

Required Tools and Frameworks

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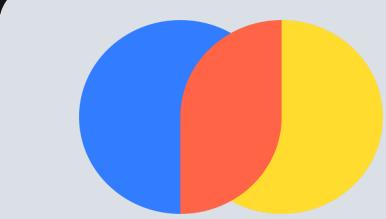


Required Tools and Frameworks

- LangGraph
- Google Colab
- VectorDB



LangGraph

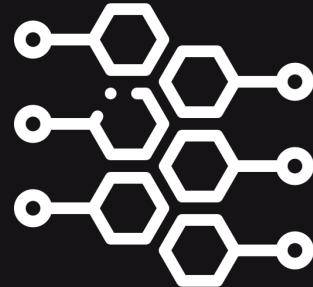


Overview Of LangGraph

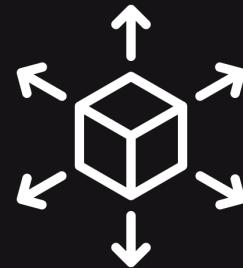
- Node-and-edge design for chaining actions
- Conditional execution and branching
- Visualizing data flow for complex, multi-step processes
- Clarity and collaboration



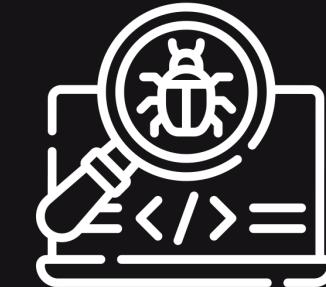
LangGraph vs. Other Approaches



LangGraph uses a **structured workflow**, unlike basic LangChain chains



It is **more scalable** than simple script-based AI flows



Enables better **debugging and monitoring**

LangGraph in Our Project

Orchestrates Multiple Agents

Manages conversation, SQL, and compliance agents.

