CAPSTONE PROJECT

20. START-UP BLUEPRINT GENERATOR AGENT

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OUTLINE

- **Problem Statement** (Should not include solution)

- **Proposed System/Solution**

- **System Development Approach** (Technology Used)

- **Algorithm & Deployment**

- **Result (Output Image)**

- **Conclusion**

- **Future Scope**

- **References**

START-UP BLUEPRINT GENERATOR AGENT

Example:

Currently, many aspiring entrepreneurs in India struggle to convert raw business ideas into structured plans due to a lack of knowledge, fragmented resources, and overwhelming regulatory requirements. Although government portals, funding schemes, and incubators exist, founders often find it difficult to navigate this scattered ecosystem. The crucial part is transforming an unstructured idea into an actionable blueprint—one that includes a business model, market strategy, budget, legal formalities, and funding options. The Startup Blueprint Generator Agent addresses this challenge by automating and personalizing this transformation process using AI and policy-grounded retrieval.

PROPOSED SOLUTION

The system aims to convert raw startup ideas into structured business blueprints using AI and real government data. It uses **Retrieval-Augmented Generation (RAG)** with large language models to deliver personalized outputs.

Data Collection:

- Gather PDFs on startup schemes, incubators, and policies.

Preprocessing:

- Clean and structure text.
- Create vector embeddings for smart document search.

AI & Prompting:

- Use **Granite-13b** model via **Watsonx.ai**.
- Generate: Business Canvas, Budget, GTM plan, Legal steps, and Funding suggestions.

Deployment:

- Build the agent in **IBM Agent Builder**.
- Enable tools like Document Search and Google/Wikipedia.

Evaluation:

- Check accuracy, completeness, and real-world relevance.
- Improve with user feedback.

Result:

- Outputs tailored startup plans instantly.
- Saves time and improves planning accuracy.

Objective:

- Automate business blueprint generation using AI.
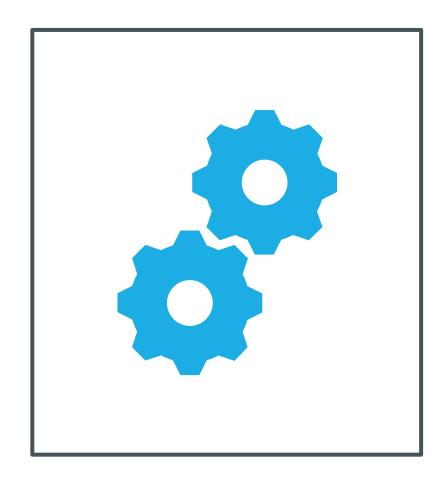
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SYSTEM APPROACH

The "System Approach" section outlines the overall strategy and methodology for developing and implementing the Startup Blueprint Generator Agent.

System Requirements:

•IBM Cloud account (Lite or above)

•IBM Watsonx.ai service with access to Granite LLMs

•IBM Cloud Object Storage for storing policy documents

•IBM Agent Builder for deploying and managing the AI agent

•Optional frontend framework (e.g., Streamlit or Flask) for user interaction
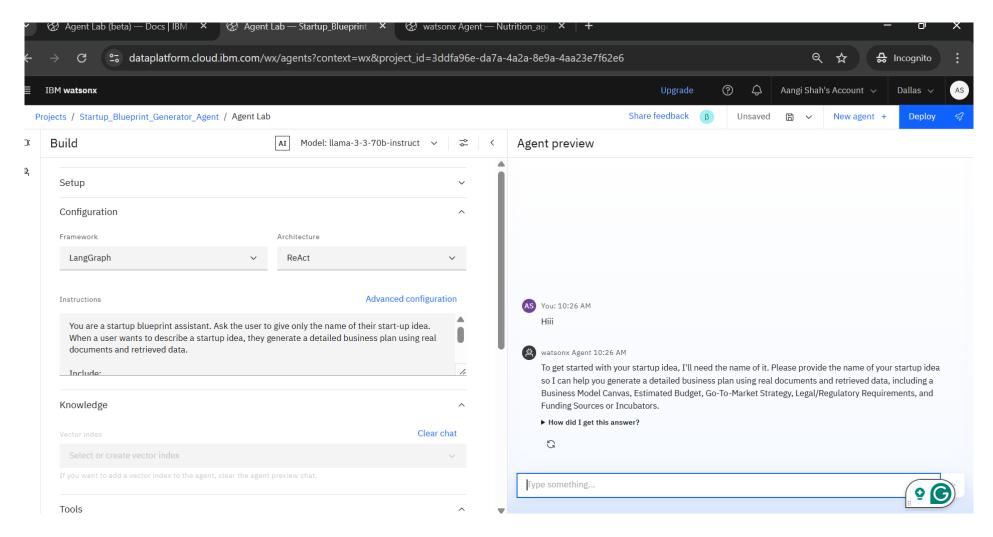
Libraries Required to Build the Model:

