CODECELL - CMPN, VESIT

SYRUS HACKATHON 2025

Category Code: C4

Problem Statement Title: InsurAI - Smarter Policies, Faster Claims, and Fraud Protection

Team Name: .env

Institute Name: Vivekanand Education Society's Institute of Technology

Idea / Approach details (& implemented features)

Approach:

- **Data-Driven Personalization**
  Clustering (age/location/occupation) ⟶ Tailored policy recommendations.

- **Real-Time Parametric Triggers**
  Integrate OpenWeather API ⟶ Adjust premiums based on cyclone/flood risks.

- **AI-Powered Claims & Fraud Detection**
  NLP-based document analysis ⟶ Flag non-compliant/inflated claims.

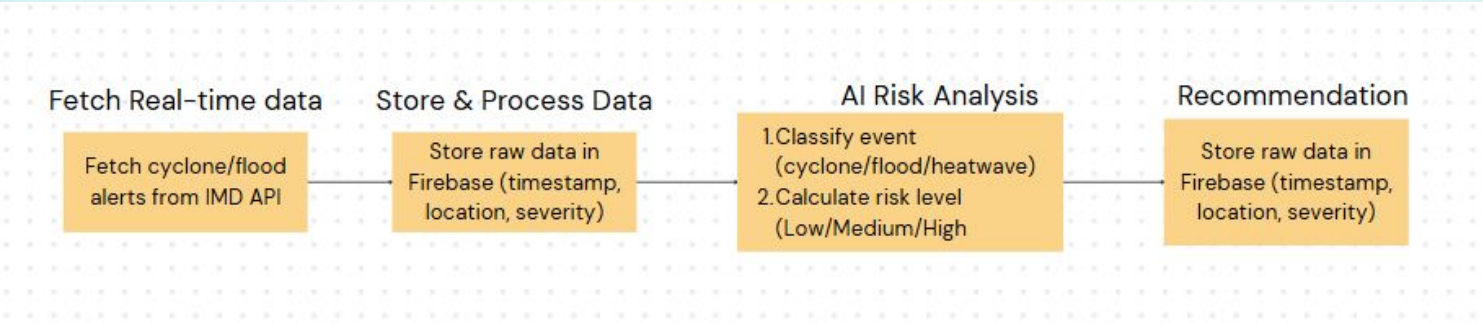
- **Chatbot for Strategic Insights**
  RAG-based Q&A on policy performance, risk profiling, and market trends.

Innovation (Showstopper)

Dynamic Risk Adjustment Powered by AI & Live Data

- Eliminates predefined parameters to trigger payouts.
- Prevents revenue loss from outdated static pricing.

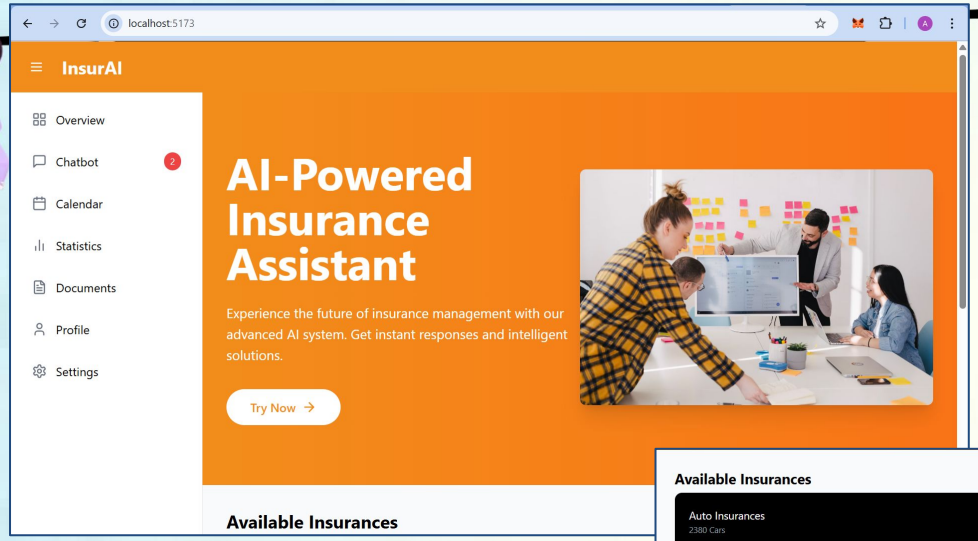
Workflow:



