



# A CONTEXT-DRIVEN AGENTIC RAG SYSTEM WITH ITERATIVE SELF-CORRECTION



**Presented by:**

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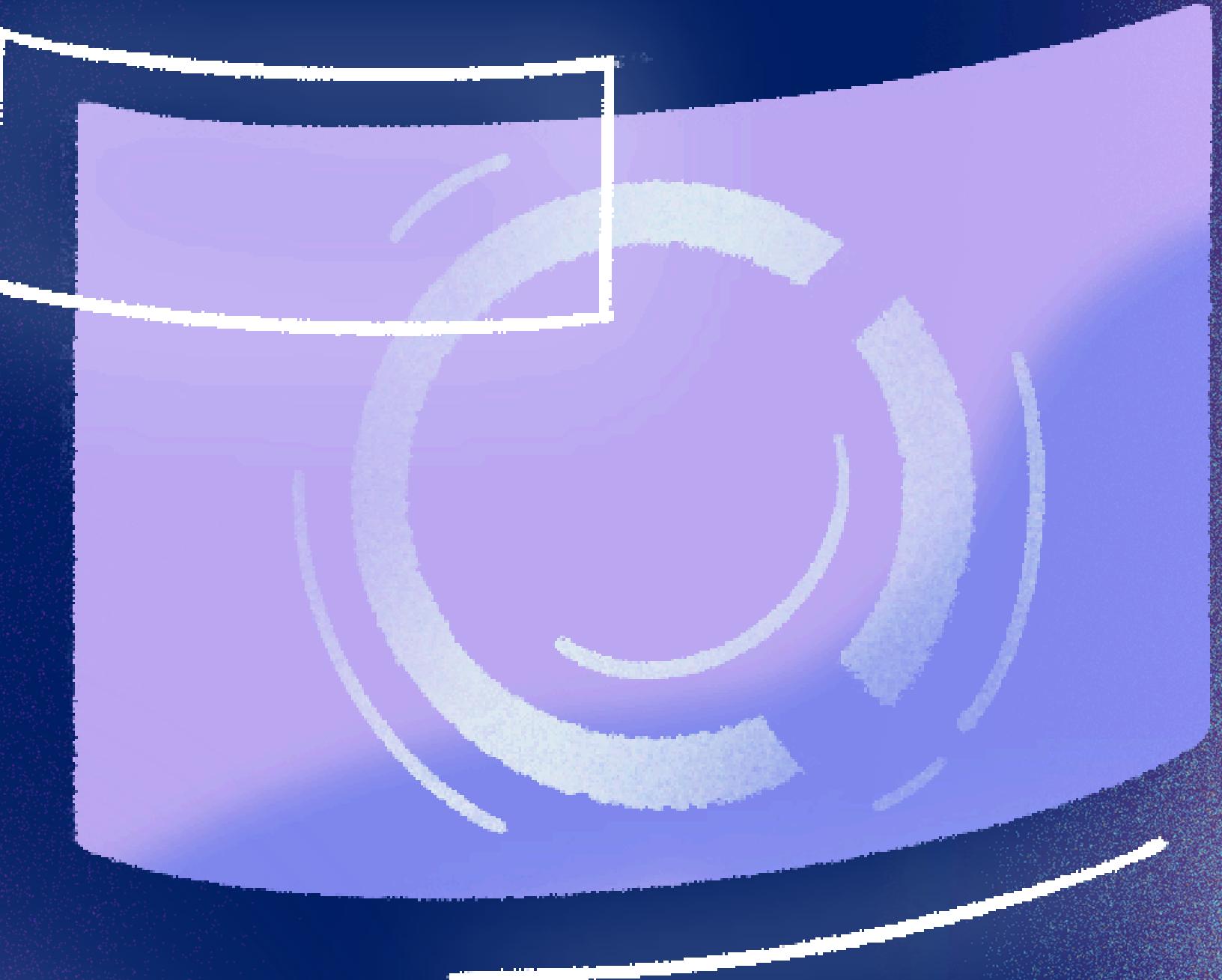
# PROBLEM STATEMENT



Traditional Retrieval-Augmented Generation (RAG) systems are constrained by a "static, single-pass retrieval process". This core limitation means they fail when handling "complex and multi-hop queries" that require dynamic, multi-step reasoning and the ability to synthesize information from multiple sources. As a result, standard RAG struggles with tasks where the necessary information is not obvious and cannot be found in a single retrieval step.

