

ROBEE PROJECT

Navigating Careers with AI-Driven Roadmaps



Plan

0	Motivation
1	Key features
2	Theory behind causality
3	Project Pipeline
3.1	Interview Preparation
3.2	Multi-agent System
4	Demo
5	Conclusion

Motivation

Problem: Professional Development Limitations



Solution :Overview



Google Maps for Professional Journeys

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key features



Guided career planning



Easy to start



Smart interview process



Personalized roadmap

Robee

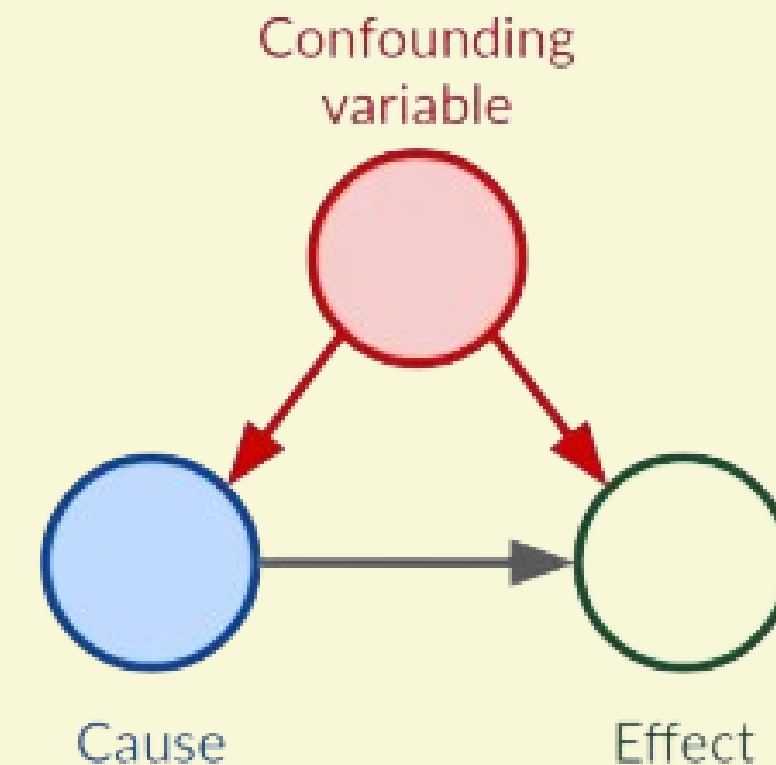
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Theory behind Causality

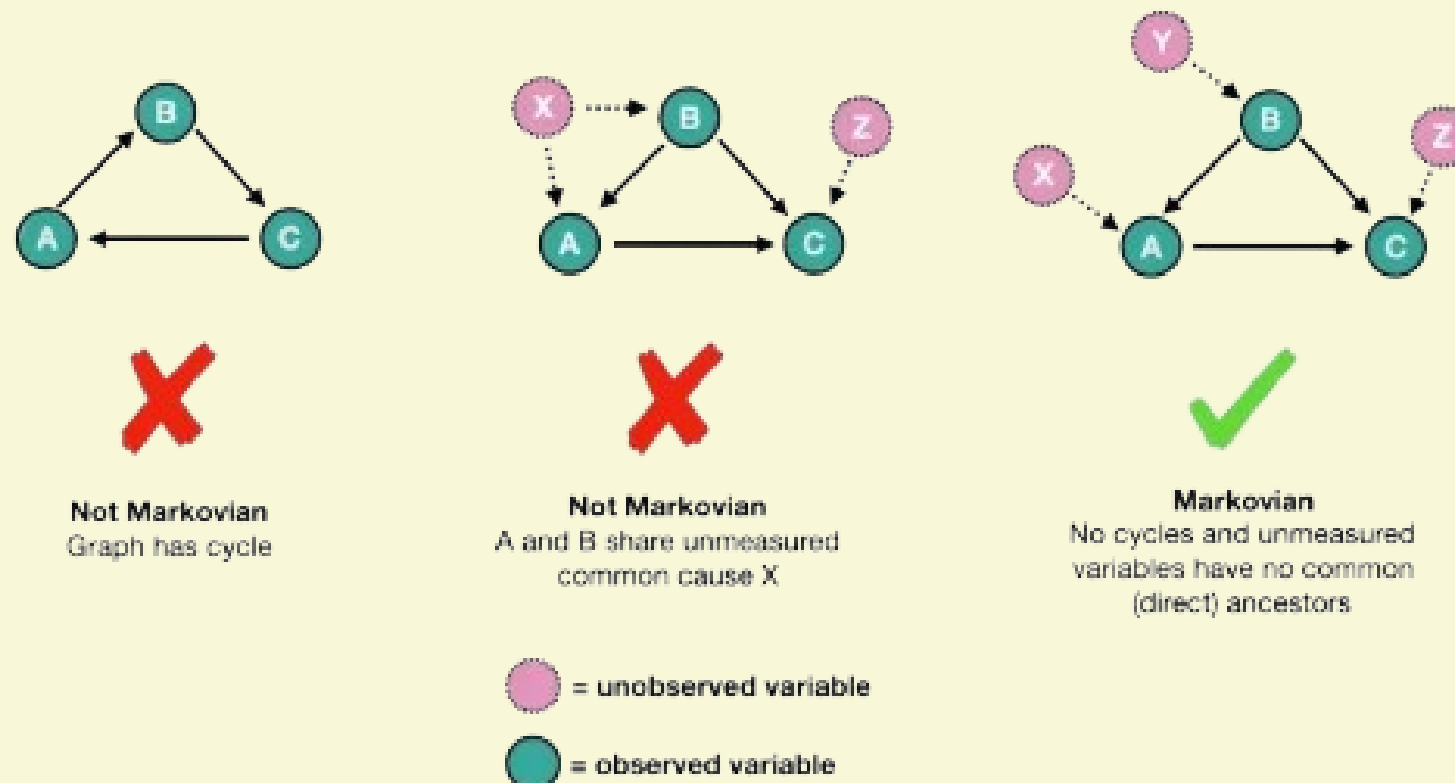
Causal Graphs and SCMs

Causal graphs (DAGs) and Structural Causal Models (SCMs) provide a mathematical backbone for representing causal relationships, including concepts like:

- **Confounders:** Variables causing both treatment and outcome
- **Mediators:** Variables on the causal pathway
- **Colliders:** Variables caused by multiple other variables
- **Backdoor Paths** : Non-causal paths creating spurious correlations

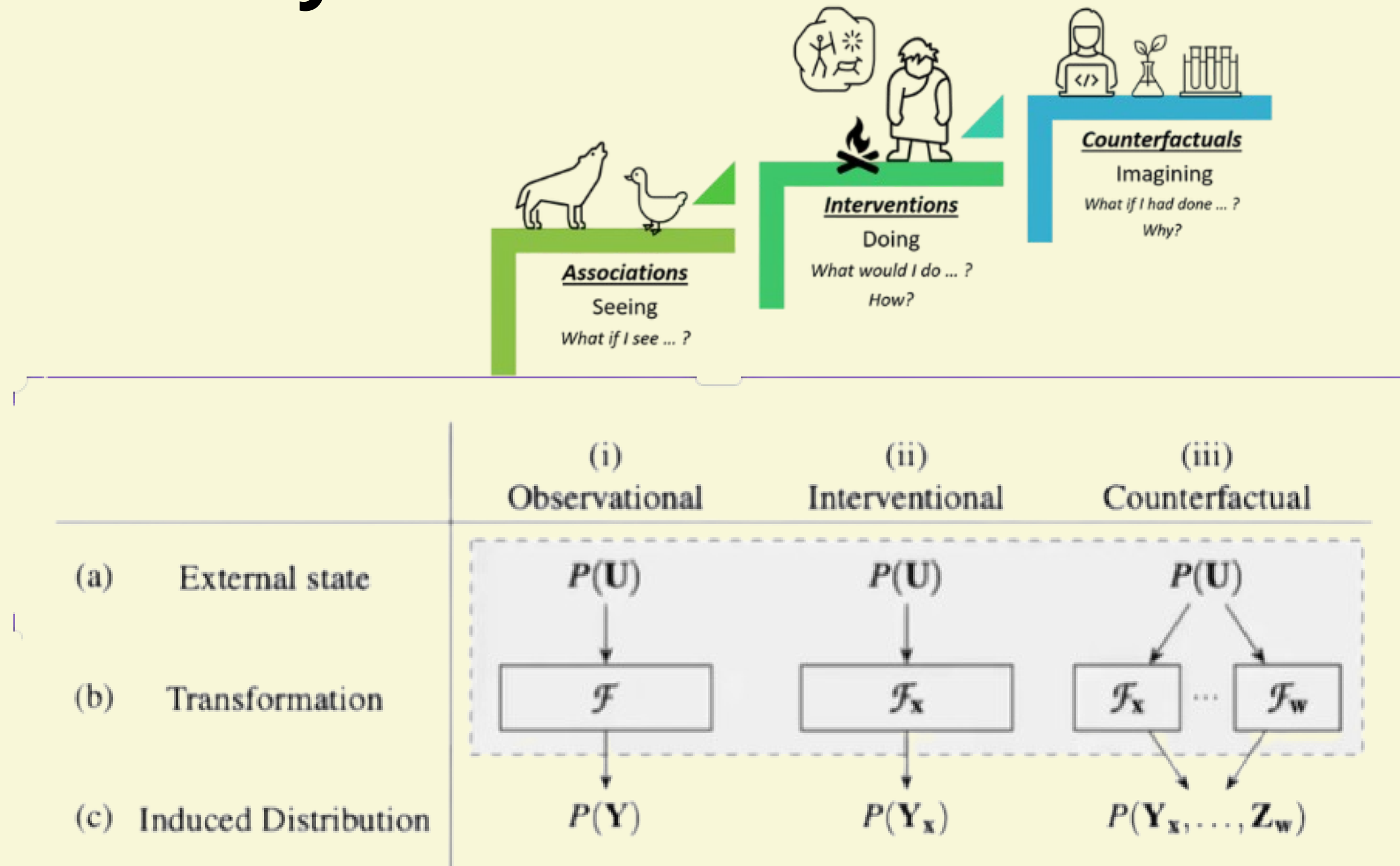