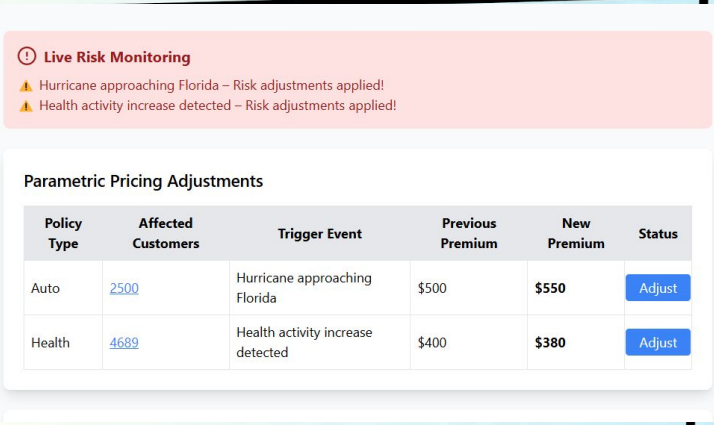
Tech Stack

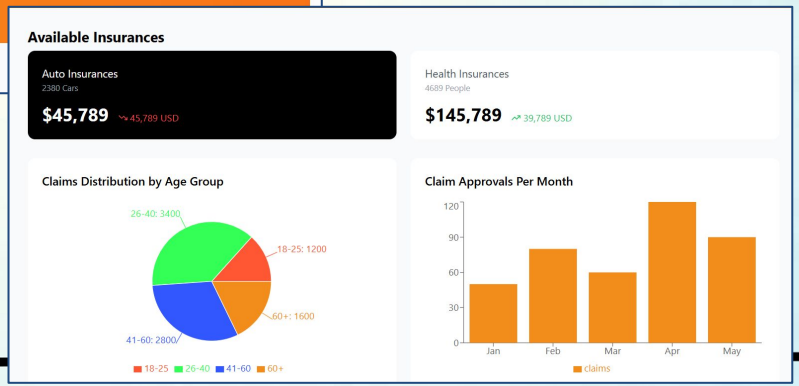
- **Frontend** : React JS
- **Backend** : Python, Flask / FastAPI, Uptiq
- **APIs** : OpenWeather API, Gemini,
- **Database :** Firebase, MongoDB

Implementation/Prototype/Use Case Diagram (screenshots)



