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Understanding Agents

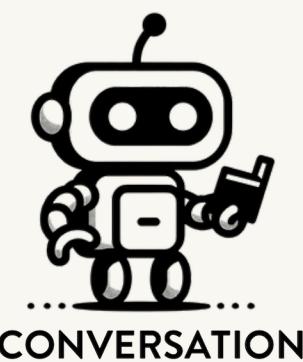
Volume 2



AGENT



CHAIN

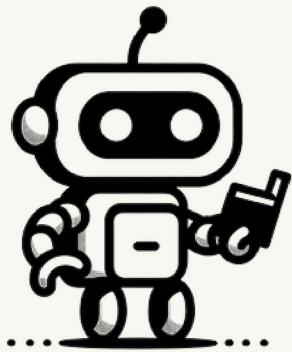


CONVERSATION

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**First, let's clarify
three key terms**

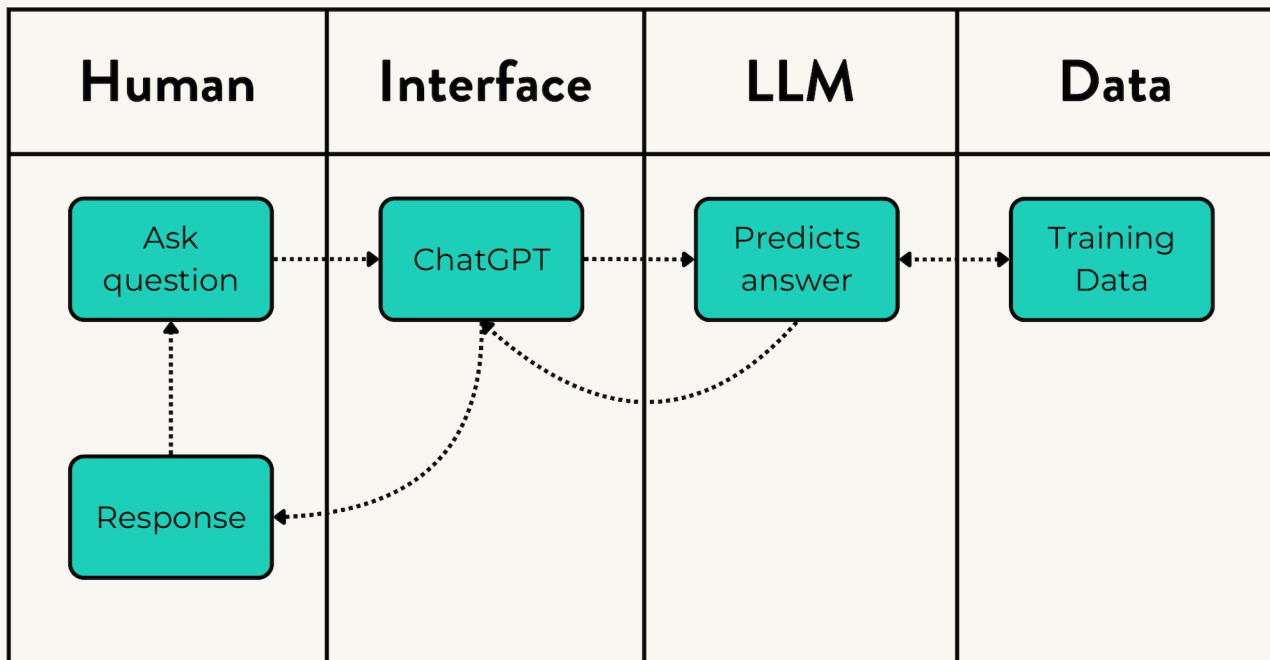
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Conversation

A dialogue between a human and an LLM to reach a desired outcome.

