TCS GARAJE PRE-MAPPING HACKATHON

PROBLEM STATEMENT 3

AI-POWERED INSURANCE POLICY INFORMATION CHATBOT

OBJECTIVES

1. Chatbot that answers all the queries of the customers
2. User LLM for NLP
3. Use knowledge base (RAG Based Model)
4. Easy Integration into existing system
5. Connect complex issues to human agents
6. Understand the user and make informed decisions

METHODOLOGY AND UNIQUENESS

1. RAG based querying with LLM

   This ensures fast and efficient answers as it is enhances the relevance of the content generated by AI

2. Multi-language support
3. Voice-based inputs
4. PDF Downloadable option
5. Escalation fallback Mechanism for complex issues

RESULT & ANALYSIS

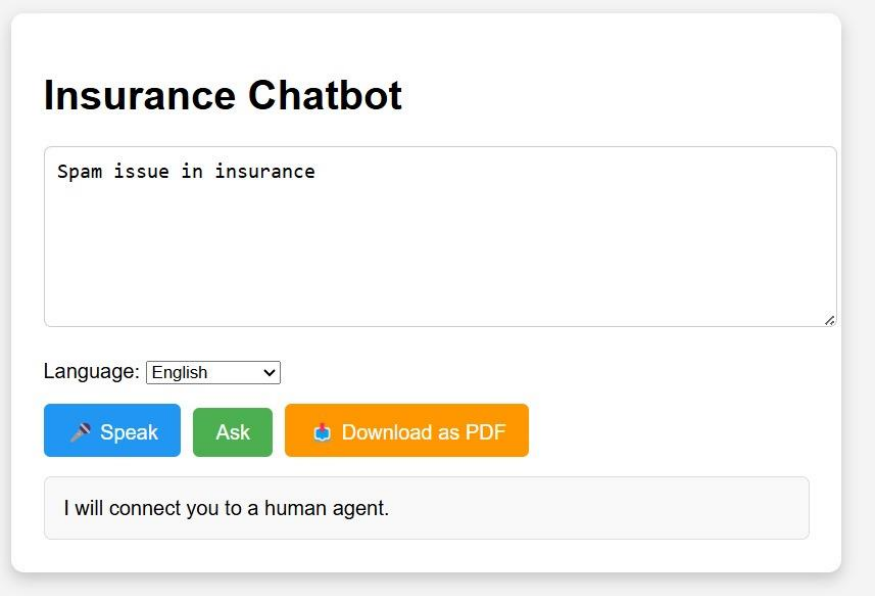

Fig 1 Escalation

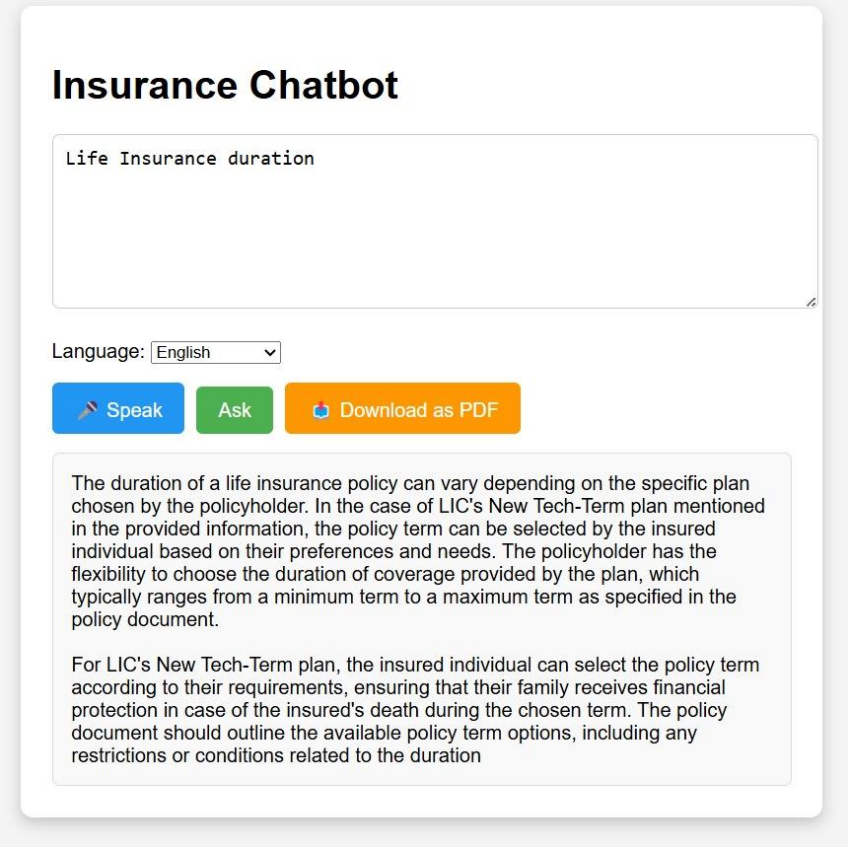

Fig 2 Bot Response

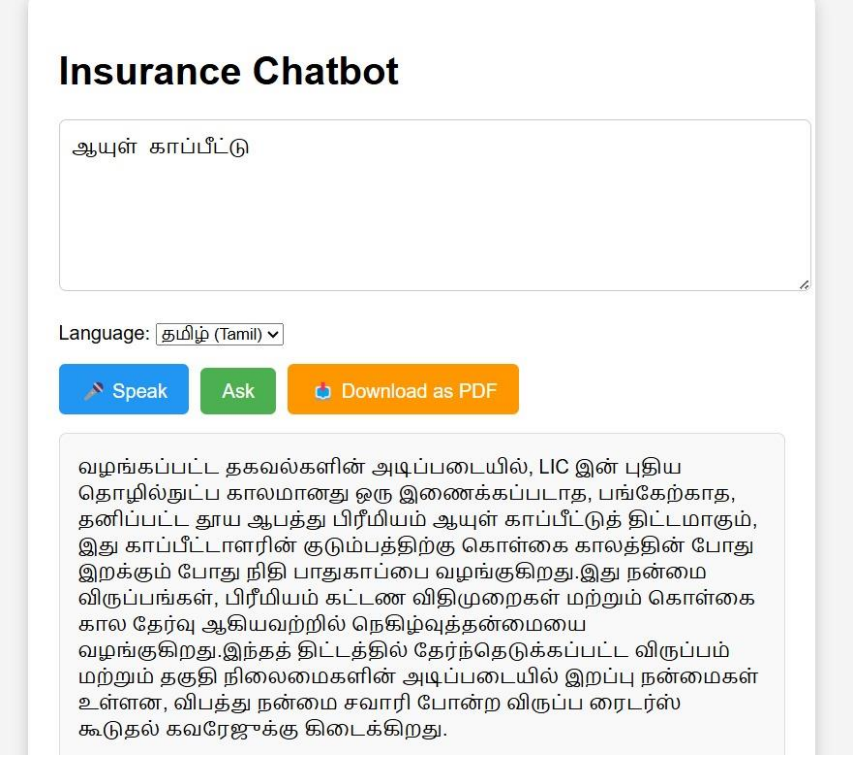

Fig 3 Bot Response: Tamil

Fig 4 Bot Response: Hindi

WHY THE METHODOLOGY WAS TAKEN

1. RAG (Retrieval-Augmented Generation)
   Knowledge-base generation acts as a quick reference to maintain consistency and domain specificity in answers. It can also allow the bot to work offline during any emergency conditions.
2. LLM
   Provides high-quality answers eliminating the need of using rule-based NLP models
   It also provides more human like answers
3. Knowledge base creation