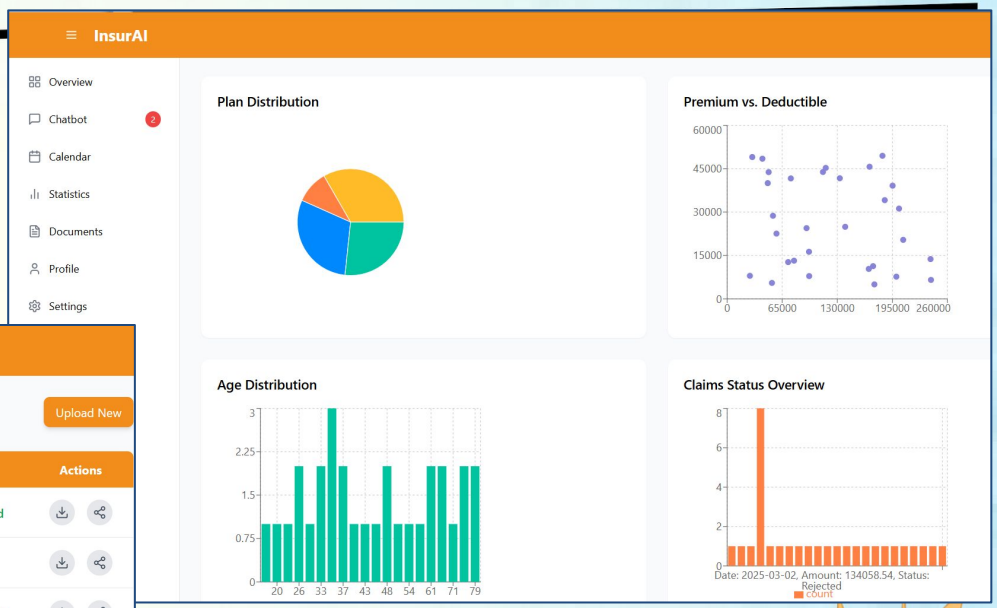
HOME PAGE





Implementation/Prototype/Use Case Diagram (screenshots)