•ibm-watsonx-ai – for accessing Granite model APIs

•ibm-watsonx-document-search – for vector-based document retrieval (RAG)

•PyMuPDF or pdfplumber – to extract text from PDF documents

•Langchain *(optional)* – for advanced prompt orchestration

•Streamlit – to create a simple user interface

•pandas, numpy – for basic data handling
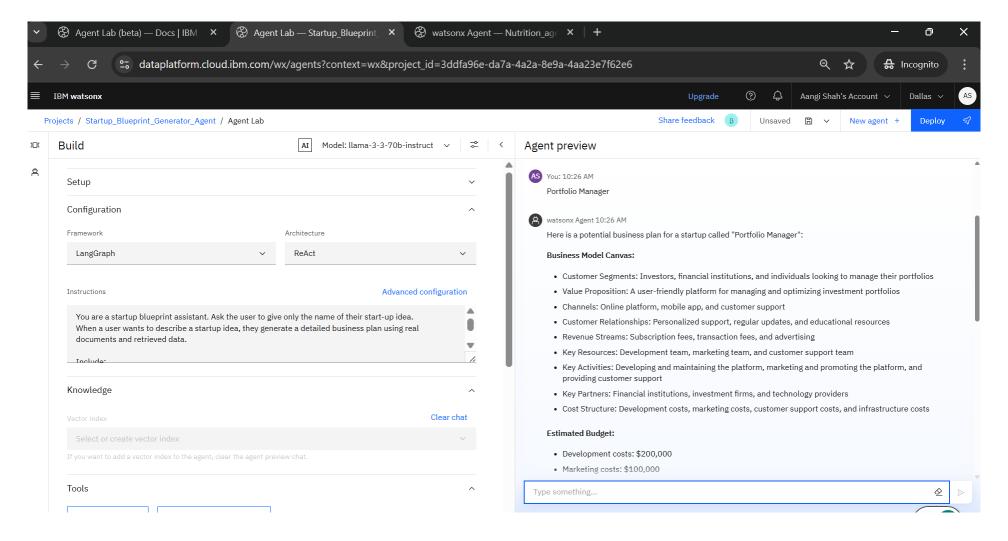
•scikit-learn *(optional)* – for evaluation or enhancement

ALGORITHM & DEPLOYMENT

- Algorithm Selection:
  The system uses **Retrieval-Augmented Generation (RAG)** with **Granite-13b-chat-v1**, a powerful language model from IBM. This approach allows the agent to generate accurate, context-rich startup plans using real policy documents.

- Data Input:

- User's startup idea (text input)

- Retrieved content from indexed PDFs (e.g., schemes, legal guides, incubator handbooks)

- Training Process:

- No model training required

- Uses **prompt engineering** and **document indexing** for relevance

- Optimized using manual feedback and test queries

- Prediction Process:

