### **Output Document**

### 1)Dashboard

We have created 5 models viz data visualization agent, fitbitconnection agent ,Fraud detection agent, premium calculationAgent, risk analysis Agent



### 2)Subagent Info

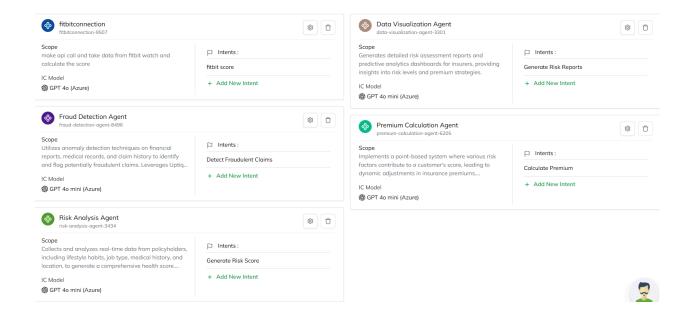
Fitbit Connection Agent – Fetches data from Fitbit API to calculate fitness-based risk scores.

Fraud Detection Agent – Uses AI to detect fraudulent insurance claims through financial and medical data analysis.

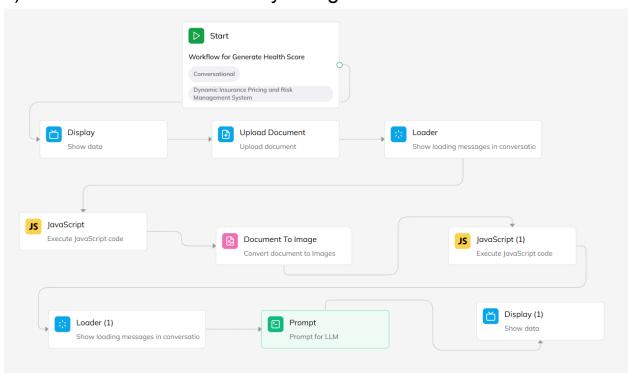
Risk Analysis Agent – Collects and evaluates policyholder data to generate a comprehensive risk score.

Data Visualization Agent – Creates risk assessment reports and analytics dashboards for insurers.

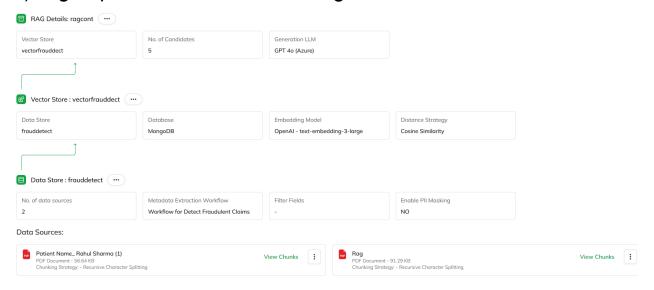
Premium Calculation Agent – Computes insurance premiums dynamically based on risk factors.



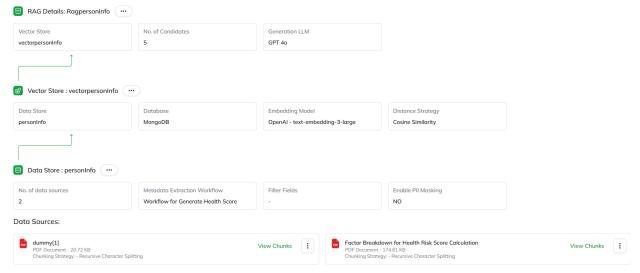
# 3)WorkFlow of the Risk Analysis Agent



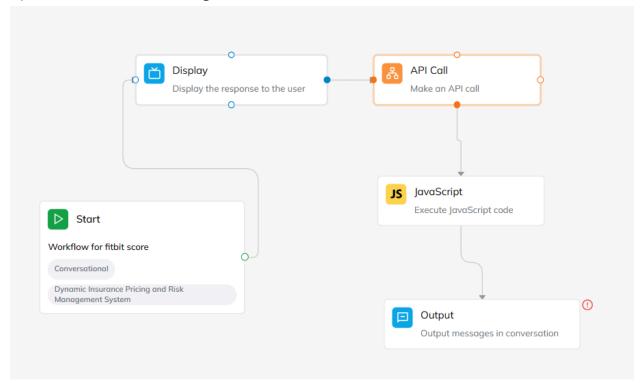
# 4)Rag Implementation for detecting fake invoices



## 5)Rag implementation to calculate the RiskScore



# 6)Workflow of fitbit agent



### **Outputs:**

### Risk factor Output

contribute to his health risk profile, which impacts insurance premiums.