DOCUMENTS PAGE



STATISTICS PAGE

POLICY PREMIUM ADJUSTMENT BASED ON EVENTS

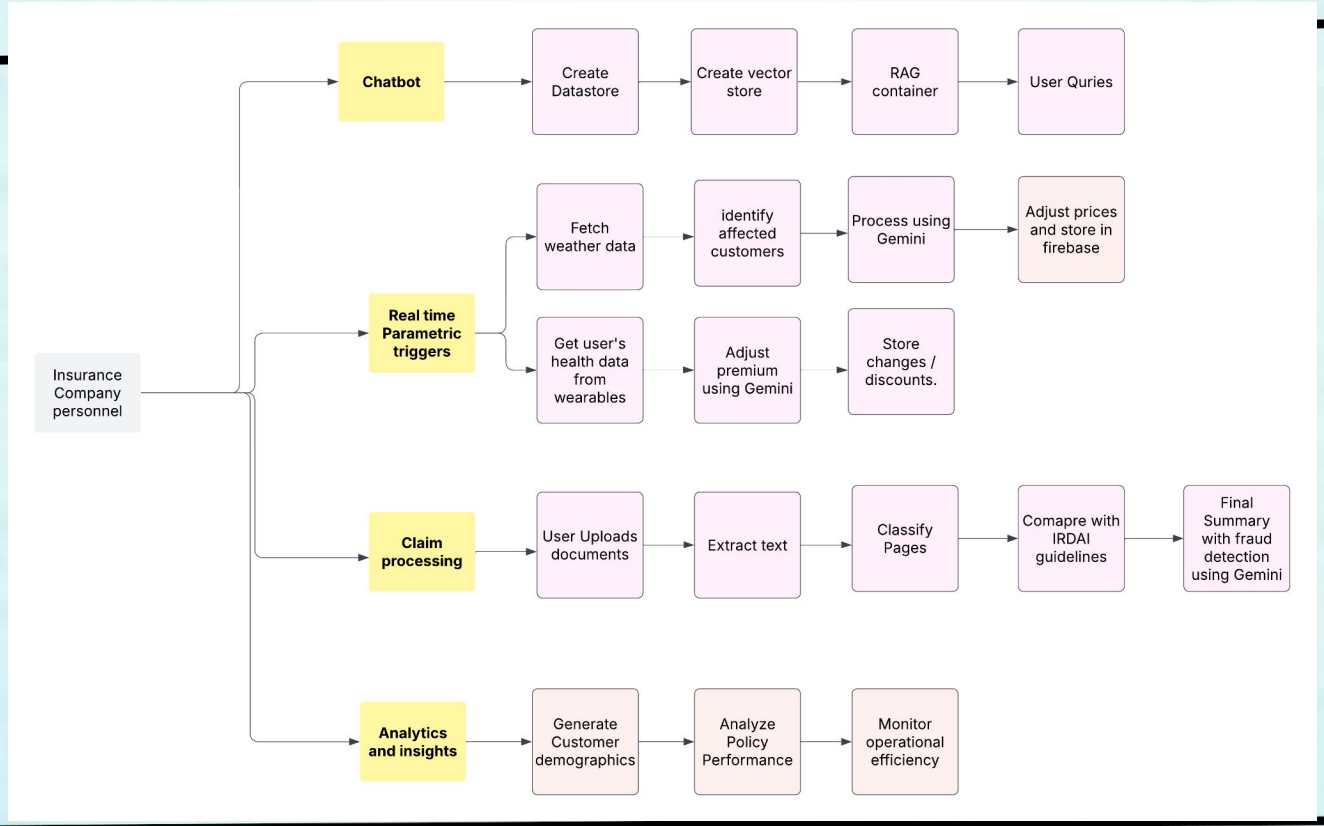
InsurAI

- Overview
- Chatbot 2
- Calendar
- Statistics
- Documents
- Profile
- Settings

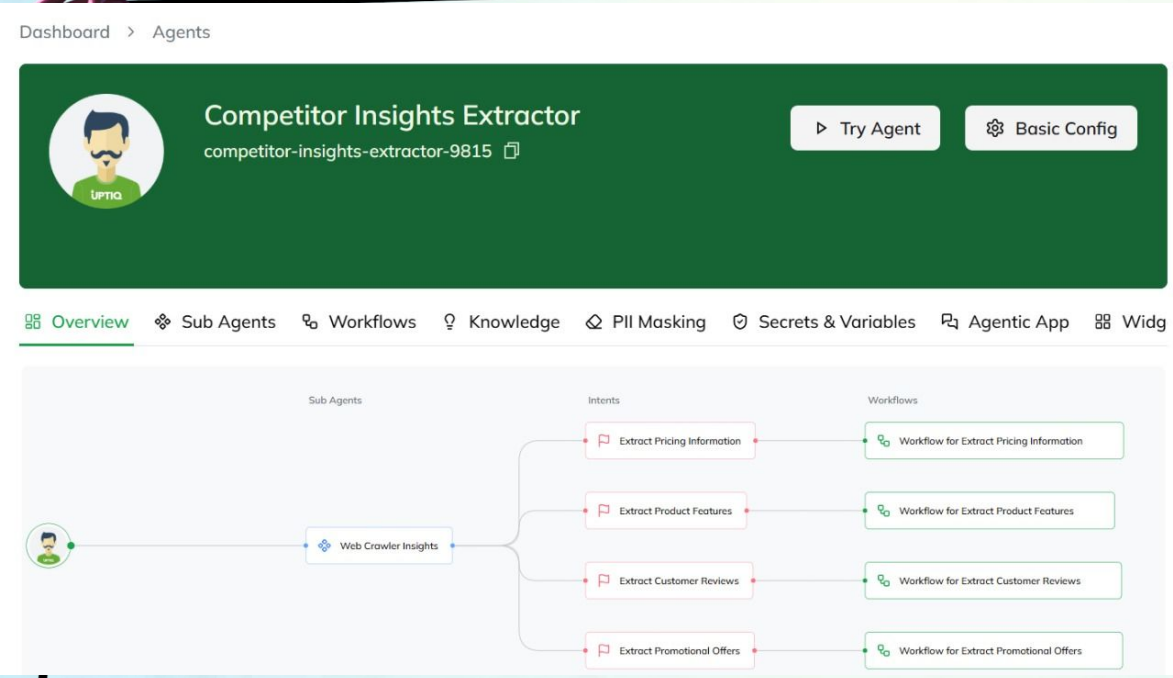
Affected Customers

Policy ID	Owner Name	Location	Age of Property	Original Premium	Adjusted Premium	Increase (%)	Summary
1616305560	Shravya Ram	Pune	51 years	₹37036.92	₹42592.46	15%	Policy adjusted due to elevated risk from Pune hurricane. Commercial property, aged 51 years, with steel construction. Adjustment is moderate due to structural resilience. Coverage includes Water Leakage Protection.
1996548267	Hemal Merchant	Pune	4 years	₹45387.29	₹54685.27	20.48%	Policy adjusted due to significant hurricane threat in Pune. Residential property, aged 4 years, with steel construction. Existing flood claim history necessitates a higher adjustment. Coverage includes Water Leakage Protection.
2092900200	Anika Mukherjee	Pune	35 years	₹21299.71	₹28490.99	33.76%	Policy adjusted due to elevated risk from Pune hurricane. Commercial property, aged 35 years, with wood construction. Wood structure increases vulnerability, leading to a higher adjustment. Coverage includes Flood Damage.