- The agent retrieves relevant info from documents

- Feeds it to the Granite model with the user's idea

- Outputs a structured startup blueprint with budget, strategy, and funding suggestions
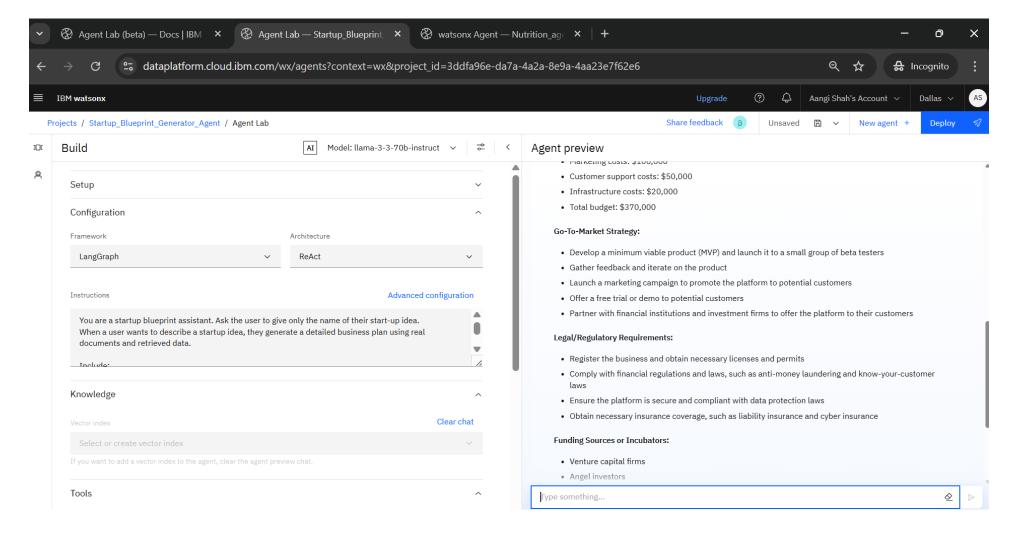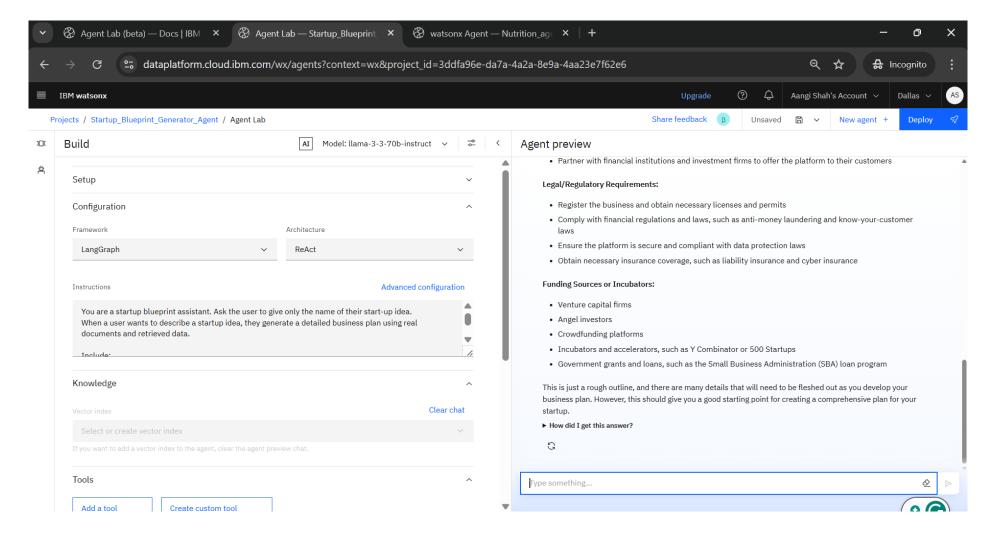
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RESULT

RESULT

RESULT

RESULT

CONCLUSION

- The Startup Blueprint Generator Agent provides a powerful AI-driven solution to help aspiring entrepreneurs transform raw ideas into complete, structured business plans. By combining IBM's Granite language model with document retrieval (RAG), the agent delivers accurate, relevant, and actionable outputs grounded in real-world data. It significantly reduces the time and effort required for early-stage planning, making entrepreneurship more accessible and informed. This system demonstrates how AI can effectively bridge the gap between ideation and implementation in the startup ecosystem.

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FUTURE SCOPE

- **Multilingual Support:** Extend the agent to support regional languages for wider accessibility across India.

- **Real-Time Data Integration:** Connect live APIs for startup portals, funding databases, and incubator updates.

- **Investor & Mentor Matching:** Recommend relevant investors, VCs, and mentors based on startup domain and stage.

- **Interactive Chat Interface:** Build a chatbot UI for more conversational and guided planning assistance.

- **Mobile App Deployment:** Launch a mobile-friendly version for quick access and idea submission on the go.

- **Pitch Deck Generation:** Automatically create investor-ready pitch decks from the generated blueprint.

REFERENCES

- **IBM Watsonx.ai**
  https://www.ibm.com/products/watsonx-ai

- **Granite Foundation Models**
  https://www.ibm.com/blog/granite-models

- **Startup India Portal**
  https://www.startupindia.gov.in

- **IBM Cloud Object Storage**
  https://www.ibm.com/cloud/object-storage

- **Langchain (for RAG)**
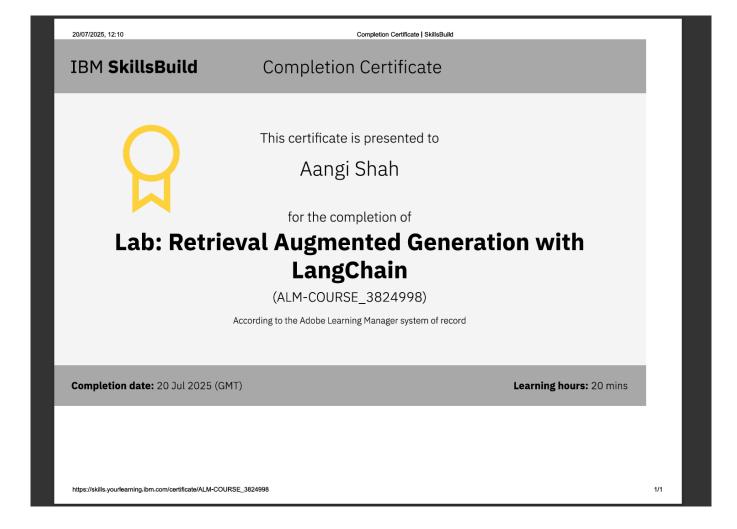 https://www.langchain.com

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