#### Risk Factor Breakdown & Calculation

- Age Factor [
  - o Age: 24
  - Assigned Score: 5 (low risk due to youth)
- 2. BMI Factor X:
  - · Height: 175 cm, Weight: 75 kg
  - BMI = 24.49 (Normal weight category)
  - Assigned Score: 5 (healthy BMI)
- 3. Lifestyle Factor 🛵 🐌 🏃 :
  - · Smoking: Yes, Alcohol: Yes, Exercise: Daily
  - · Assigned Score: 20 (increased risk due to smoking and alcohol consumption, despite exercise)
- 4. Medical History Factor 🖺:
  - No medical conditions specified
  - Assigned Score: 0 (no known medical conditions)
- - · No family health risks mentioned
  - · Assigned Score: 0 (no known hereditary risks)
- Occupation Factor ( ♠ Δ:
  - · Occupation: IT Engineer (low risk)
  - Assigned Score: 5 (sedentary job but minimal occupational health risk)
- 7. Fitness Factor 🐠 🏃:
  - Fitness Tracker: No, Exercise: Daily
  - Assigned Score: 10 (positive exercise habits, but lack of tracking)

#### Risk Score Calculation

Using the weights (assuming equal weight for simplicity):

- W1 (Age Factor): 10%
- W2 (BMI Factor): 10%
- W3 (Lifestyle Factor): 25%
- · W4 (Medical History Factor): 20%
- W5 (Family History Factor): 10%
- · W6 (Occupation Factor): 10%
- W7 (Fitness Factor): 15%

Risk Score =  $(0.1 \times 5) + (0.1 \times 5) + (0.25 \times 20) + (0.2 \times 0) + (0.1 \times 0) + (0.1 \times 5) + (0.15 \times 10)$ 

Risk Score = 0.5 + 0.5 + 5 + 0 + 0 + 0.5 + 1.5 = 8

#### Risk Interpretation & Insurance Impact

- · Final Health Risk Score: 8
- Category: Low Risk (0-30) 

  ✓
- · Impact on Insurance Premiums: With a low risk score of 8, Atharva is considered to have minimal health concerns, which generally qualifies for lower insurance premiums.

In summary, Atharva's current lifestyle choices, particularly smoking and alcohol use, slightly elevate his risk profile, but his active routine and absence of serious medical and family history factors keep him in the low-risk category. However, auitting smoking and reducing alcohol consumption could further enhance his health profile and potentially secure even lower premiums.

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## Rag Verification of bill

ragcont

can you verify the authenticity of the bill

(Sp

#### ■ Based on 5 sources

Based on the information provided and compared with the data retrieved from the "Rag.pdf" document, the following points suggest discrepancies in the bill:

#### 1. Urine Routine & Microscopy Cost:

The document lists the usual cost of "Urine Routine & Microscopy" as ₹119, whereas the bill submitted by "Global Care Hospital" shows a charge of ₹5020 for the same test. This significant overcharge is inconsistent with standard billing practices.

#### 2. Claimed Treatment:

 The bill indicates treatments like "Insulin Therapy for Diabetes & Thyroid Medication," but the patient's test results, such as FBS (Fasting Blood Sugar) and TSH (Thyroid-Stimulating Hormone), are within normal ranges. This raises a red flag as there is no medical necessity apparent for these treatments.

#### 3. Billing Amount:

 The total amount claimed (₹30,482) includes inflated test costs (e.g., urine test charge). This aligns with patterns of "Upcoding Fraud," where higher charges are applied.

Based on these observations, there are clear indications that the bill may not be authentic or accurate. Further investigation, such as validation of the hospital's billing practices and a review of medical documentation, is advised before processing the claim.

Enter query

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### Calculate premium on health score

calculate my premium my health score is 35

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#### Brief Summary:

With a Health Risk Score of 35, you fall into the moderate risk category. This means your insurance premiums will be balanced against the insurance coverage offered. You can expect premiums that are higher than low-risk scores but still affordable. Your coverage options will likely offer a decent mix of benefits, guarding against various health concerns while keeping costs reasonable.