2639382670	Idika Parekh	Pune	77 years	₹48503.94	₹53354.33	10%	Policy adjusted due to increased hurricane risk in Pune. Residential property, aged 77 years, with concrete construction. Smaller adjustment due to strong structural integrity. No explicit flood or water damage coverage.
2996930853	Arjun Garde	Pune	12 years	₹46206.65	₹50827.32	10%	Dear Arjun Garde, Policy ID 2996930853 premium adjusted due to the hurricane in Pune. Your residential property, aged 12 years, with concrete construction means the adjustment is relatively lower. Your policy does not include specific flood or water damage coverage.

Implementation/Prototype/Use Case Diagram (screenshots)



In case of Uptiq category - Your Uptiq Agent (explain in detail)



The Competitor Insights Extractor is an agent powered by UPTIQ that gathers and analyzes competitor data using web crawling techniques. It extracts key insights such as pricing information, product features, customer reviews, and promotional offers. The agent operates through a structured workflow, where sub-agents and automated processes streamline data collection and analysis, enabling businesses to make informed strategic decisions.

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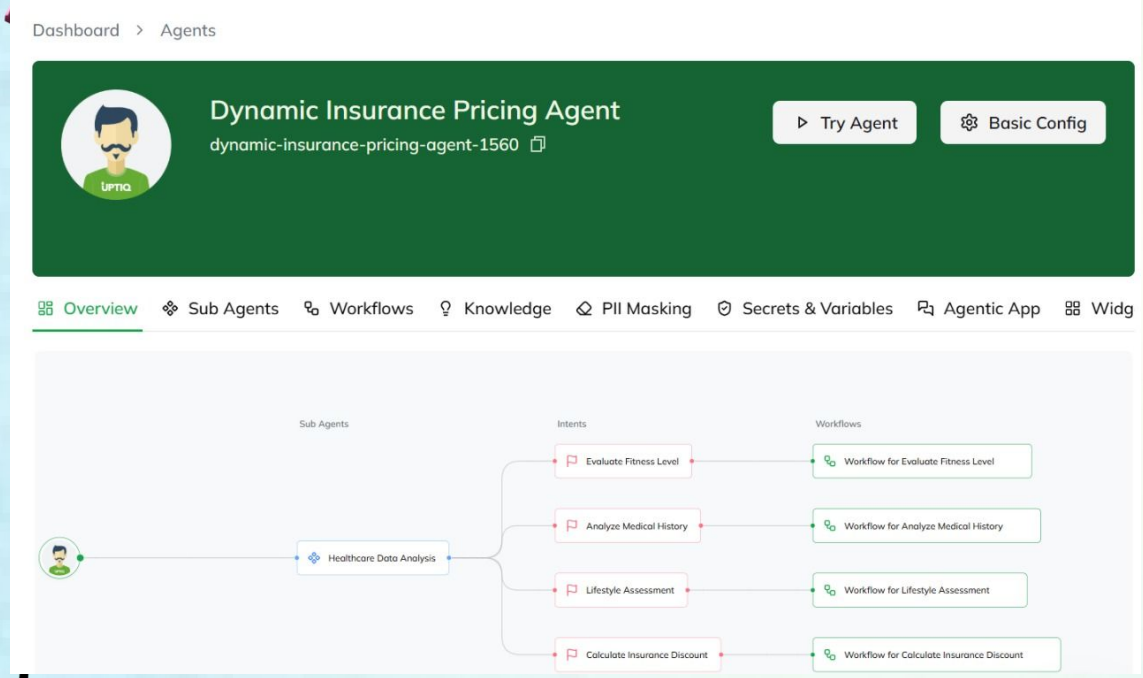