Example: Chatting with ChatGPT

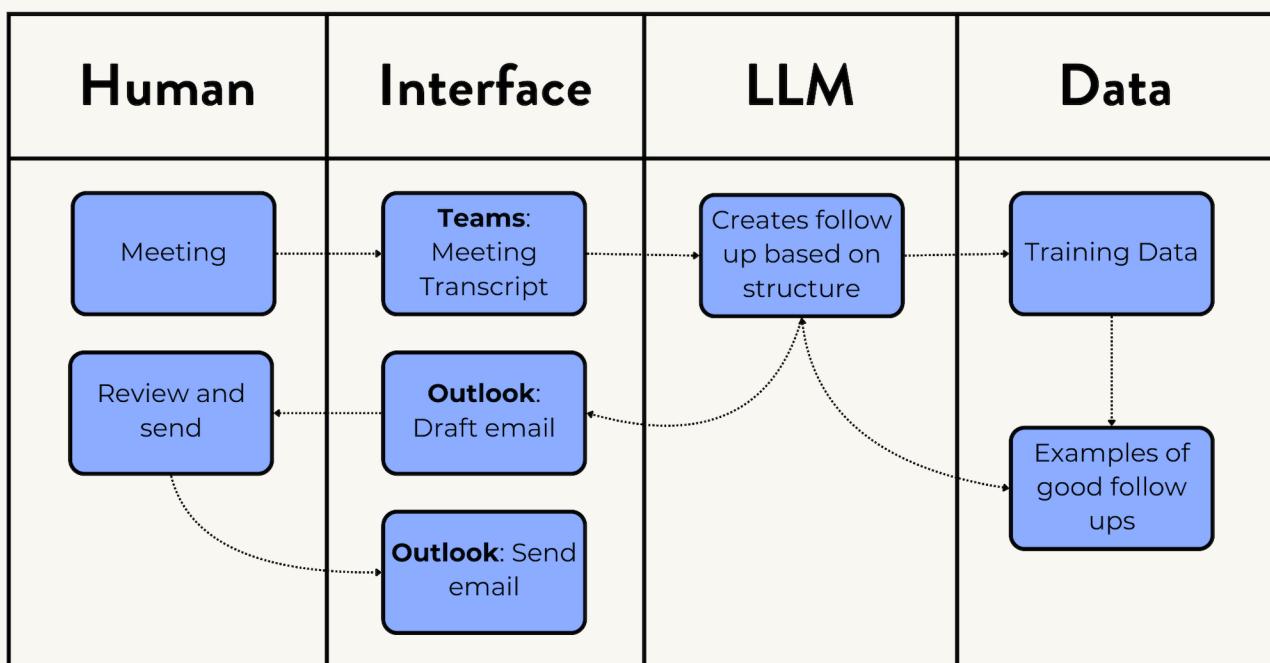




Chain

A fixed and pre-determined set of steps across an LLM, human and/or tools to reach a desired outcome.

Example: Email follow ups from meetings



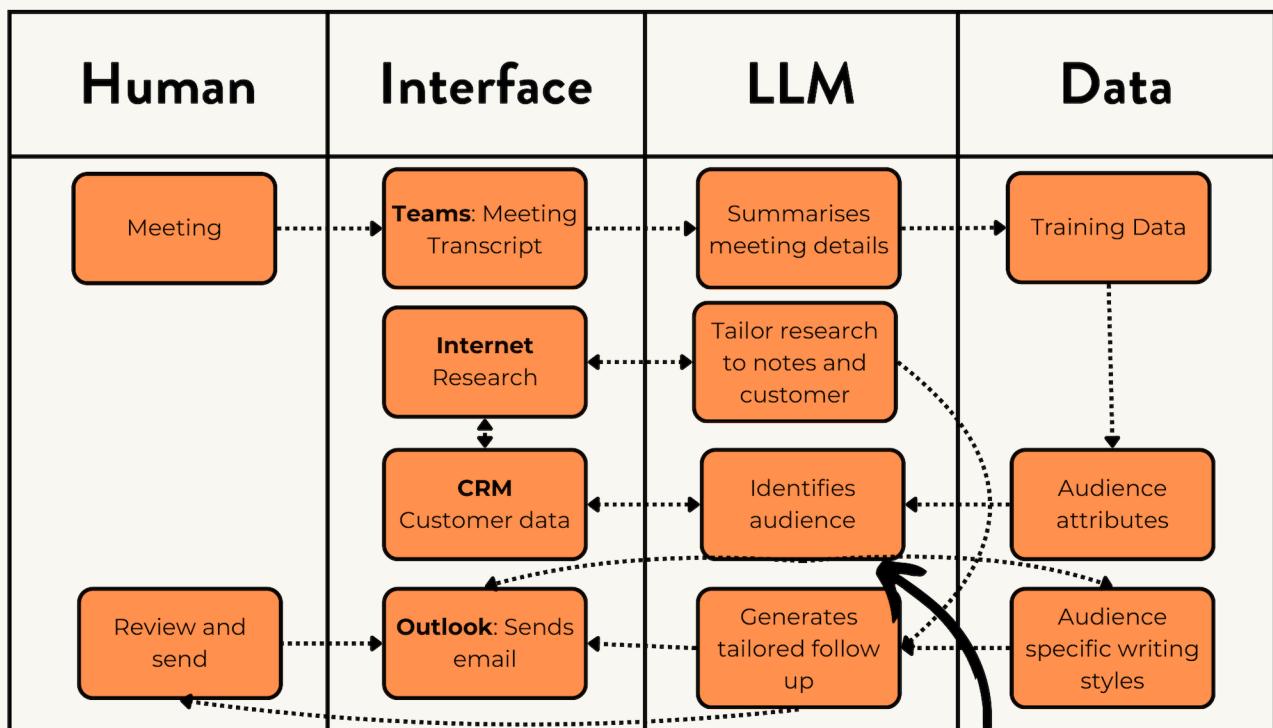
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Agent

