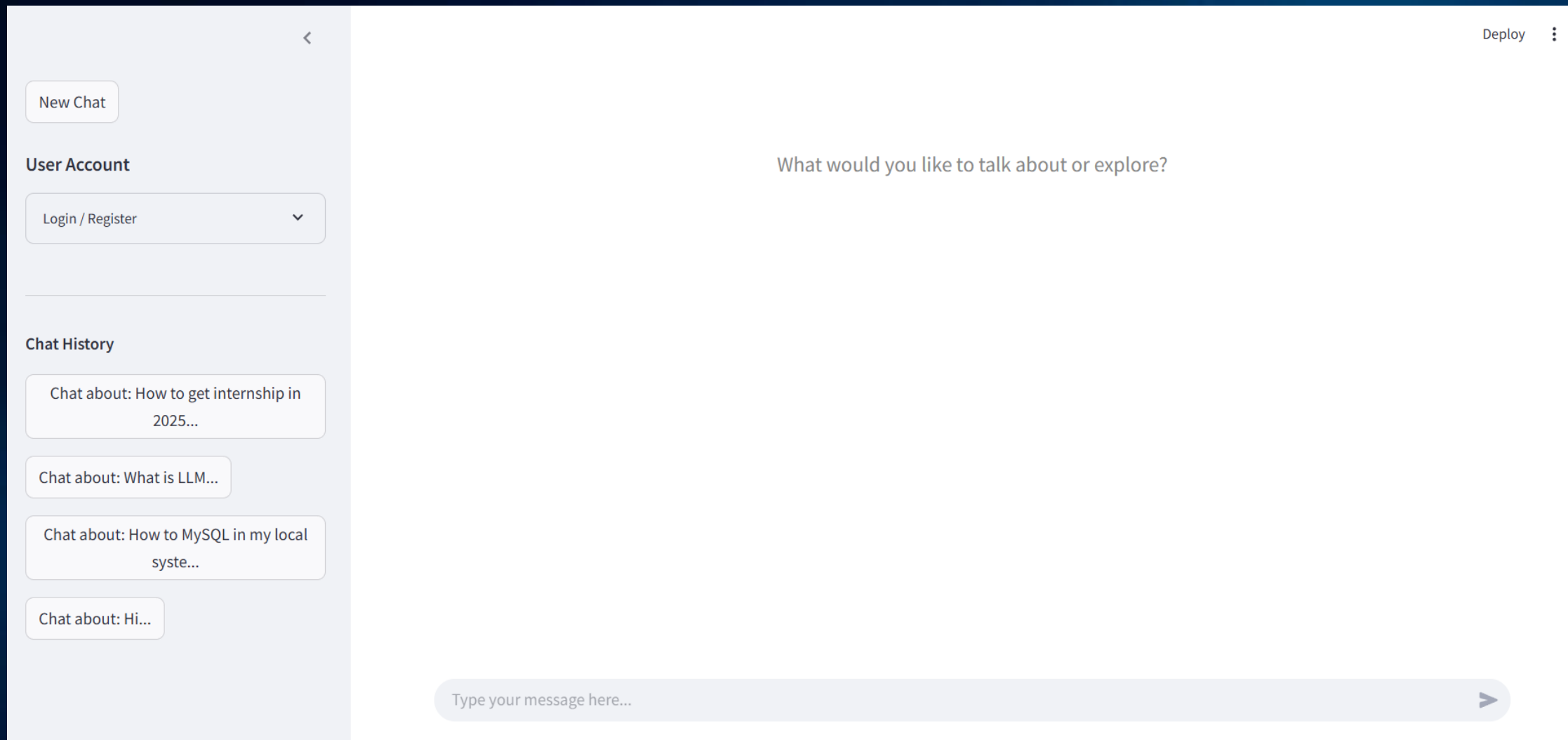


# ENTITY RELATIONSHIP DIAGRAM





# SNAPSHOT



## USER INTERFACE

[New Chat](#)

## User Account

[Login / Register](#) 

## Chat History

[Chat about: How to get internship in 2025...](#)[Chat about: What is LLM...](#)[Chat about: How to MySQL in my local syste...](#)[Chat about: Hi...](#)

What would you like to talk about or explore?



Hi, can you tell me about yourself



As a large language model, I am a computer program trained by Google. I am a conversational AI that can generate human-like text based on the input I am given. I am still under development, but I am able to learn and understand new information.