Markovian Causal Models



Theory behind Causality

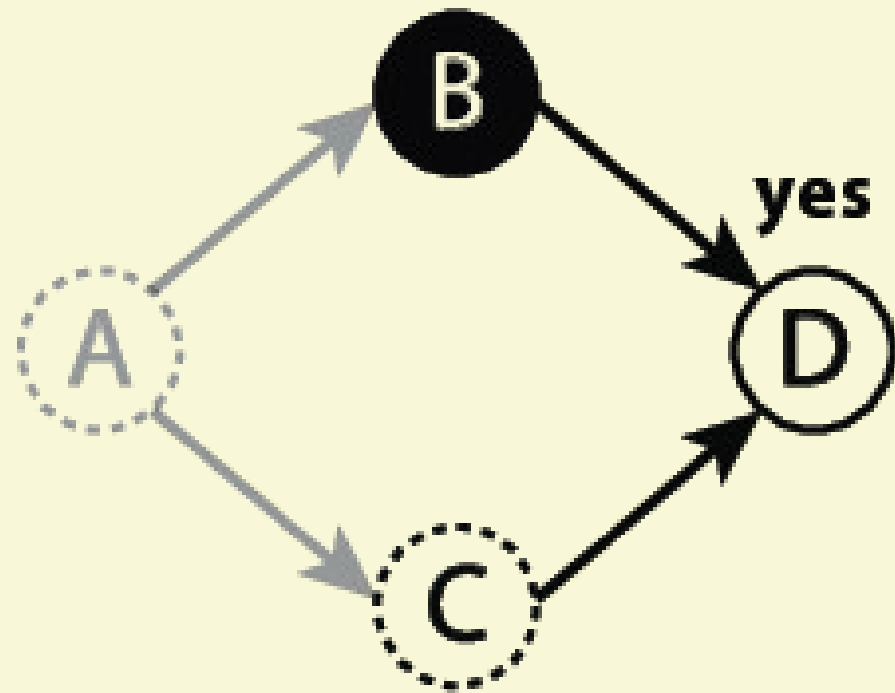
Pearl's Hierarchy



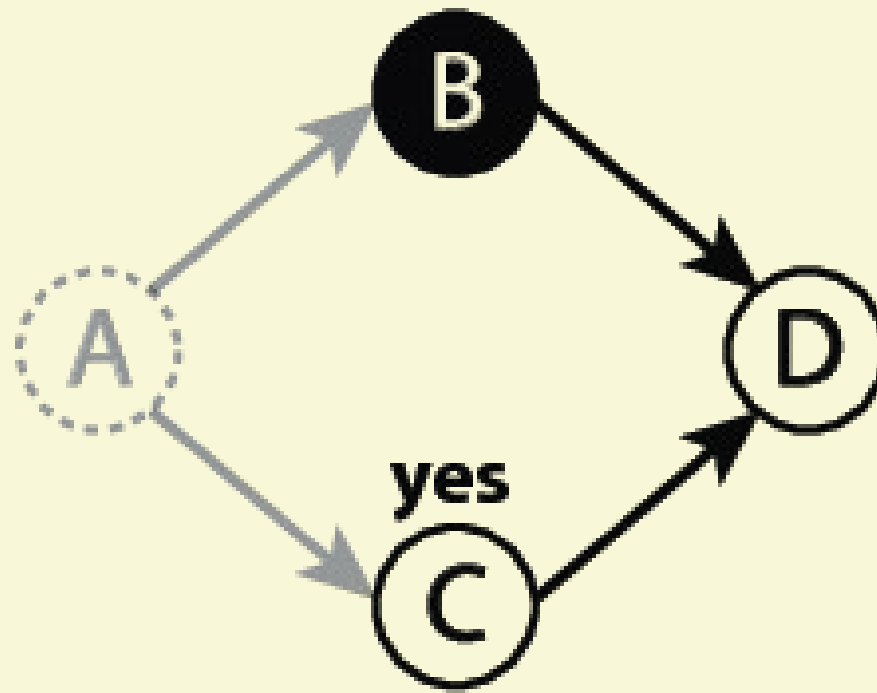
Theory behind Causality

Counterfactual reasoning :

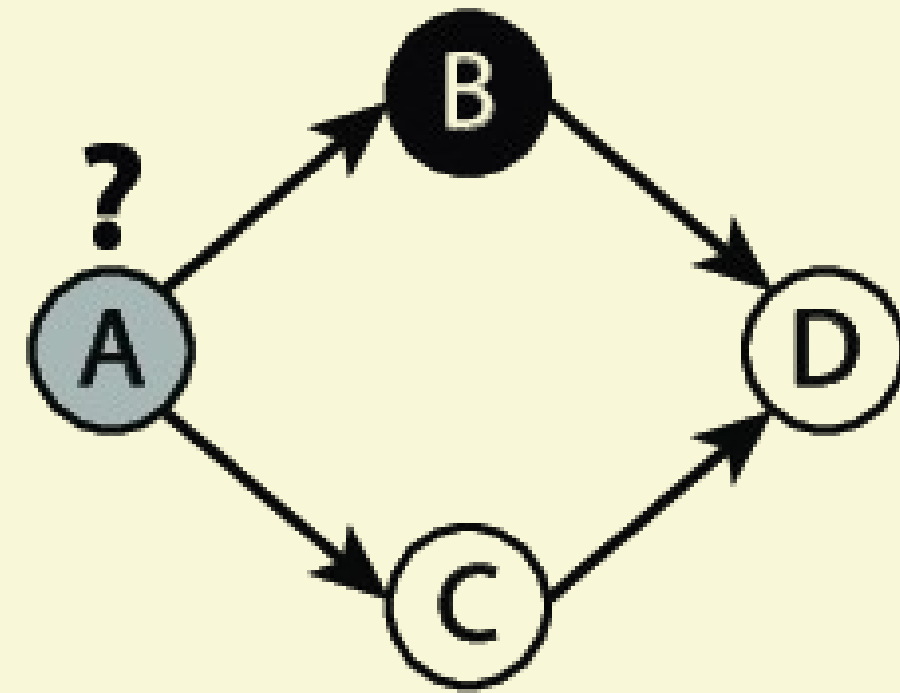
would D have operated?



would C have operated?



