# INSURANCE POLICY GENERATOR

## Internship Report

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**Company** : **TCS**
**Duration** : **8 Weeks**

# Introduction:

This project is about simplifying the process of insurance policy creation using a chatbot and the MERN stack. The main goal was to build a web-based system where users can interact with a chatbot to select an insurance type, provide necessary information, get their premium calculated, and generate a downloadable policy document. This helps reduce the manual work and makes the process user-friendly and interactive.

# Tools & Technology Used:

- MongoDB – For storing user and policy data
- Express.js – Backend server
- React.js – Frontend interface
- Node.js – Server runtime
- Botpress – Used for building the chatbot
- PDFKit – For generating policy documents in PDF format
- Mongoose – For MongoDB data modeling

# Main Features

- Chatbot to guide users through the process
- Supports Life and Vehicle Insurance
- Premium is calculated based on input data
- Policy PDF is generated and downloaded
- All details are saved in MongoDB

# System Architecture

## How It Works

- The user open the chatbot from the website and start the chat with chatbot
- The chatbot gives a welcome message and shows two options : Create a new policy and view existing policy
- Based on the user selection it starts the process.
- If the user selects create a new policy, it starts to collect the data from the user
- It collects user-specific and policy details.
- After, user-specific details is collect it shows the available insurance options: Life and Vehicle Insurnace
- After collecting the all necessary data, the bot sends a api request to the backend server to calculate the premium for the policy
- The bot shows the premium and asks the user whether to proceed.
- If the user agrees, the data is saved with "Active" status and a PDF policy is generated.
- If not, the data is stored with "Cancelled" status for future uses.

## Premium calculation Logic:

**Life Insurance:**

- Depends on age, term, and sum assured
- Older age = higher premium

**Vehicle Insurance:**

- Based on vehicle age, type of coverage (comprehensive or third-party), and driver  history
- Example: New car with no accidents and comprehensive cover → lower premium
- Old car with accident history → higher premium

## What I Learned

- How to build an end-to-end MERN application
- Working with real-time chatbots using Botpress
- Creating PDFs dynamically using PDFKit

- Connecting frontend, backend, and database smoothly

## Challenges Faced

- Getting the chatbot and React app to sync smoothly

- Connecting the Chatbot and the backend server.

- Creating flexible premium logic for different types

## Future Improvements

- Add Home Insurance fully

- Create an admin dashboard to manage policies

- Allow users to make payments and get receipts

- Send policy PDF to email or WhatsApp automatically

## Conclusion

This project helped me understand how to build smart, interactive systems using full stack development. I learned how to connect a chatbot with backend logic and handle real user data. The whole insurance process became simpler and user-friendly through automation.