Here are some of my capabilities:

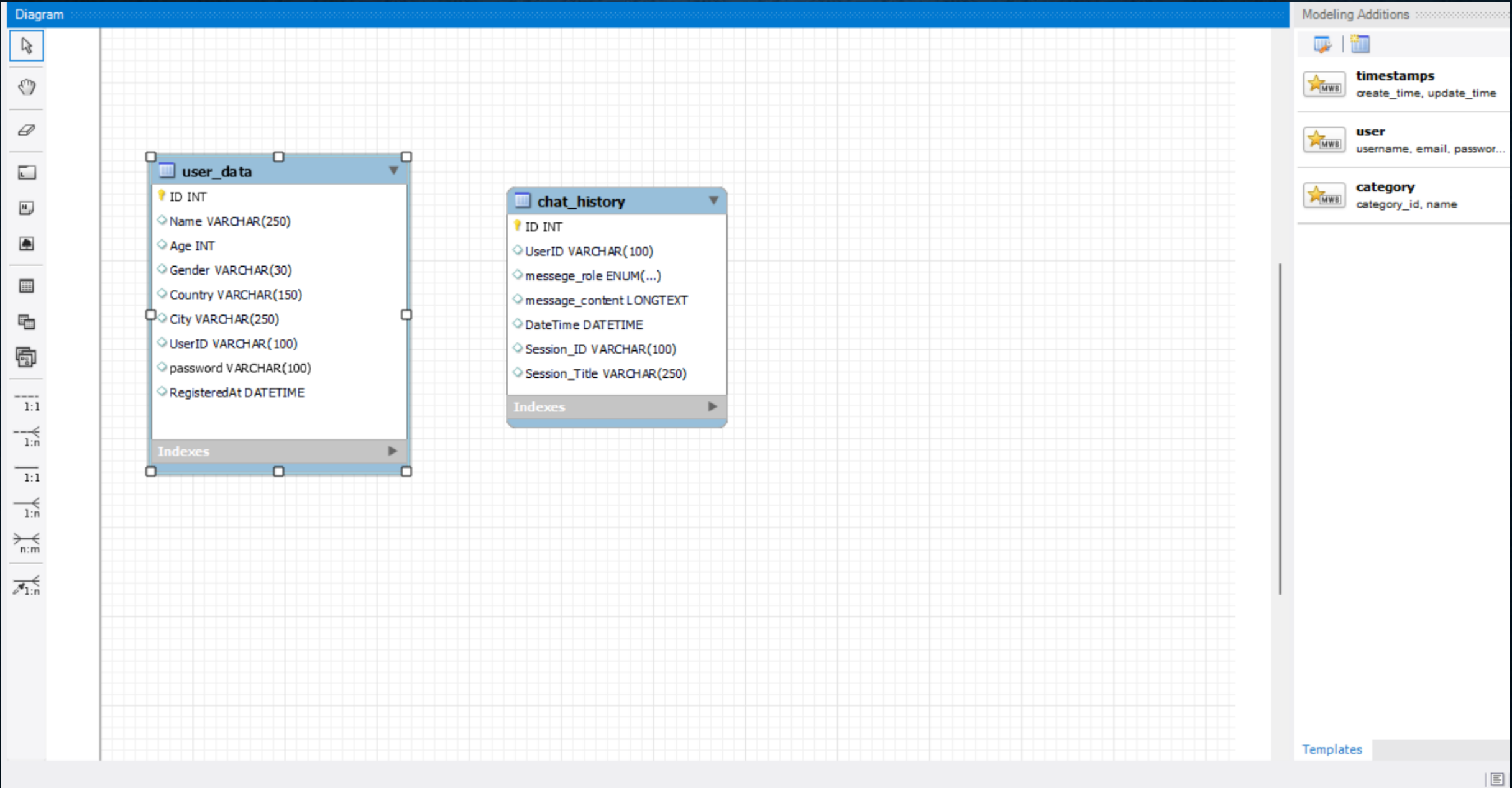
- **Natural language processing (NLP):** I am able to understand and generate natural language text, including questions, statements, and summaries.
- **Language translation:** I can translate text between multiple languages.
- **Information retrieval:** I can provide you with information on a wide range of topics.
- **Creativity:** I can generate creative text formats, such as poems, code, and scripts.
- **Summarization:** I can provide a concise summary of a given text.
- **Dialogue generation:** I can engage in natural and conversational dialogue.

I am still under development, but I am constantly learning and improving. I am here to assist you with your queries and provide you with the information you need.

Type your message here...



# USER & AI CONVERSATION



# DATABASE DESIGN



# CONCLUSION

The SynthMind AI Chatbot successfully demonstrates the integration of user authentication, real-time AI interaction, and session-based chat history using Streamlit, MySQL, and Ollama. It provides a simple, secure, and interactive platform that can be further enhanced for broader real-world applications.

# REFERENCES

[Streamlit Documentation](#) – For building the frontend interface.

[MySQL Official Docs](#) – For database design and integration.

[Python Docs](#) – For core programming concepts.

[Ollama AI Model](#) – For implementing AI-based chat responses.

Online tutorials and GitHub repositories related to AI chatbots and Streamlit applications.



THANK YOU