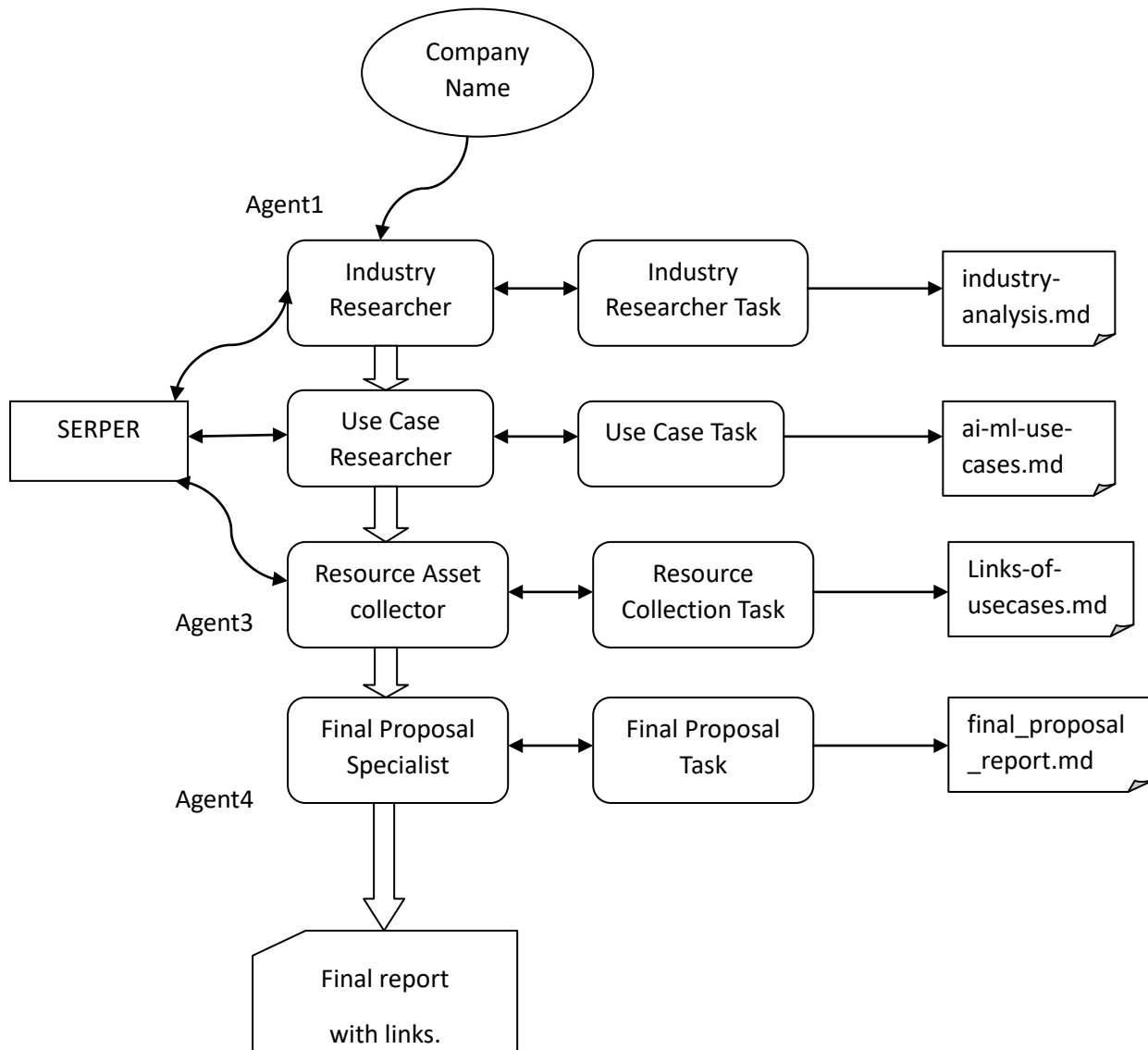


Architecture of “Market Research & Use Case Generation Agent”



Market Research & Use Case Generation Agent

This project is all about Multi-Agent system that generates relevant AI and Generative AI (GenAI) use cases for a given Company or Industry. The system will conduct market research, understand the industry and product, and provide resource assets for AI/ML solutions, focusing on enhancing operations and customer experiences. Multiple Agents work for different functionalities and each agent communicates with each other sequentially.

- Used CrewAI to build agents and SERPER as a search tool for the agents.
- Used llama3-8b-8192 model from GroqCloud.
- Each Agent saves its output in separate file.

Agent1: Industry Researcher

This AI Agent Uses a Web browser tool SERPER and understand the industry and segment the company is working in (e.g., Automotive, Manufacturing, Finance, Retail, Healthcare, etc.). Identifies the company's key offerings and strategic focus areas (e.g., operations, supply chain, customer experience, etc.). Tries to get details based on different aspects.

Agent 2: Use Case Researcher

Based on the industry conducted, this AI Agent analyzes industry trends and standards within the company's sector related to AI, ML, and automation. Propose relevant use cases where the company can leverage GenAI, LLMs, and ML technologies to improve their processes, enhance customer satisfaction, and boost operational efficiency.

Agent 3: Resource Asset Collector

Collect the use cases generated by Agent 2 and searches for relevant datasets on platforms like Kaggle, HuggingFace, and GitHub. Saves the resource links fetched in a file and passes the searched links to next agent.

Agent 4: Final Proposal Specialist

List downs the top use cases that can be delivered to the customer, ensuring they are relevant to the company's goals and operational needs. Ensures to add references through which certain use cases were suggested. Prepares a final Report containing all the research previous agents has done and AI usecases it generated. Gives output the report and links in a markdown file.

Instructions to run the project.

- First create your virtual environment in VS Code.
- Install all the packages present in “requirements.txt”.
- Now go to the Groq Cloud to copy the api key and paste it in “.env” file.
- Also go to the SERPER account to copy the api key and paste it in “.env” file.
- By default the company name is given as “Zomato”. You can consider any company you want to generate the report. Just replace the company name in “crew.ipynb” file.
- Now run the “crew.ipynb” file to start AI Agents to work and generate the report.(it might take some time.)