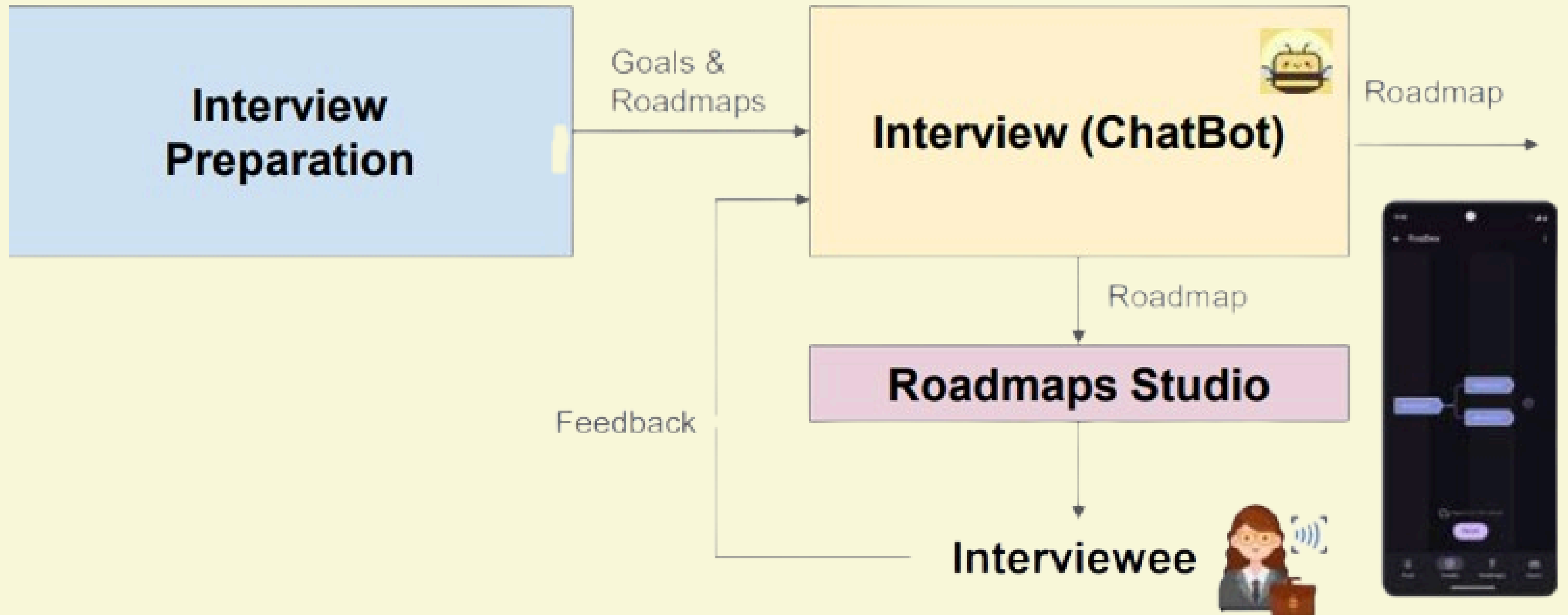
would A have operated?



○ operates ● might operate ● does not operate

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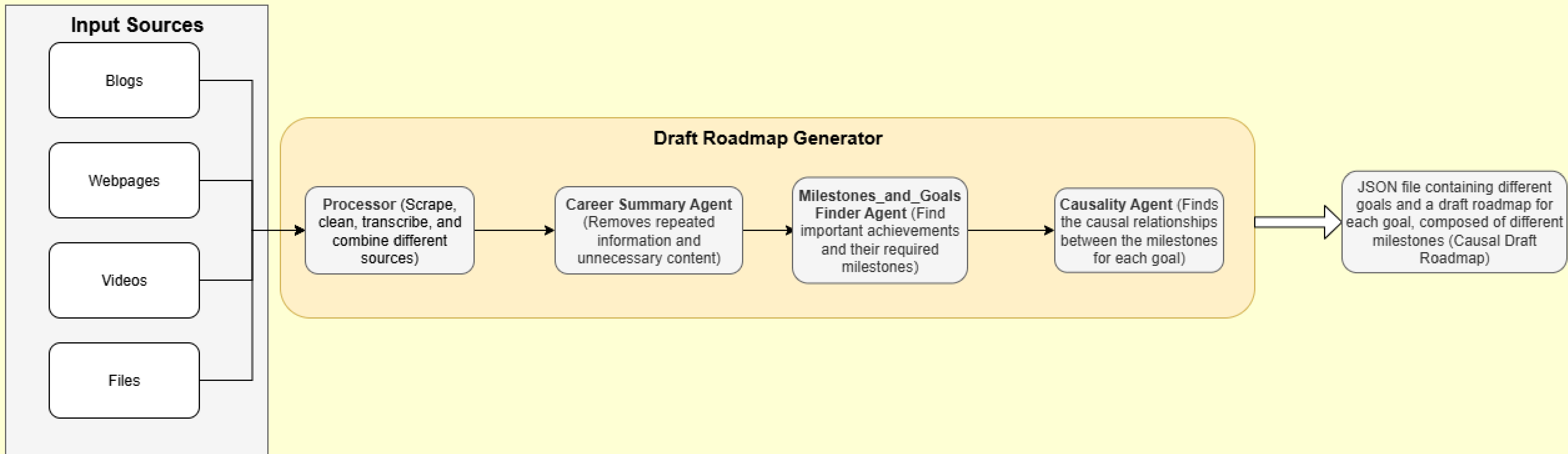
Project Pipeline



