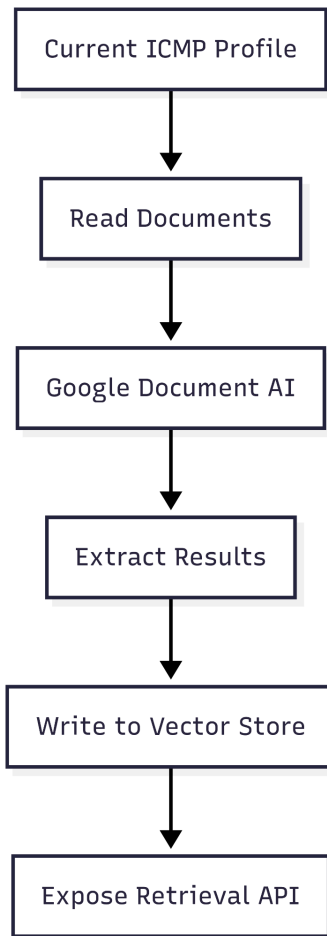# Approach 1

Description

Current ICMP Profile → AI Extraction Pipeline.
 Each profile needs to be onboarded and prompt reviewed with MRM team. Retrieval context comes from input + SOP.

```
┌─────────────────────┐
│ Current ICMP Profile │
└─────────────────────┘
          │
          ▼
   ┌──────────────┐
   │ Read Documents │
   └──────────────┘
          │
          ▼
 ┌──────────────────┐
 │ Google Document AI │
 └──────────────────┘
          │
          ▼
   ┌──────────────┐
   │ Extract Results │
   └──────────────┘
          │
          ▼
 ┌──────────────────┐
 │ Write to Vector Store │
 └──────────────────┘
          │
          ▼
 ┌──────────────────┐
 │ Expose Retrieval API │
 └──────────────────┘
```

Challenges

1. Need to onboard every profile to AI Extraction Pipeline

2. Need to review the prompt with MRM team for each use case

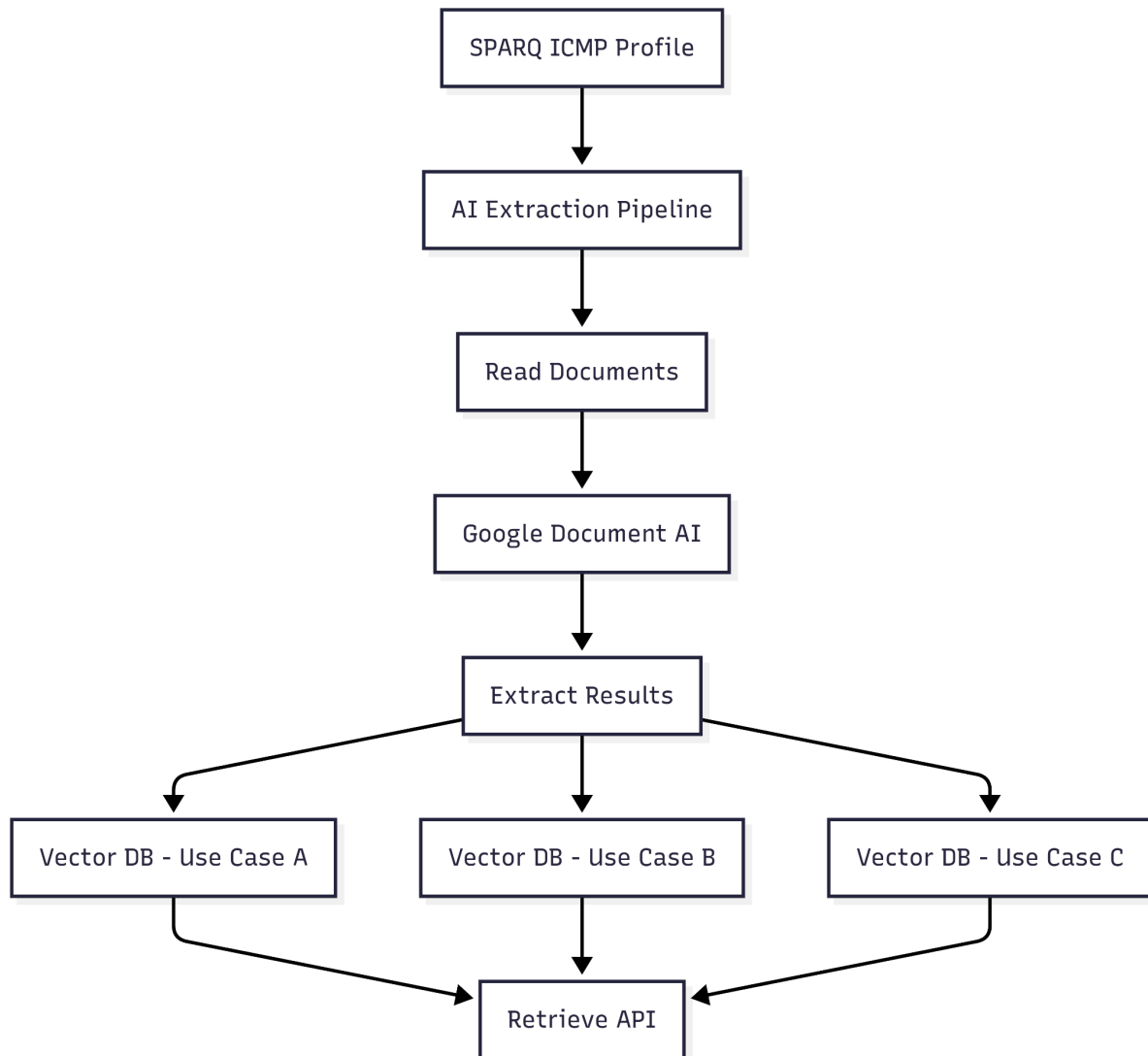3. Need access to raw PDF for QA validation

Approach 2

Description

SPARQ ICMP Profile → AI Extraction Pipeline (per use case).
 Each use case stores results in a separate vector DB, reducing hallucinations and improving retrieval accuracy.

Mermaid Flowchart

```mermaid
flowchart TD
    SPARQ ICMP Profile --> AI Extraction Pipeline
    AI Extraction Pipeline --> Read Documents
    Read Documents --> Google Document AI
    Google Document AI --> Extract Results
    Extract Results --> Vector DB - Use Case A
    Extract Results --> Vector DB - Use Case B
    Extract Results --> Vector DB - Use Case C
    Vector DB - Use Case A --> Retrieve API
    Vector DB - Use Case B --> Retrieve API
    Vector DB - Use Case C --> Retrieve API
```

Advantages
- No need to onboard every time (mapping profiles to use cases)
- Isolation of results per use case
- Metadata-driven retrieval reduces hallucination

Challenges
1. Need to review the prompt with MRM team for each use case
2. Need access to raw PDF for QA validation