A self organising system that interacts with its environment to reach a desired outcome.

Example: Highly personalised emails



An agent makes choices along the way



Here's a recap

Feature	Conversation	Chain	Agent
Human	Human always in the loop	Human not required but recommended	Human not required but recommended
Interface	Chatbot	Chatbot + tools	Chatbot + tools + agents
Data	Prompt + static files	Prompt + static files + live files + tool data	Prompt + static files + live files + tool data.
LLM	Directed by human	Directed by fixed logic	Self-directed by desired outcome

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The four characteristics of an agent



Reflection



Tool use



Planning



Multi-agent



1. Reflection

Agents can examine their own work to come up with ways to improve it



Key capabilities



Self evaluation



Iteration



Adaptive learning



2. Tool use

Agents can have access to tools that allow them to communicate with external apps and data sources.



Create a call plan
for my client

Learning objectives

Content generation

- Image captioning
- Object detection

Productivity

- Email
- Calendar
- Cloud Storage

Research

- Search engine
- Web browsing
- Academic research

Analysis

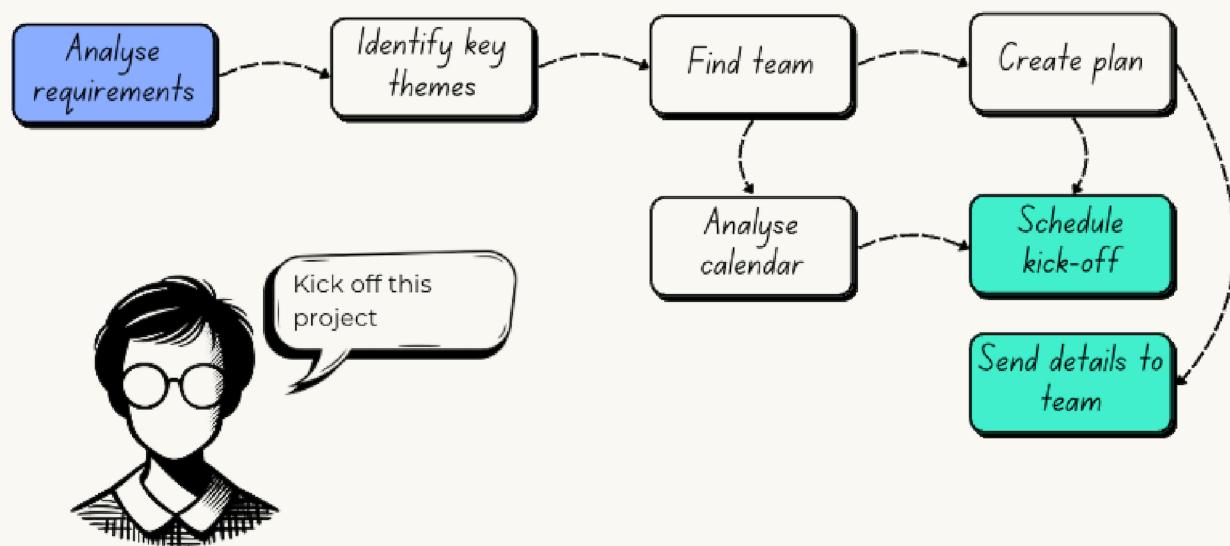
- Data analysis
- Wolfram Alpha
- Code generation

Other tools



3. Planning

Agents create, execute and iterate on a multi-step plan to achieve a goal.