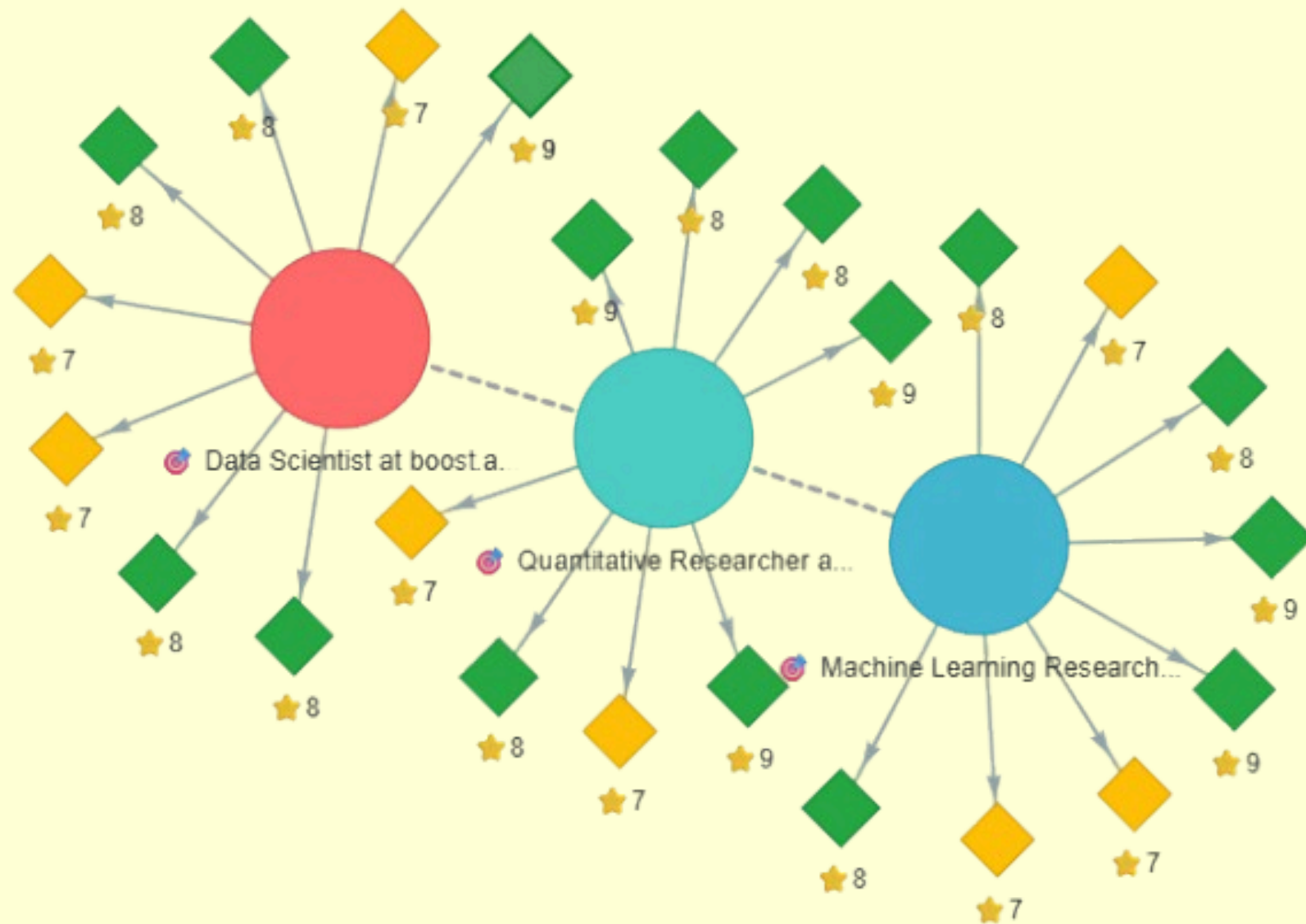
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Interview Preparation