   Manual knowledge base creation may consume more time and does not process accurate results, sometimes, they are prone to human errors. Here the knowledge base was created using GenAI and NLP for the data sources. It extracted the text and understood the key points. And formed it as a knowledge base.

4. PDF Text Extraction: PyPDF2
   Reads the PDF files and for processing the pdf activities. Handles the pdf documents more efficiently without the need of OCR (Optical Character Recognition)

Data Source references

1. https://licindia.in/
2. https://www.tataaig.com/buy-online/motor-insurance
3. https://www.starhealth.in/
4. https://www.iciciprulife.com/term-insurance-plans

5. https://www.hdfclife.com/
6. https://www.bajajallianz.com/

CONCLUSION

The Automated Knowledge pipeline developed in this solution acts as the foundation for building intelligent systems. This methodology ensures both scalability and domain relevance combining traditional data processing with modern AI technologies. The modular approaches adopted in this solution helps to make easy updates to the knowledge base. Moreover, this knowledge base is created completely by AI with extraction of information from different insurance policies collected from the web through web scraping. The system also uses GPT 3.5 algorithm with RAG to extend it to offline functionality too. It supports multiple languages, and voice-based input options to ensure easy user-interface. It gives you the output in minutes and the response can also be downloaded as a PDF ensuring solution feasibility.