Key capabilities



Task
decomposition



Decision making



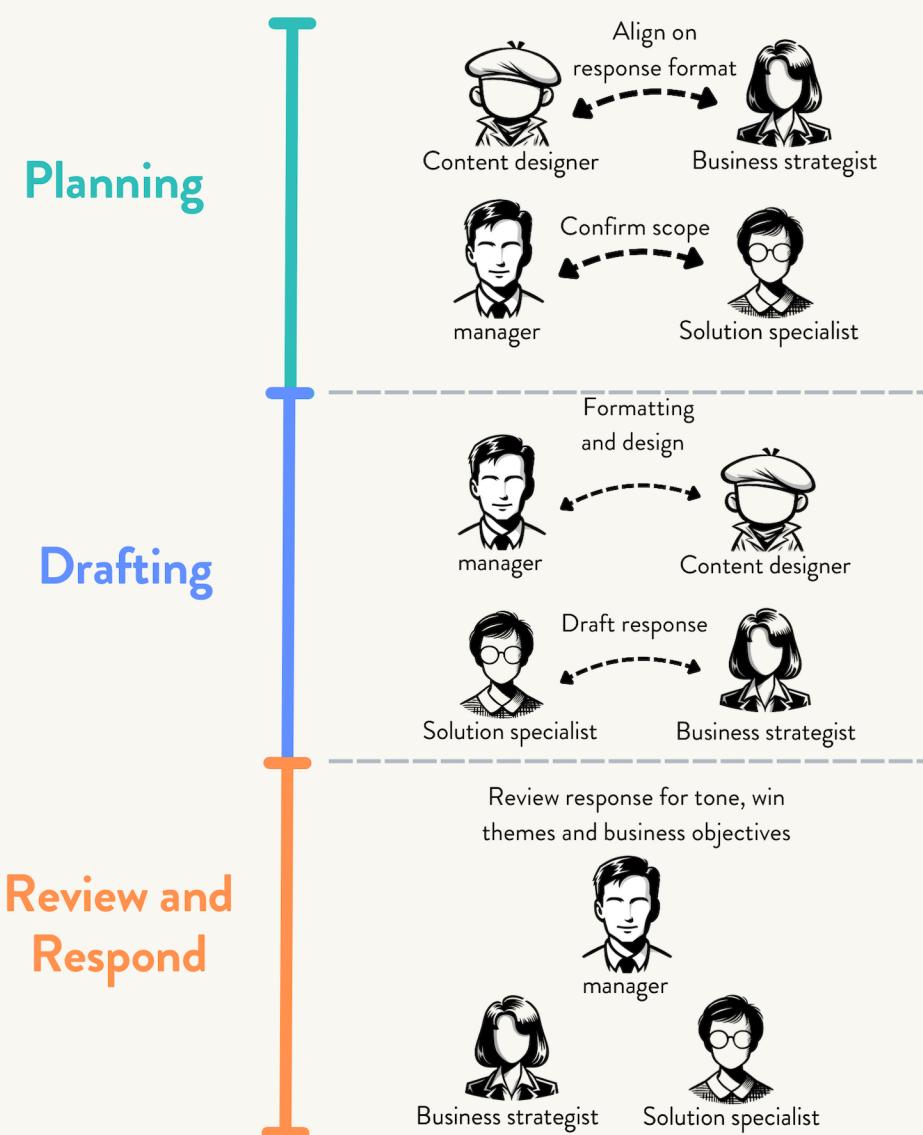
Dynamic
outcomes



4. Multi-agent Collaboration

Agents can work together, delegating tasks and solving ideas together.