Goal: Generate a draft roadmap

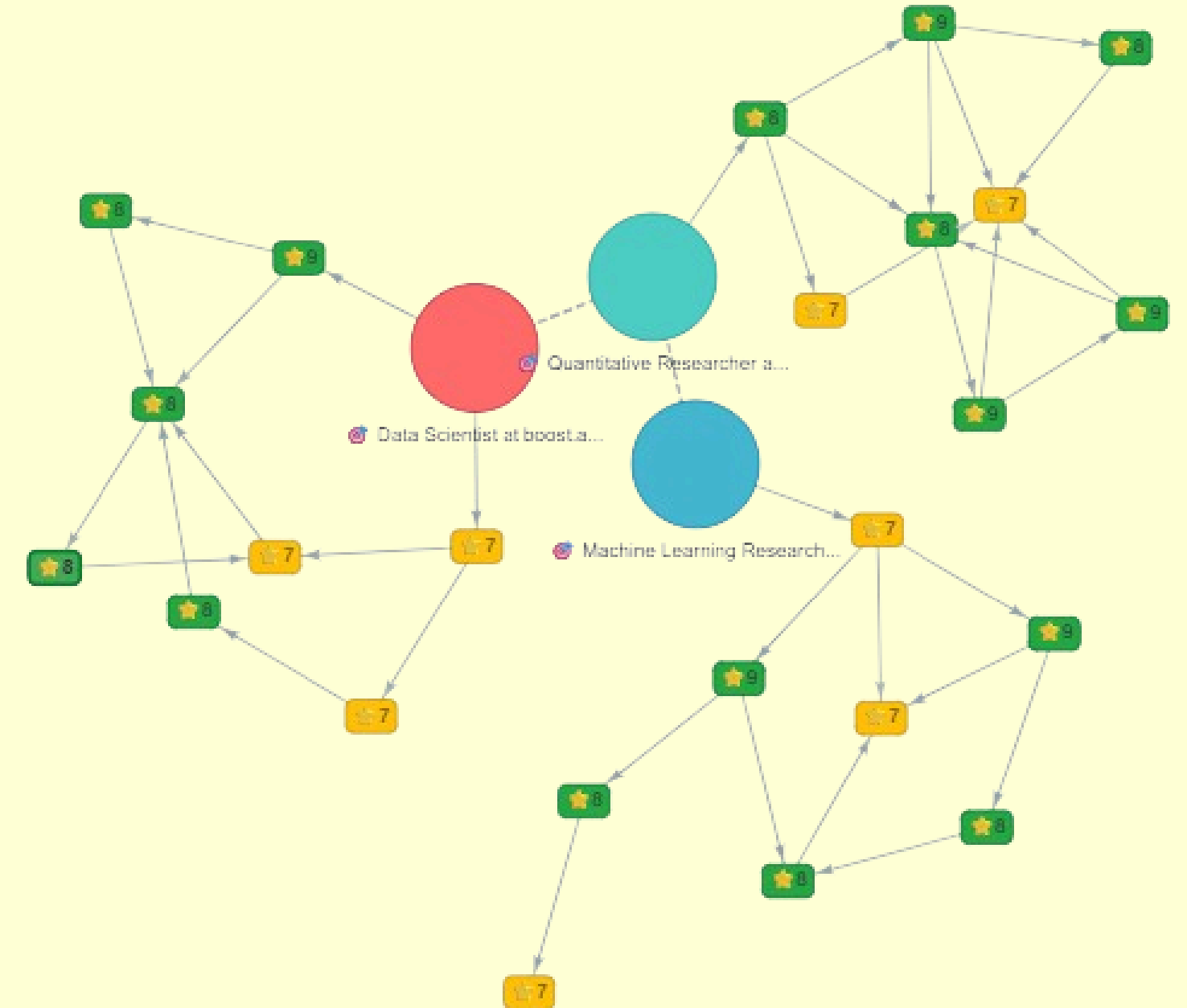
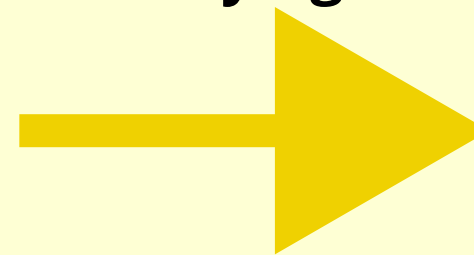