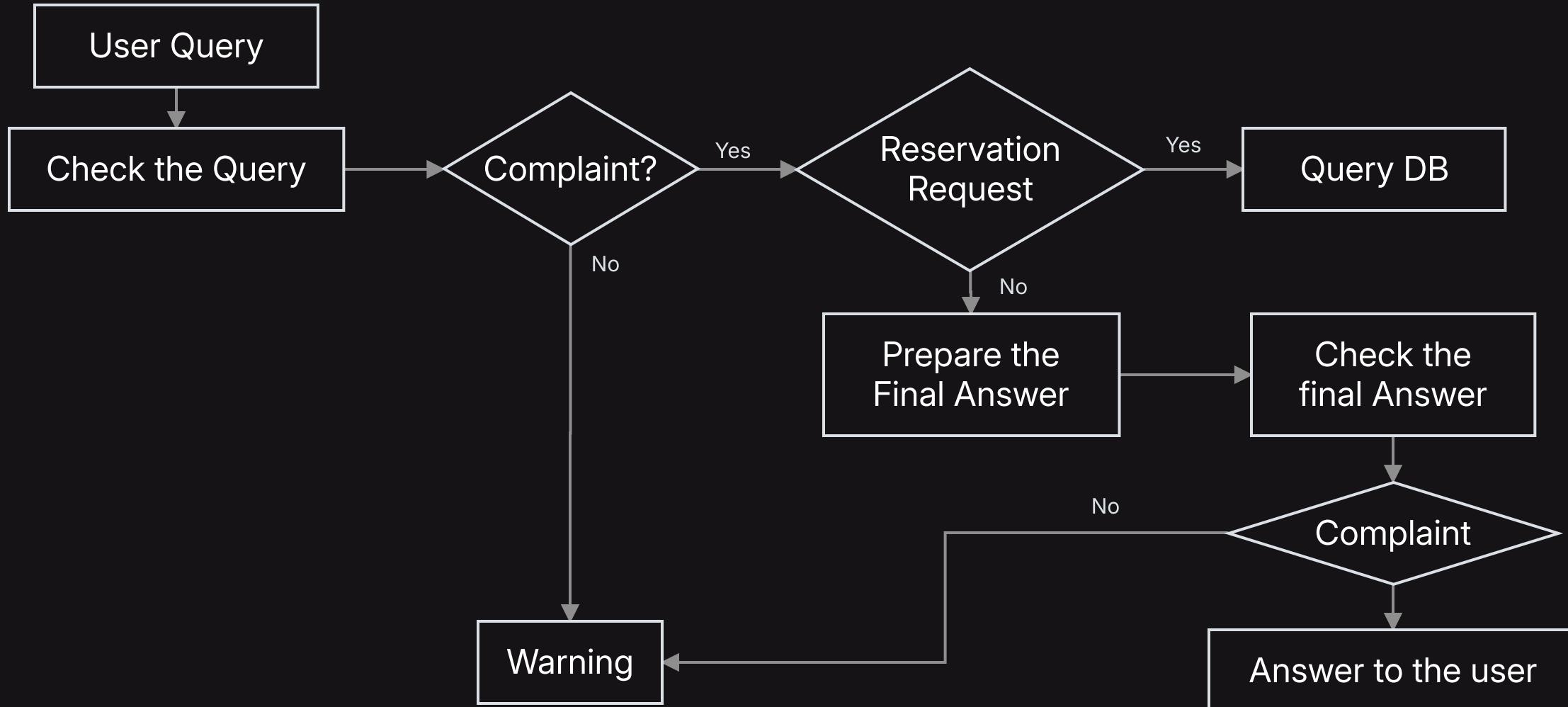
Ensures a Maintainable Architecture

Keeps workflows structured and scalable.

Facilitates Smooth Transitions

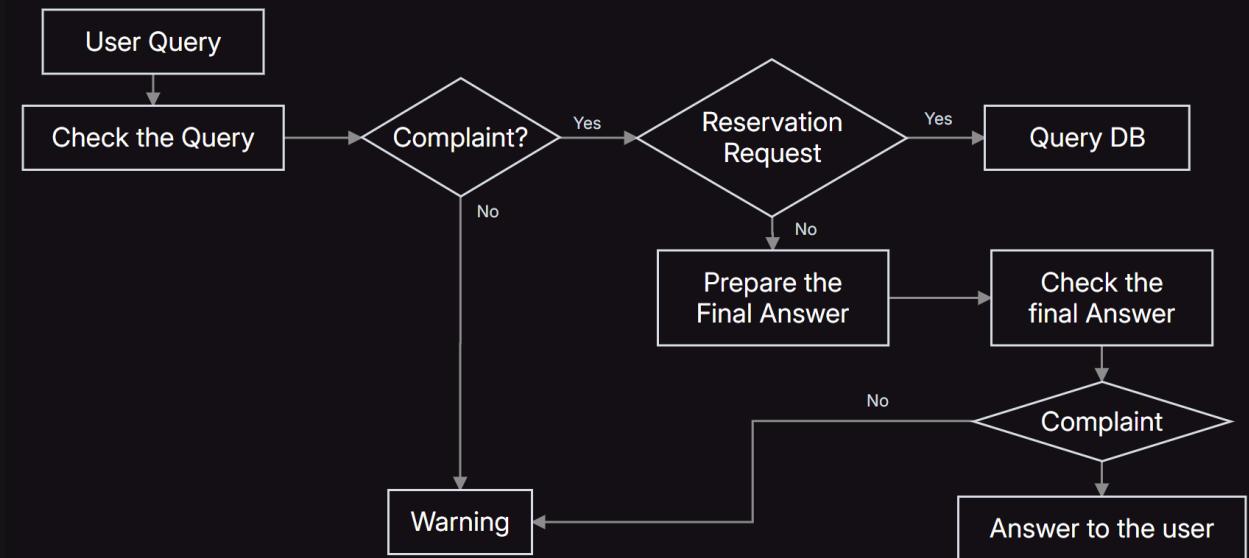
Enables clear role assignments and seamless agent interactions.

Project Workflow in LangGraph



Project Workflow in LangGraph

- The Customer Conversation Agent receives a user query
- If a reservation request is detected, the SQL Agent is activated
- The RAG Agent checks responses for compliance before sending them to the user



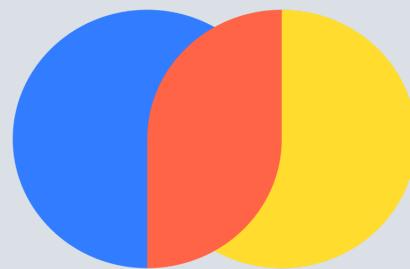
Working in Google Colab

- Setting Up the Environment – Initialize and configure Colab for projects.
- Installing Dependencies – Use pip to install required libraries.
- Collaborating in Real-Time – Share notebooks and work with teams.
- Managing Data & Files – Persist files and handle data storage.



Databases & Backend Tools

- **SQLite** – Stores hotel reservation data.
- **ChromaDB** – Manages compliance rules and policies.
- **Key Advantages**
 - Easy to set up in **Google Colab**.
 - Minimal resource overhead for efficient performance.



Integration with Large Language Models

- Leveraging APIs (e.g., OpenAI) or open-source LLMs (Hugging Face)
- Handling prompt engineering, token limits, and best practices



Summary & Next Steps

- LangGraph and relevant tools
- Emphasize how Google Colab simplifies collaboration and setup
- **Project implementation**

Thanks