Example: Creating a Proposal



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Three rules for creating effective AI agents

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1. Assign the right role

Agents should assume a specific role to complete a task



The Manager

e.g. A McKinsey Managing Partner



The Delegator

e.g. a senior project manager



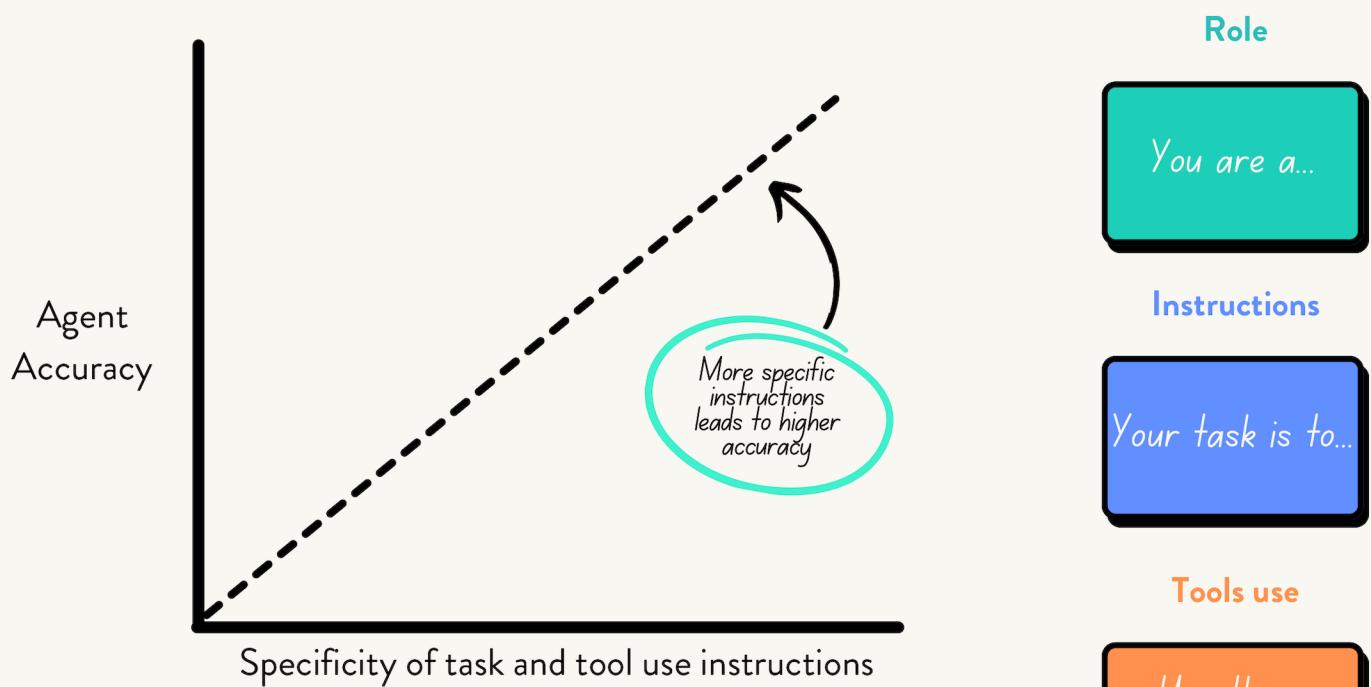
The doer

e.g. A BCG Technical writer

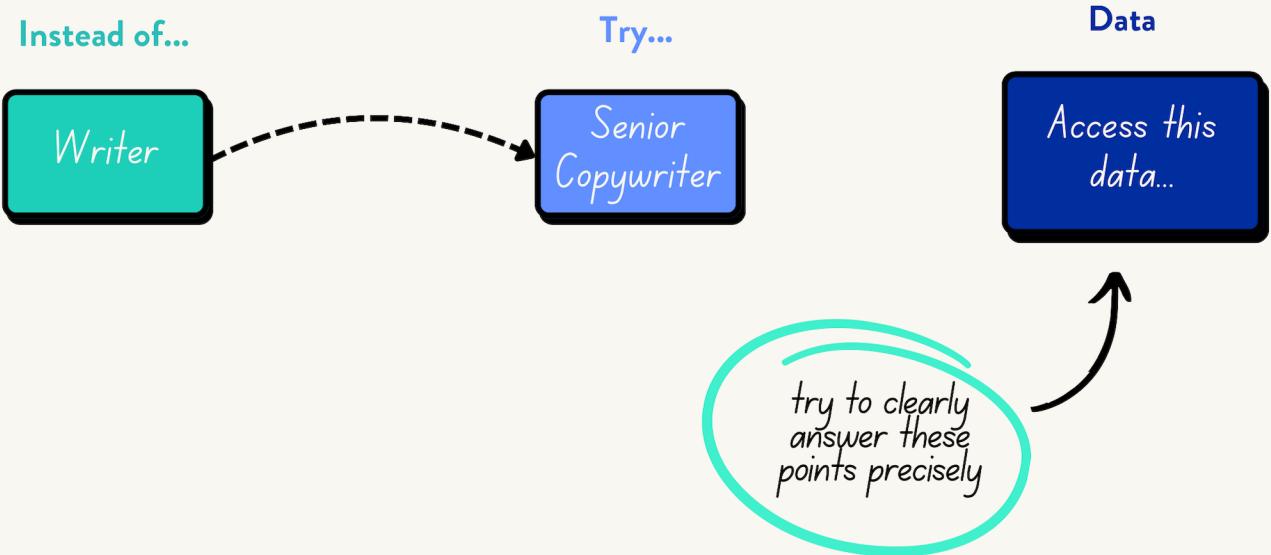


2. Give focused instructions