Interview Preparation



Draft roadmap

Causality Agent

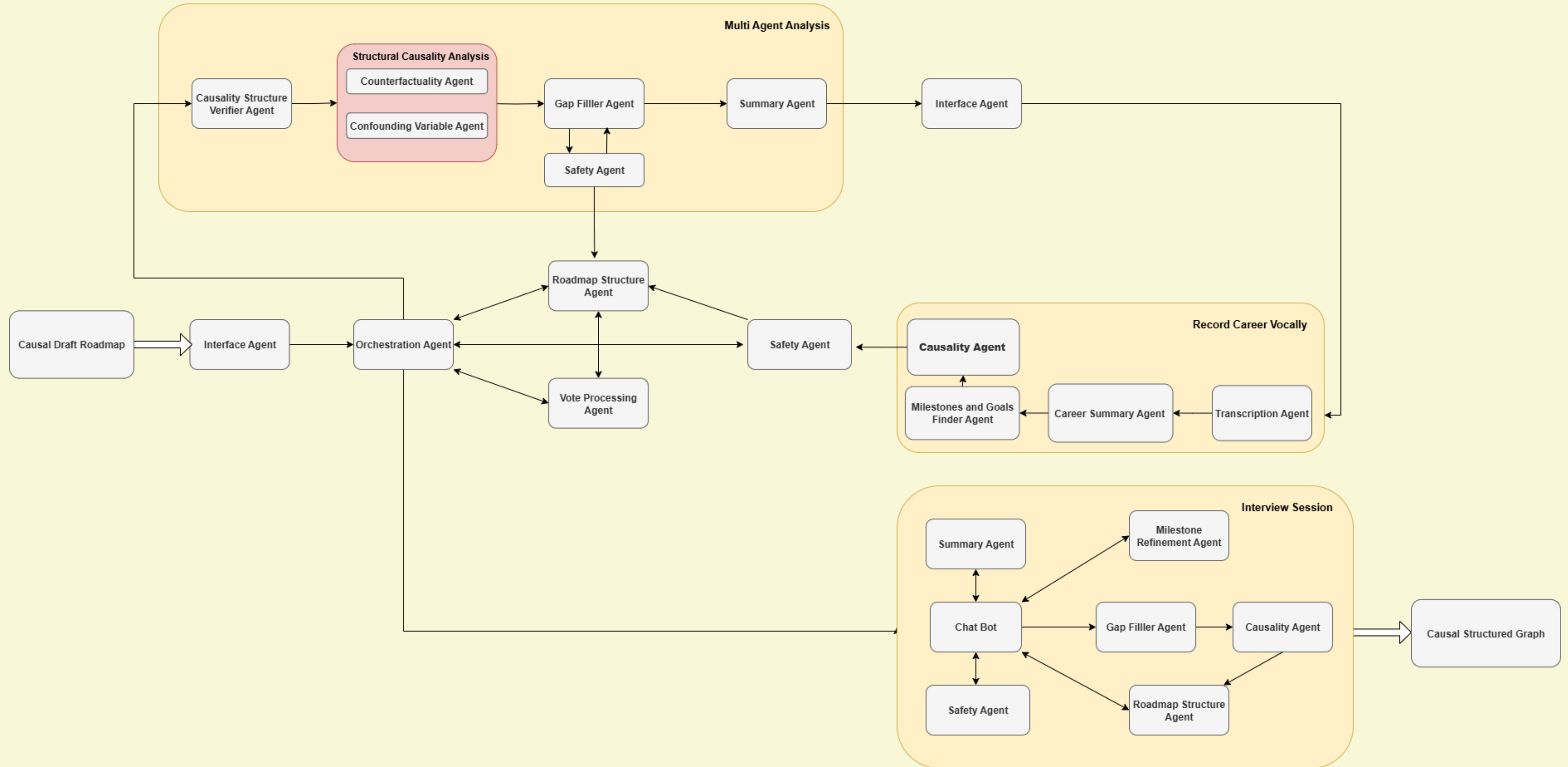


Causal Draft roadmap

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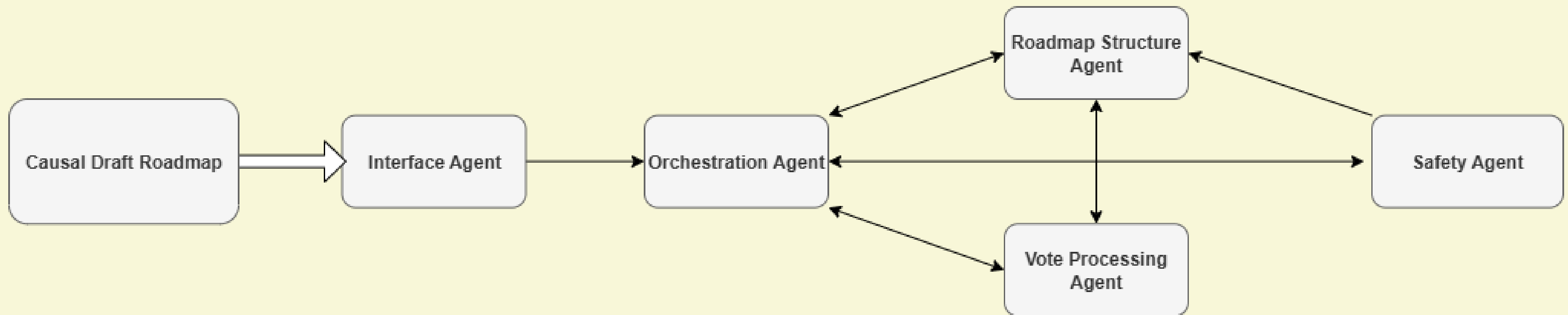
Multi-agent System

