

## 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 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

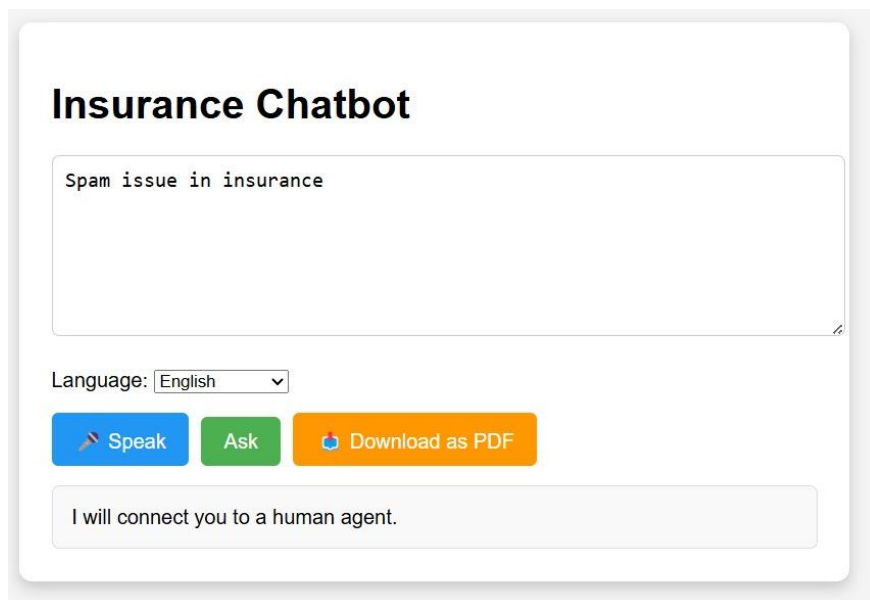


Fig 1 Escalation

## Insurance Chatbot

Life Insurance duration

Language: English ▼



Speak

Ask



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The duration of a life insurance policy can vary depending on the specific plan chosen by the policyholder. In the case of LIC's New Tech-Term plan mentioned in the provided information, the policy term can be selected by the insured individual based on their preferences and needs. The policyholder has the flexibility to choose the duration of coverage provided by the plan, which typically ranges from a minimum term to a maximum term as specified in the policy document.

For LIC's New Tech-Term plan, the insured individual can select the policy term according to their requirements, ensuring that their family receives financial protection in case of the insured's death during the chosen term. The policy document should outline the available policy term options, including any restrictions or conditions related to the duration

Fig 2 Bot Response

## Insurance Chatbot

ஆயுள் காப்பீட்டு

Language: தமிழ் (Tamil) ▼



Speak

Ask



Download as PDF

வழங்கப்பட்ட தகவல்களின் அடிப்படையில், LIC இன் புதிய தொழில்நுட்ப காலமானது ஒரு இணைக்கப்படாத, பங்கேற்காத, தனிப்பட்ட தூய ஆபத்து பிரீமியம் ஆயுள் காப்பீட்டுத் திட்டமாகும், இது காப்பீட்டாளரின் குடும்பத்திற்கு கொள்கை காலத்தின் போது இறக்கும் போது நிதி பாதுகாப்பை வழங்குகிறது. இது நன்மை விருப்பங்கள், பிரீமியம் கட்டண விதிமுறைகள் மற்றும் கொள்கை கால தேர்வு ஆகியவற்றில் நெகிழ்வுத்தன்மையை வழங்குகிறது. இந்தத் திட்டத்தில் தேர்ந்தெடுக்கப்பட்ட விருப்பம் மற்றும் தகுதி நிலைமைகளின் அடிப்படையில் இறப்பு நன்மைகள் உள்ளன, விபத்து நன்மை சவாரி போன்ற விருப்ப ரைடர்ஸ் கூடுதல் கவரேஜுக்கு கிடைக்கிறது.

Fig 3 Bot Response: Tamil

## Insurance Chatbot

स्वास्थ्य बीमा अवधि

Language: हिन्दी (Hindi) ▼

Speak

Ask

Download as PDF

स्वास्थ्य बीमा पॉलिसी की अवधि आमतौर पर नीति जारी करने की तारीख से शुरू होती है और एक निर्दिष्ट अवधि के लिए जारी रहती है, आमतौर पर एक वर्ष। पॉलिसीधारकों के पास निरंतर कवरेज बनाए रखने के लिए सालाना स्वास्थ्य बीमा पॉलिसी को नवीनीकृत करने का विकल्प है। नीति अवधि, नवीकरण शर्तों और नवीकरण के लिए किसी भी अनुग्रह अवधि के बारे में विशिष्ट विवरणों के लिए नीति दस्तावेज की समीक्षा करना आवश्यक है ताकि निर्बाध स्वास्थ्य बीमा कवरेज सुनिश्चित किया जा सके।

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.icicprulife.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.