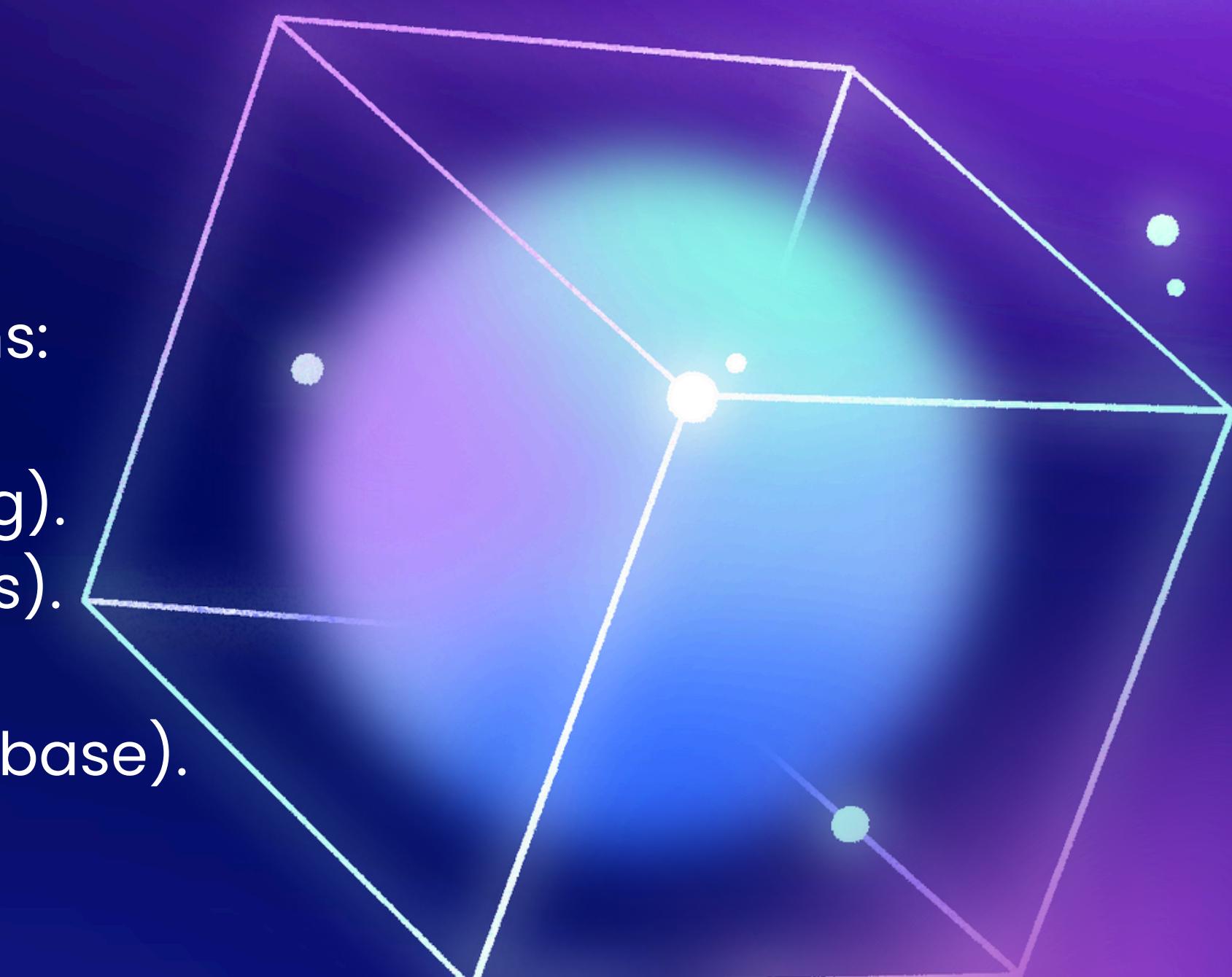
# PROPOSED SOLUTION

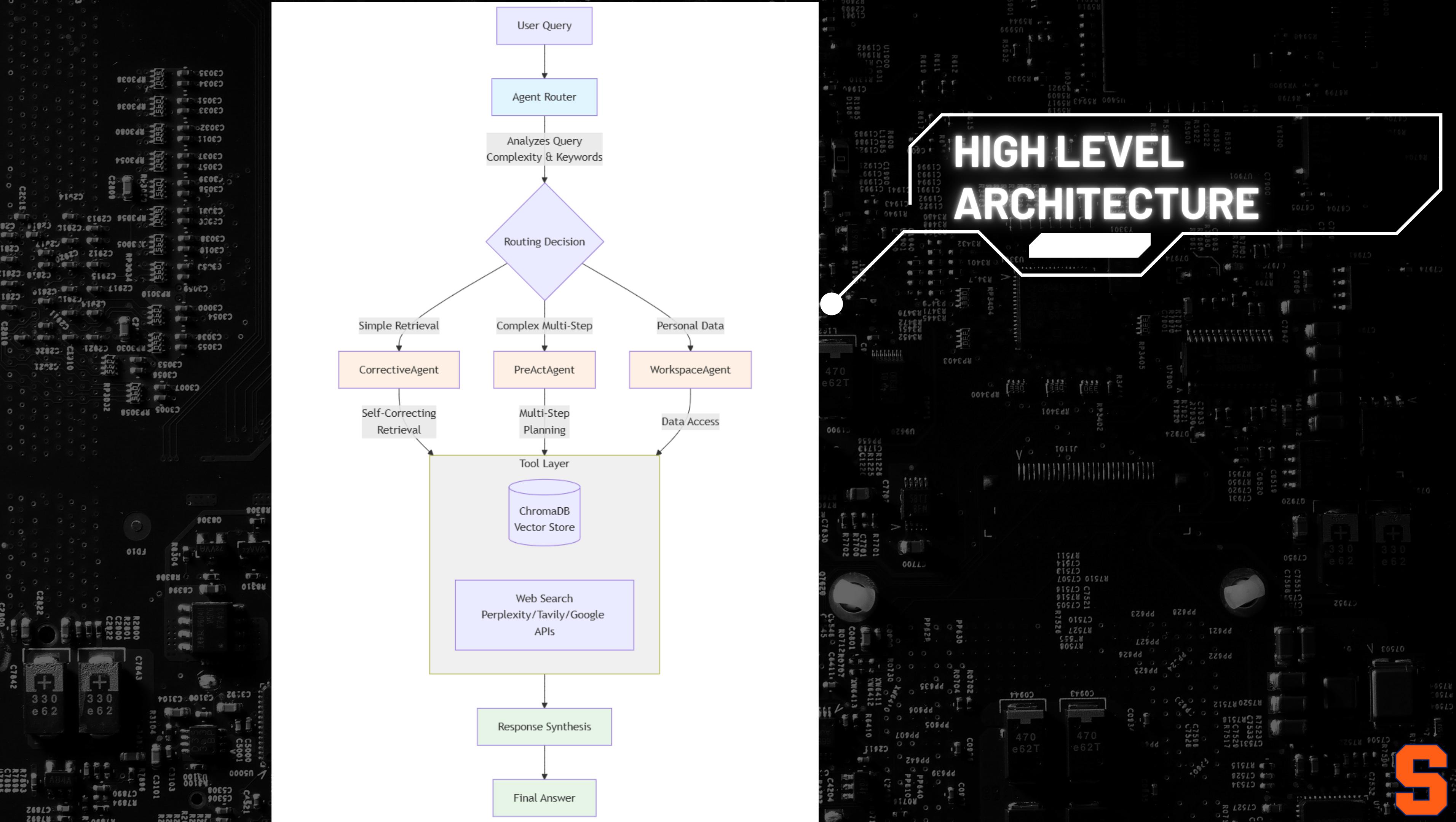
To overcome the "static, single-pass" limitations of traditional RAG , our solution is a dynamic, multi-agent Agentic RAG system.



