INSURANCE POLICY GENERATOR

Internship Project 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.

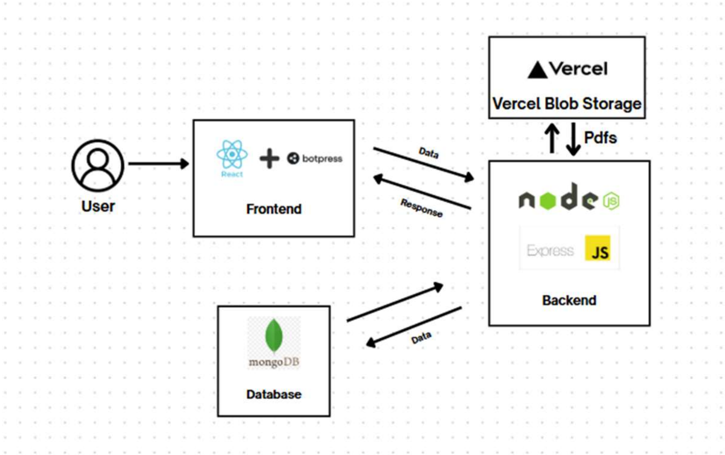
Tools & Technology Used:

- 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 opens the chatbot from the website and starts the chat with the chatbot
- The chatbot gives a welcome message and shows two options: Create a new policy and view existing policies.
- 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 are collected, it shows the available insurance options: Life and Vehicle Insurance
- After collecting all the necessary data, the bot sends an 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.
- Finally, Link to the pdf is sent to the user in the chat.

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 Bot press
- 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.