The Entire Pipeline with Different Functionalities



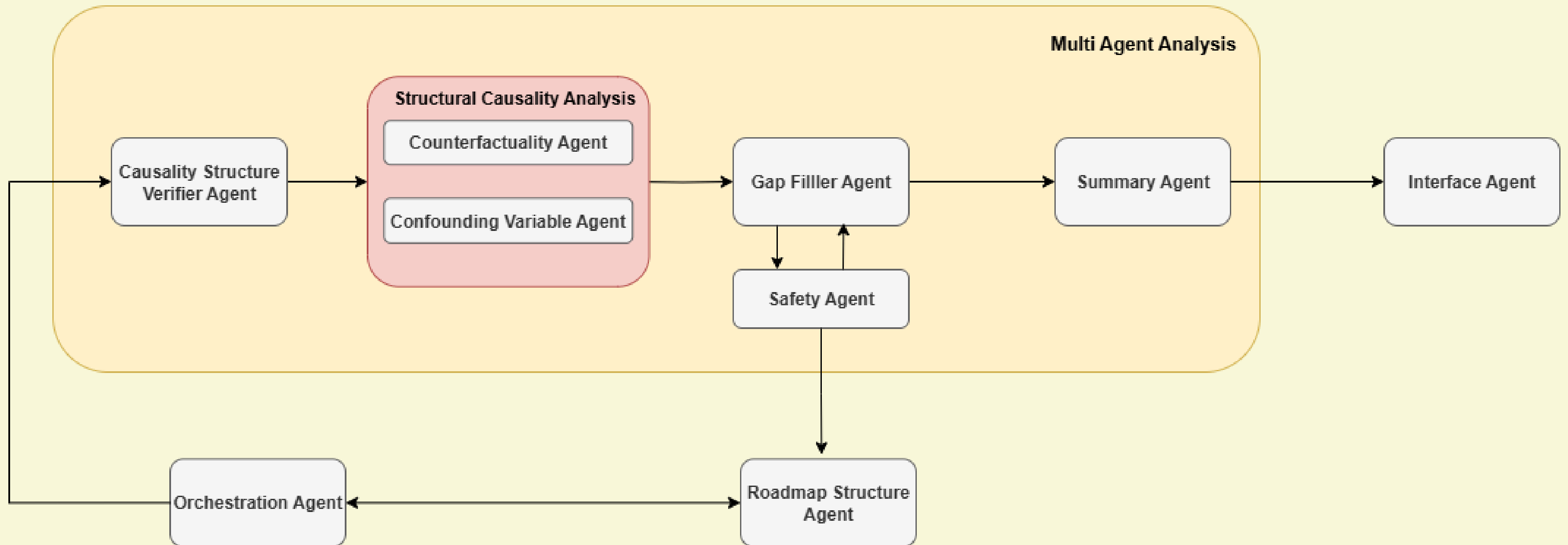
Multi-agent System

Roadmap Voting and Safety Check



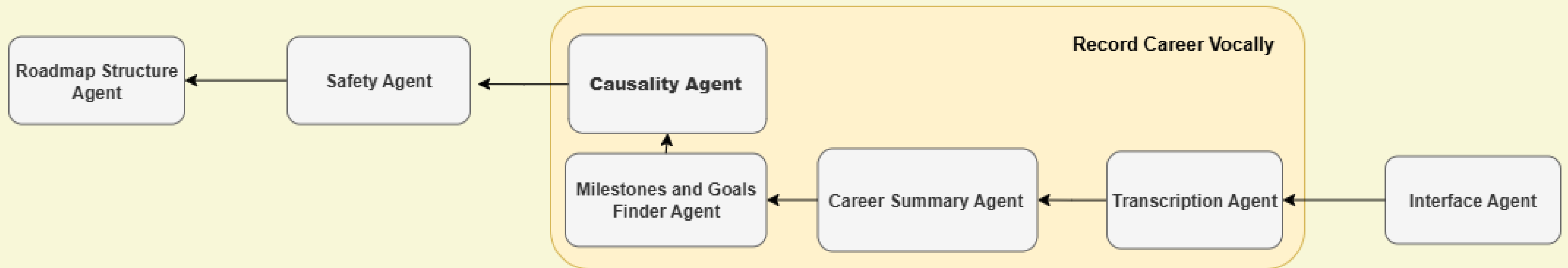
Multi-agent System

Multi Agent Analysis



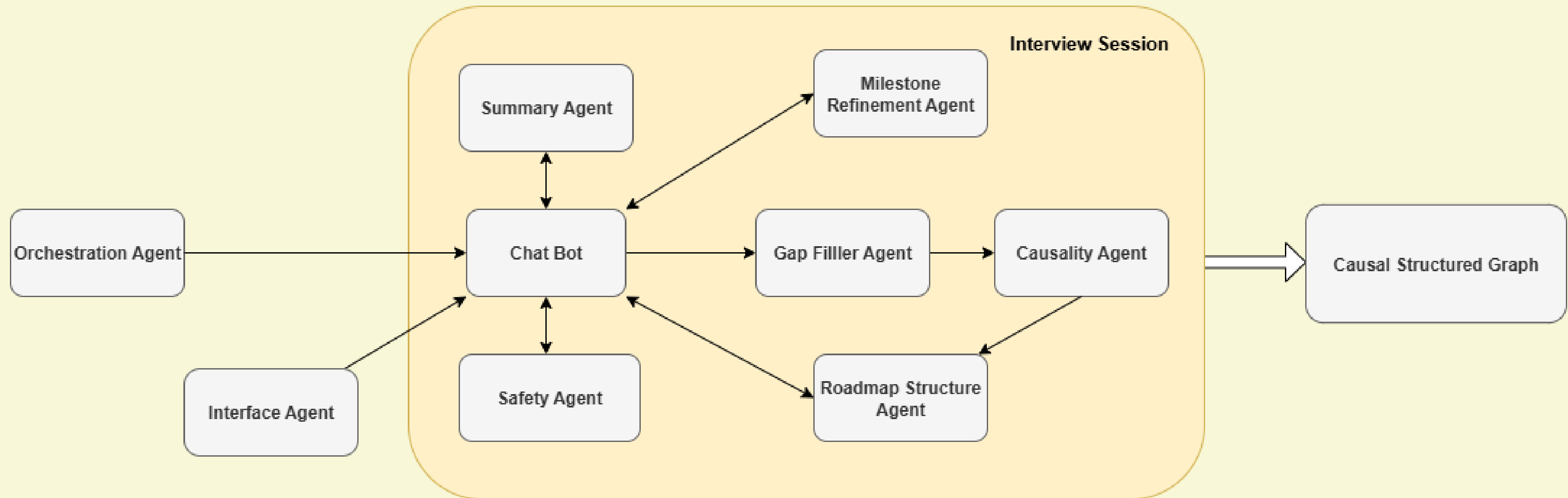
Multi-agent System

Roadmap Generation Through Recording



Multi-agent System

Interview Session



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Demo



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Conclusion



Proved the concept — RoBee can generate clear, coherent career roadmaps.



Validated the process — multi-agent system works smoothly from input to final plan.



Delivered tangible value — saves time and keeps plans realistic.



Confirmed adaptability — able to handle different inputs and user contexts.




Set the stage for growth — ready for enhancements and broader testing.

Next Steps

- **Testing with diverse personas** to ensure adaptability across different career backgrounds.
- **Judge Agent integration** to better evaluate roadmap quality during the process.
- **Avatar inclusion** for a more engaging and human-like interaction.
- **Merging multiple user roadmaps** to enrich planning with collaborative and shared experiences.
- **Leveraging Crew AI** to coordinate multi-agent collaboration, streamline workflows, and enhance decision-making throughout the process.



OUR TEAM



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SPECIAL THANKS



The background is a light cream color. In the corners, there are abstract yellow shapes. Top-left: thin yellow outlines of teardrop-like shapes. Top-right: a solid yellow shape with a wavy, flame-like edge. Bottom-left: a solid yellow shape with a wavy edge. Bottom-right: a solid yellow shape with a wavy edge and thin yellow outlines inside it.

QNA SESSION

The background is a solid light yellow color. In the four corners, there are abstract, wavy yellow shapes. The top-left shape consists of several thin, concentric, teardrop-like outlines. The top-right shape is a solid yellow area with wavy, flame-like edges. The bottom-left shape is a solid yellow area with wavy edges. The bottom-right shape is a solid yellow area with wavy edges, featuring some thin white outlines within it.

**THANK
YOU**