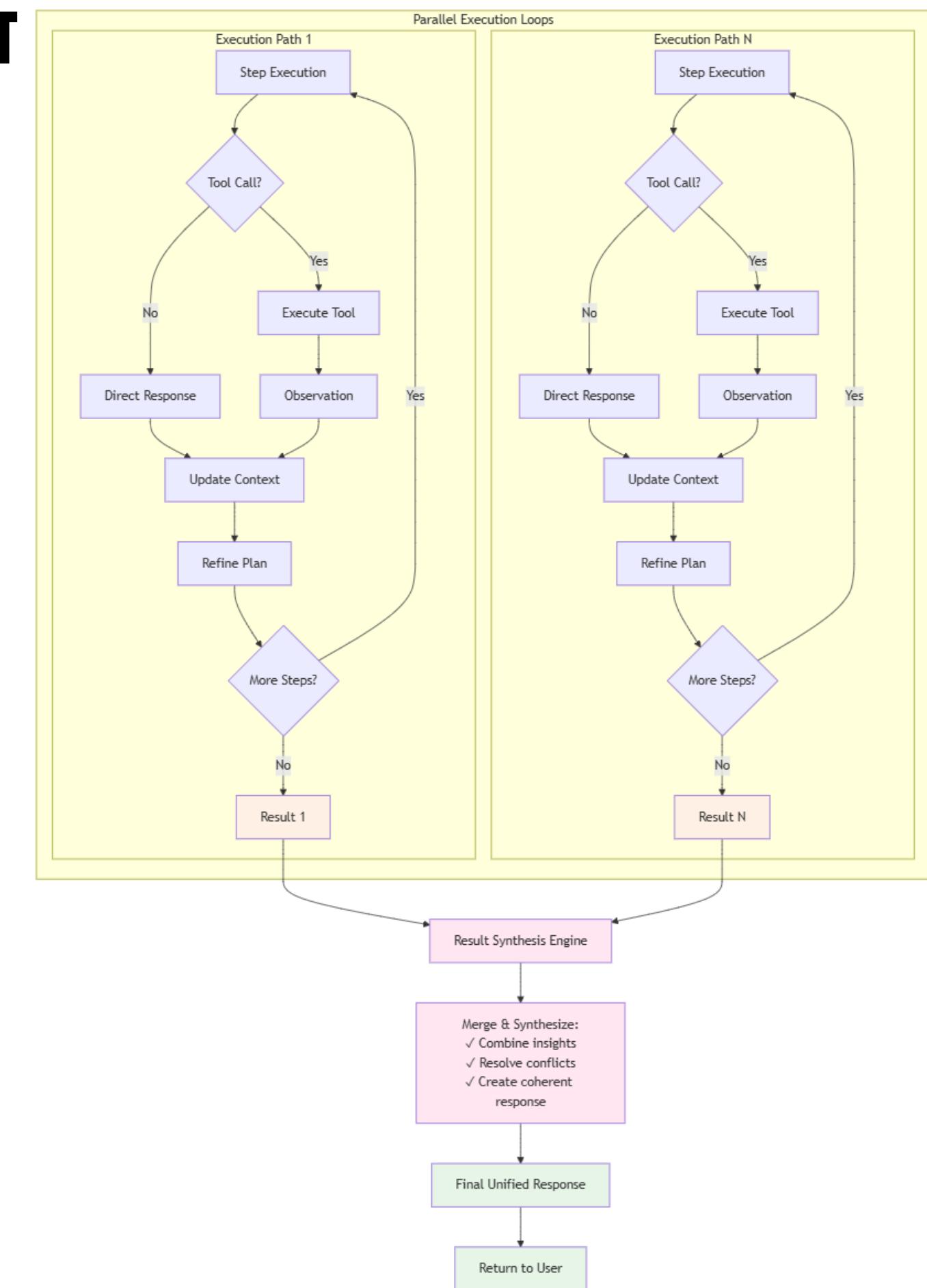
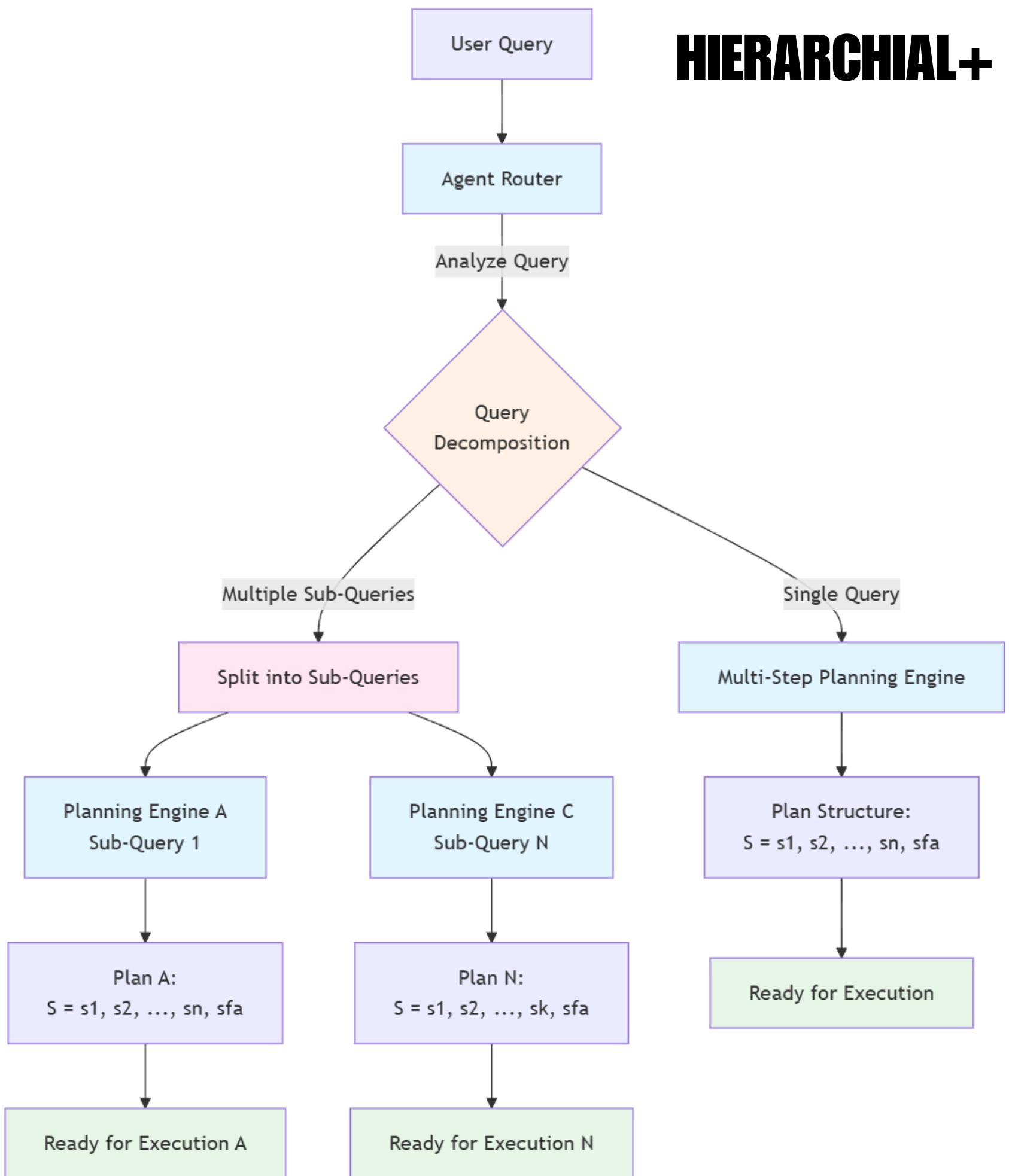
# METHODOLOGY