Agents should be given specific instructions on their role, tool use, data access and interaction with other agents.



Example - Agent Roles





3. Provide gaurdrails

Agents should be given guidelines that steer it towards giving correct outputs and avoid rabbit holes

Three types of guard-rails

1 Rules

You must

2 Language

Use a
professional tone

3 Values

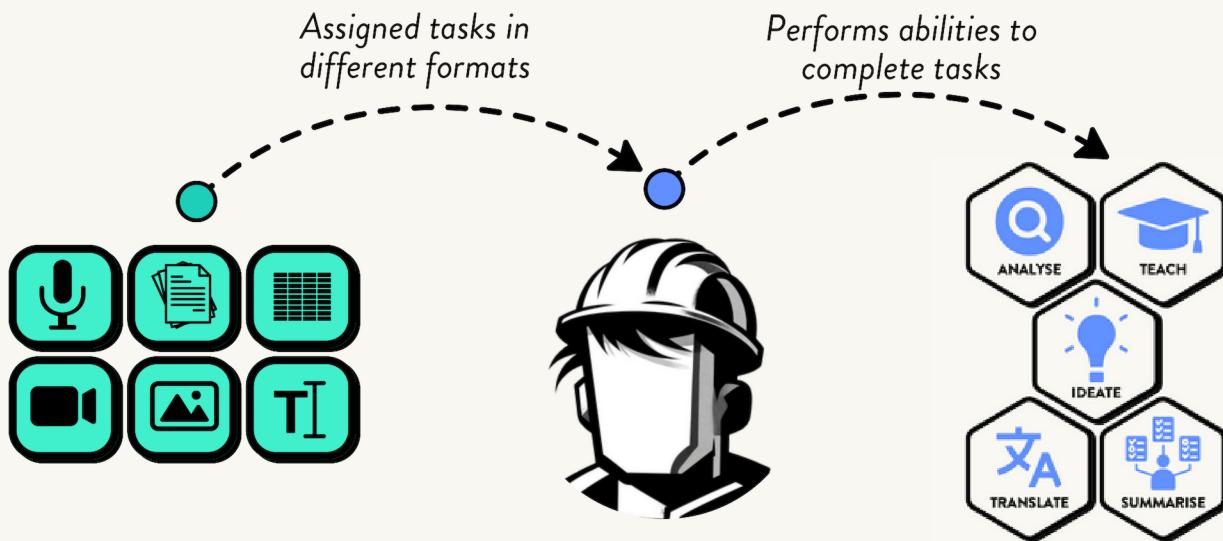
Act inclusively

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**Here are three
common types of
agents we use when
building agentic
systems**

1. The Doer

Generates outputs directly relating to the desired outcome.