#### Policy Recommendations:

Here's a selection of policy options that could suit your risk score:

- · Policy Name: Essential Health Plan
- Coverage Amount (₹): ₹7,50,000
- . Monthly Premium (₹): ₹1,000
- Key Benefits: Basic hospitalization, day-care treatment
- Policy Name: Balanced Protection Plan
- Coverage Amount (₹): ₹12,00,000
- . Monthly Premium (₹): ₹1,500
- · Key Benefits: In-patient care, preventive health check-ups
- · Policy Name: Comprehensive Care
- Coverage Amount (₹): ₹18,00,000
- Monthly Premium (₹): ₹2,100
- · Key Benefits: OPD and hospitalization coverage, emergency care
- · Policy Name: Premium Shield
- Coverage Amount (₹): ₹25,00,000
- Monthly Premium (₹): ₹3,000
- · Key Benefits: Critical illness cover, maternity benefits
- Policy Name: Supreme Wellness Plan
- Coverage Amount (₹): ₹35,00,000
- Monthly Premium (₹): ₹4,500
- Key Benefits: Comprehensive global coverage, advanced treatments

- Key Benefits: Comprehensive global coverage, advanced treatments
- Premium Calculation Formula:

To calculate premiums based on risk scores, we use:

[ \text{Premium} = \text{Base Premium} + (\text{Risk Score} \times \text{Risk Factor})

- Given a Base Premium of ₹500 and a Risk Factor of ₹20 for moderate risk
- 1. Essential Health Plan:
  - Base Premium: ₹500
  - Risk Adjustment: (35 \times ₹20 = ₹700)
  - Total Monthly Premium: ₹1,200
- 2. Balanced Protection Plan:
  - Base Premium: ₹800
  - Risk Adjustment: (35 \times ₹20 = ₹700)
  - Total Monthly Premium: ₹1,500
- 3. Comprehensive Care:
  - Base Premium: ₹1,000
  - Risk Adjustment: (35 \times ₹20 = ₹700)
  - Total Monthly Premium: ₹1,700
- 4. Premium Shield:
  - Base Premium: ₹1,500
  - Risk Adjustment: (35 \times ₹20 = ₹700)
  - Total Monthly Premium: ₹2,200
- 5. Supreme Wellness Plan:
  - Base Premium: ₹2,500
  - Risk Adjustment: (35 \times ₹20 = ₹700)
  - Total Monthly Premium: ₹3,200
- How This Helps Users:

These policy options offer a balance of affordability and comprehensive coverage, tailored to your moderate health risk score. By understanding how risk scores influence premiums, you make informed decisions that protect your health and finances. This personalized approach encourages maintaining a healthy lifestyle and utilizing preventative care benefits.

### Provide risk report and improvement plan

no significant issues reported genrate risk report on this

#### \*\* 🖈 Strong Points:\*\*

#### 1. Exercise Routine:

 Engaging in physical activities such as running and yoga four times a week is excellent for cardiovascular health, flexibility, and mental well-being.
 Regular exercise also aids in maintaining a healthy weight, boosting mood, and reducing the risk of chronic diseases.

#### 2. Balanced Diet:

 Following a mostly plant-based diet with a variety of vegetables, whole grains, and legumes supports a healthy digestive system and provides essential nutrients. Including fish occasionally adds omega-3 fatty acids, which are beneficial for heart and brain health.

#### 3. Sleep Habits:

 Consistently getting 7–8 hours of sleep per night with a regular bedtime routine enhances recovery, cognitive function, and emotional stability.

#### 4. Non-Smoking and Moderate Alcohol Consumption:

 Avoiding smoking entirely and limiting alcohol intake to 1–2 drinks per week significantly reduces the risks associated with heart disease, liver problems, and certain cancers.

#### 5. Regular Health Check-ups:

 Keeping up with regular medical check-ups ensures early detection and management of potential health issues. Your recent assessments showing normal blood pressure and cholesterol are positive indicators of good health maintenance.

#### ▲ Weak Points:

#### 1. Moderate Stress Levels:

 A reported stress level of 6/10 indicates moderate stress, potentially impacting mental health if not managed properly. Chronic stress can lead to more severe issues, such as anxiety, depression, or heart-related problems.

#### 2. Occasional Dietary Indulgences:

 While occasional indulgences are normal, frequent consumption of desserts or treats could potentially affect weight and blood sugar levels over time if not monitored.

#### Improvement Plan:

#### 1. Stress Management:

 Incorporate stress-reduction techniques such as mindfulness, meditation, or deep-breathing exercises into your routine. Setting aside time for hobbies or leisure activities can also help balance work and personal life stressors

#### Mindful Eating:

 Pay attention to portion sizes and try to balance indulgent food choices with more nutritious options when enjoying desserts or treats. Consider healthier dessert alternatives made with natural sweeteners or whole ingredients.

#### 3. Enhanced Physical Activities:

 While your current exercise routine is commendable, consider adding different forms of physical activity such as strength training or swimming to vary the routine and work on different muscle groups, enhancing overall fitness.

#### 4 Periodic Health Assessments:

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