- An intelligent Agent Router to delegate tasks.
- A set of Specialized Agents for specific functions:
- **CorrectiveAgent** (for self-correcting retrieval).
- **PreActAgent** (for complex, multi-step reasoning).
- **WorkspaceAgent** (for personalized data access).
- A Global Memory module for shared context.
- A Shared Toolset (e.g., web search, vector database).



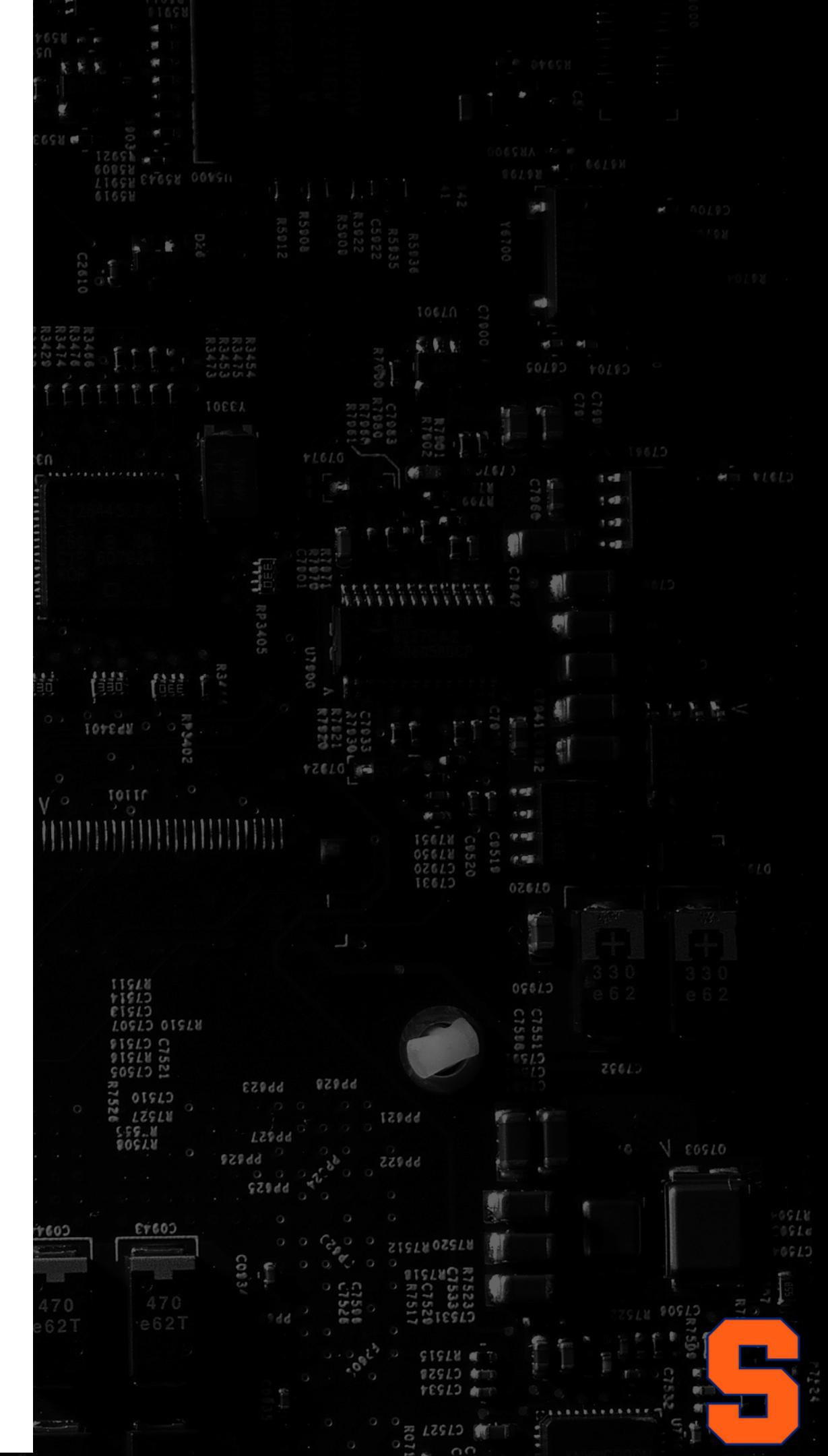
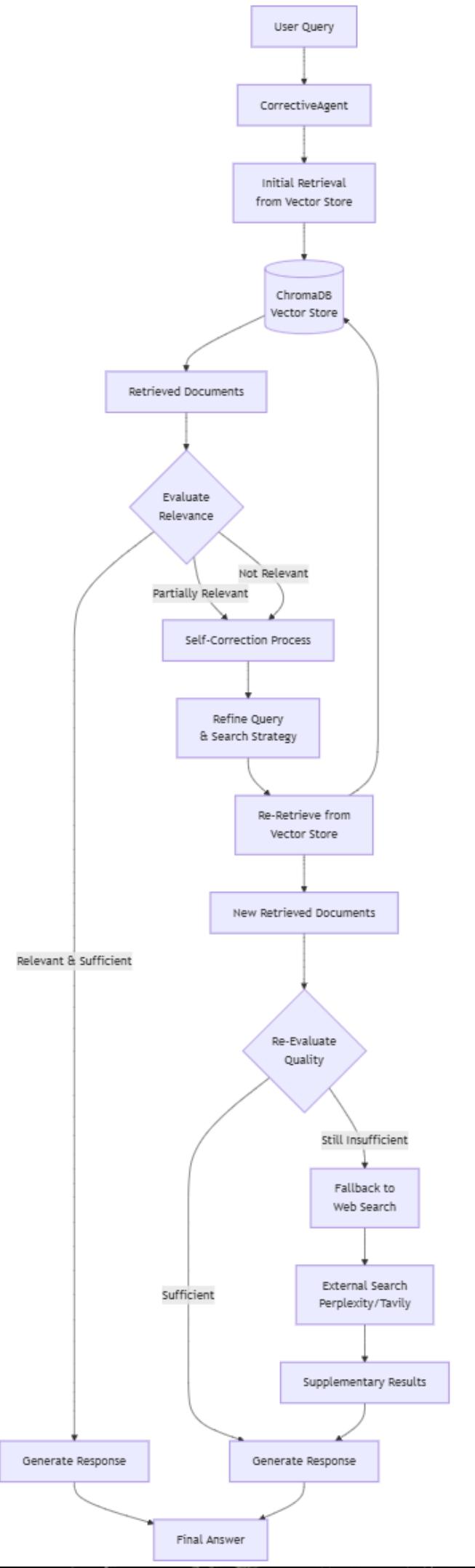