The Dynamic Insurance Pricing Agent is an AI-driven tool that analyzes healthcare data to determine personalized insurance pricing. It evaluates factors such as fitness levels, medical history, lifestyle assessment, and insurance discounts through structured workflows. The agent helps insurers offer dynamic pricing based on user health insights, enabling more accurate and fair policy adjustments.

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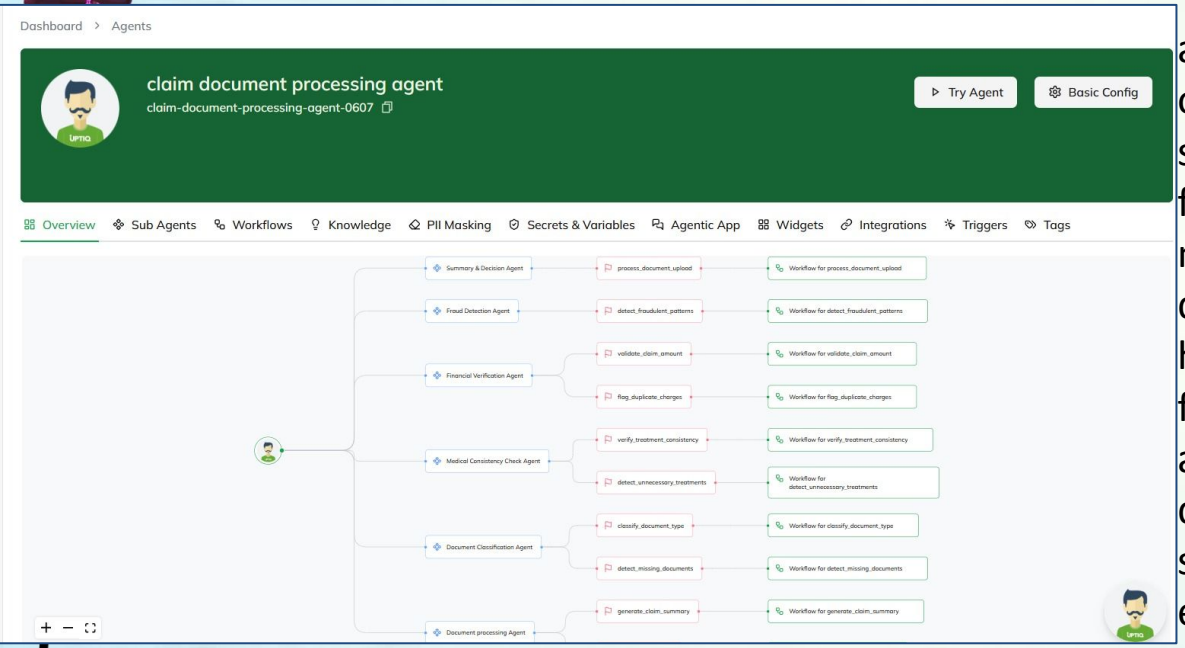
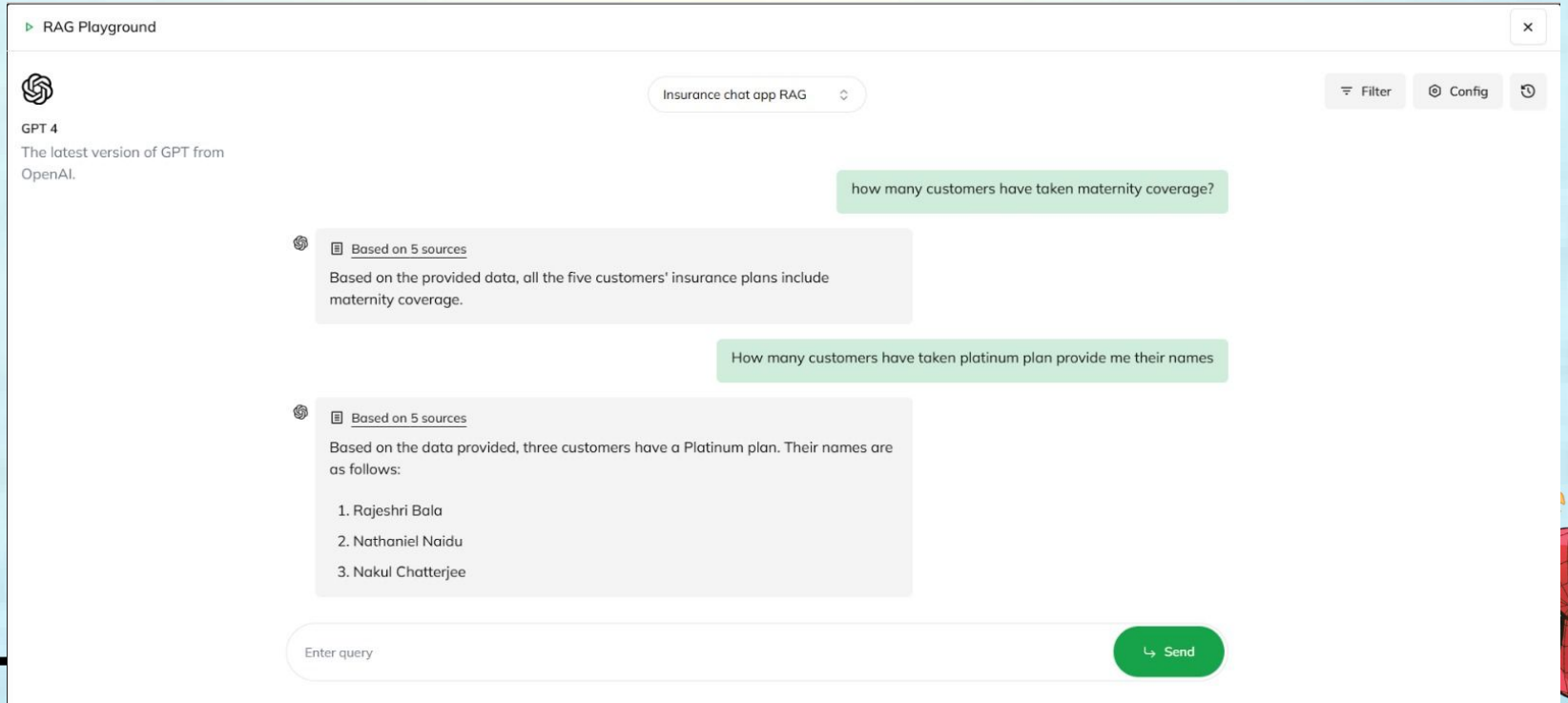


The Claim Document Processing Agent automates the validation and processing of insurance claims. It consists of multiple sub-agents handling document uploads, fraud detection, financial verification, medical consistency checks, and document classification. Each sub-agent has specific workflows to detect fraudulent patterns, validate claim amounts, flag duplicate charges, classify documents, and generate claim summaries. This AI-driven system enhances efficiency, reduces errors, and improves fraud detection in claim processing.

In case of Uptiq category - Your Uptiq Agent (explain in detail)

InsurAI chatbot RAG output.



Future Objectives

Blockchain for Claims Transparency

- Leverage blockchain to create immutable records of claims and policy adjustments.
- Enable smart contracts for instant policy validation and fraud prevention.

AI-Driven Parametric Relief Funds (Automated Payouts in Disasters)

- Use AI + IoT + Smart Contracts to create real-time insurance relief funds.
- Automatically trigger payouts before disasters impact customers.