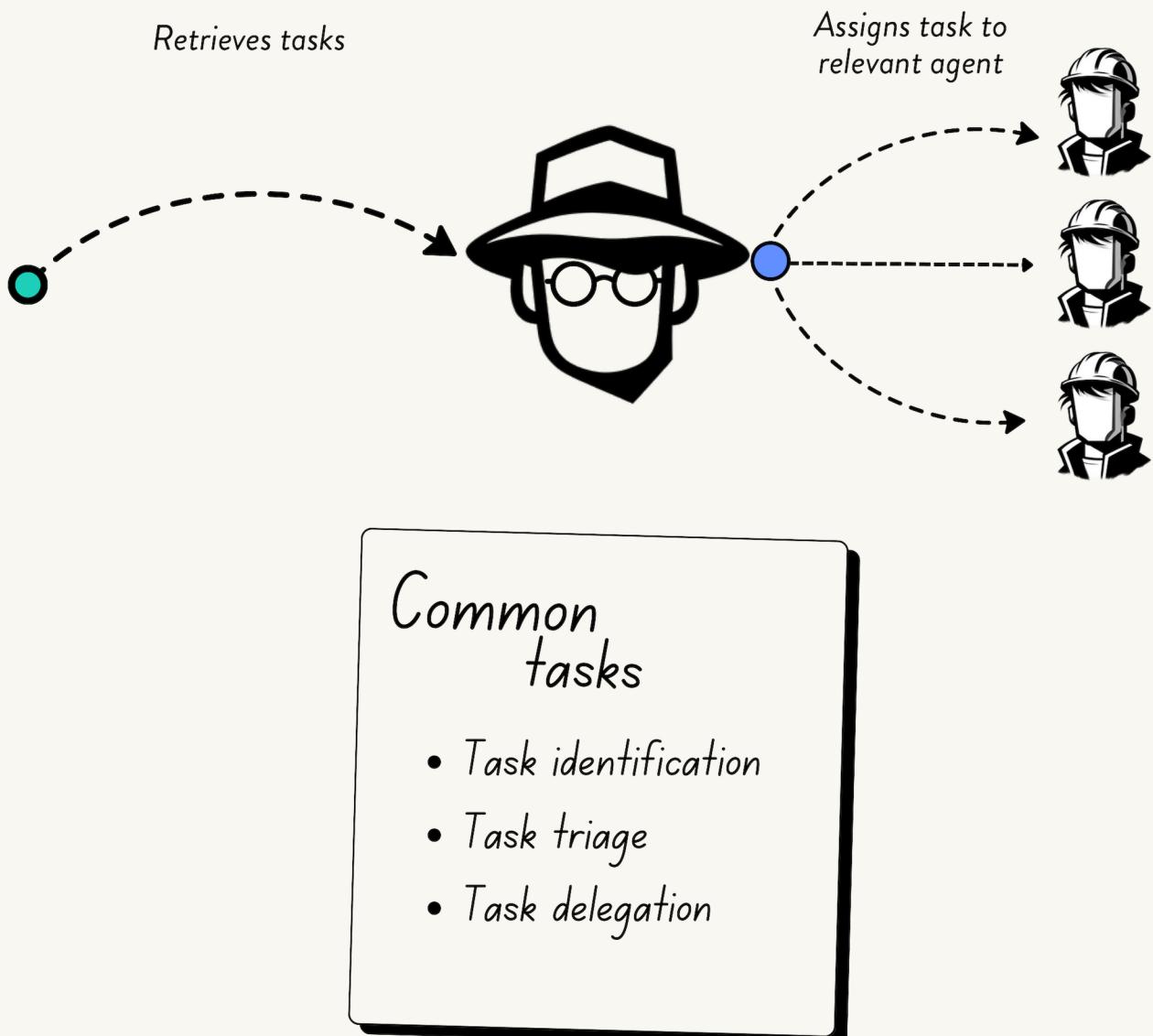
Common tasks

- Research
- Analysis
- Content creation

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2. The Delegator

Co-ordinates interactions between agents and tools.



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3. The Manager

Critiques outputs from other agents to provide feedback.



Proposal completed

Align pg.6 to our values

Fix formatting error on pg.7



Common tasks

- Output review
- Quality control
- Strategic alignment
- Risk management