# HIERARCHIAL + PRACT AGENT

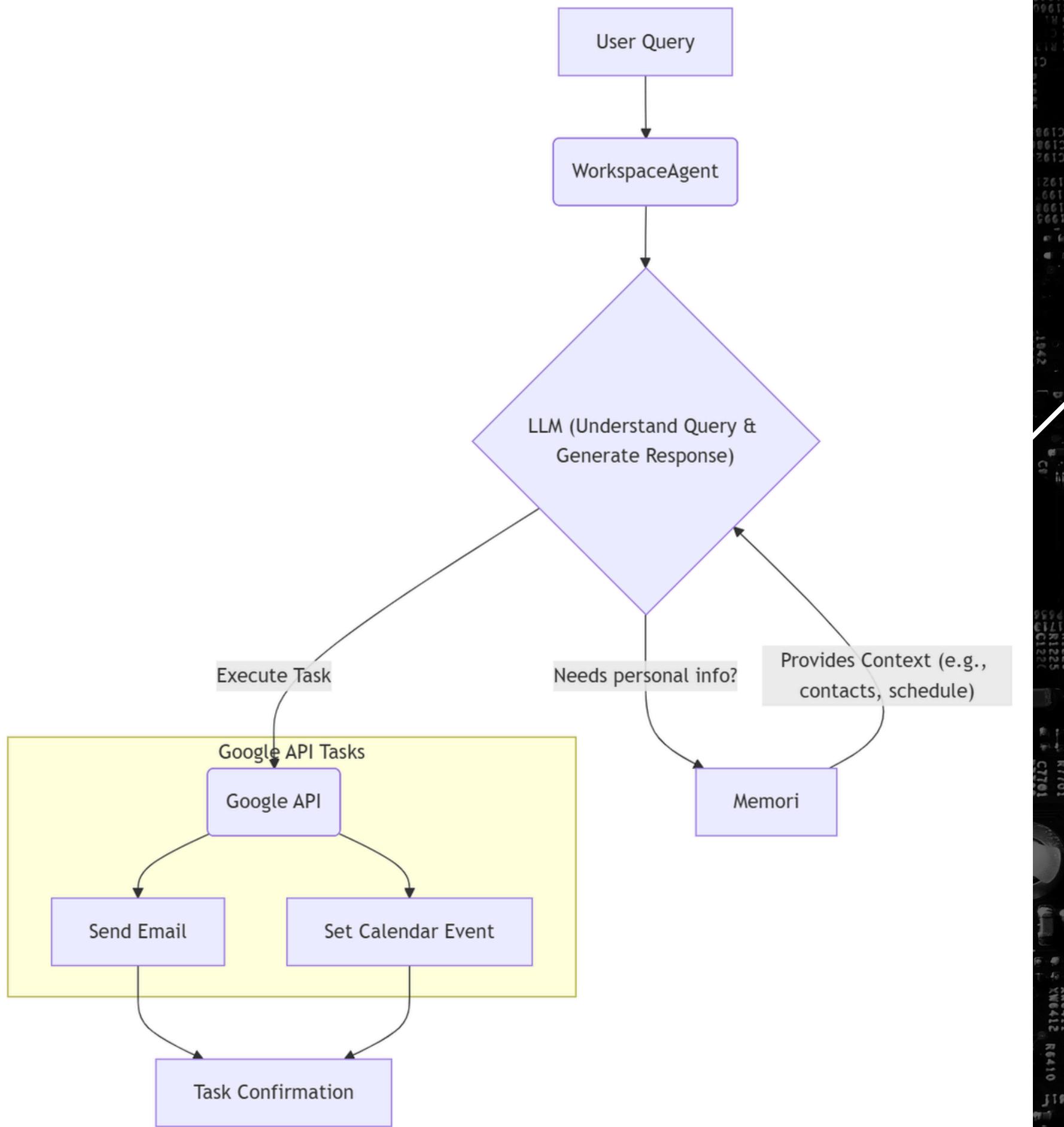


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# CORRECTIVE AGENT



# WORKSPACE AGENT

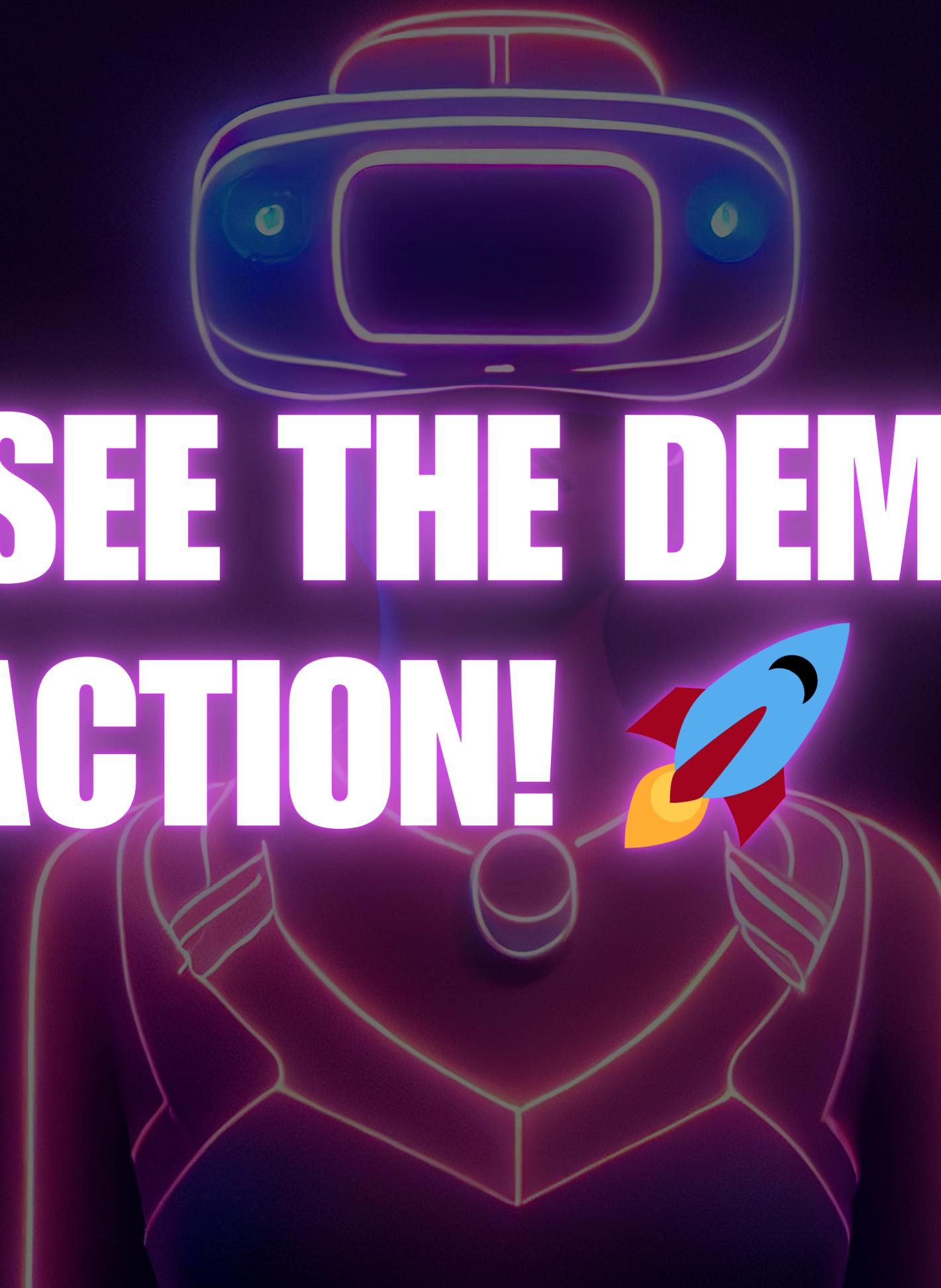


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# USE CASE IN WORK



- Secure Emailing: Sends sensitive info via encrypted emails.
- Access Control: Only authorized users can send/retrieve data.
- Secure Retrieval: Fetch data via authenticated APIs with logs.
- Auto Scheduling: Calendar API auto-schedules stakeholder meetings.

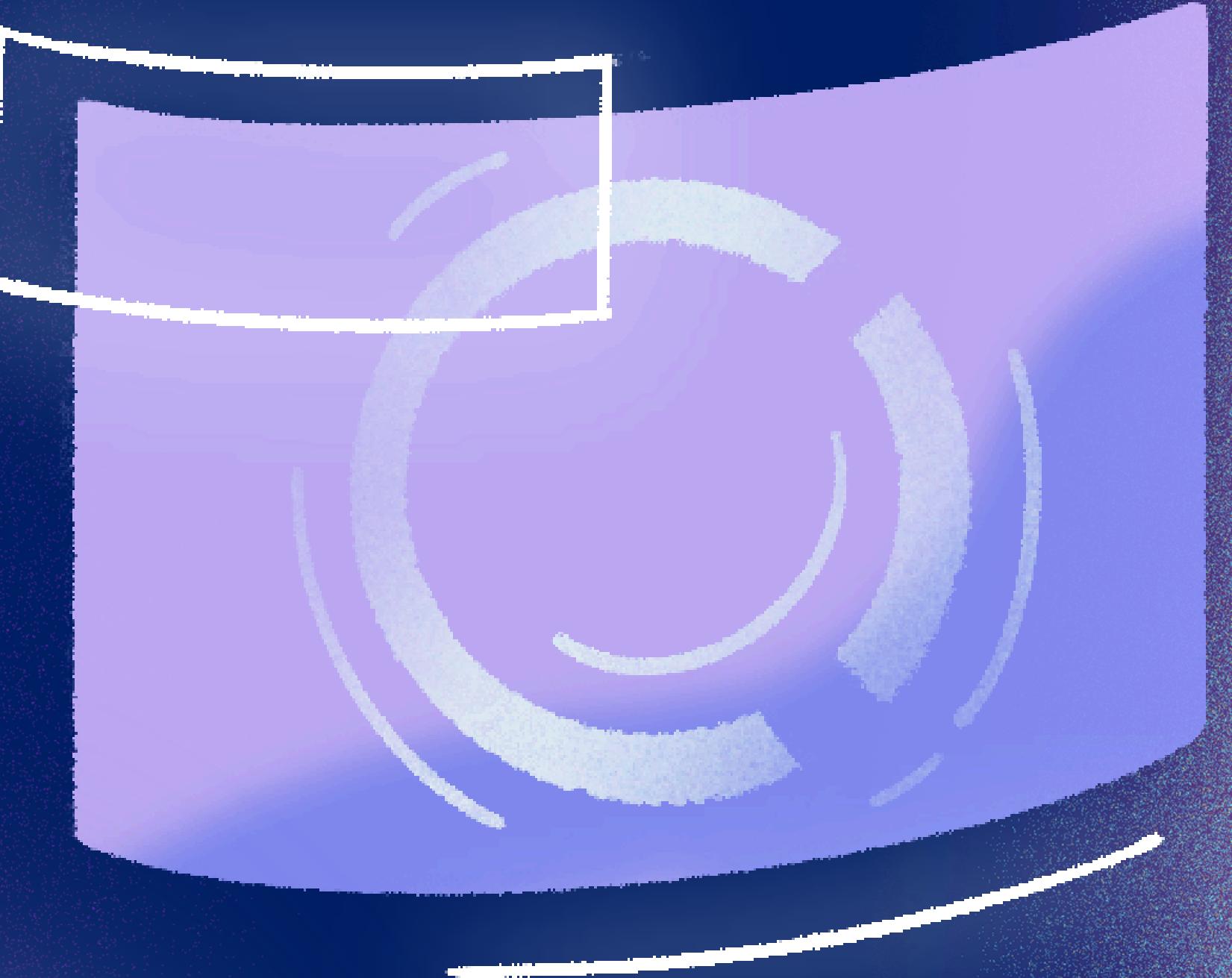


**LET'S SEE THE DEMO  
IN ACTION!**

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# TECH STACK

- Frameworks & Libraries: LangChain, LangGraph, Memori
- LLM Integrations: OpenAI, GoogleGemini
- Database & Memory: ChromaDB and Memori



# FUTURE SCOPE

- Fine-tune models for domain-specific tasks
- Add smart browser agents for web automation.
- Handle complex tasks like job applications.
- Enhance security and scalability.



**THANK YOU**



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