# Agentic AI with AutoGen

A framework for building AI agents and applications

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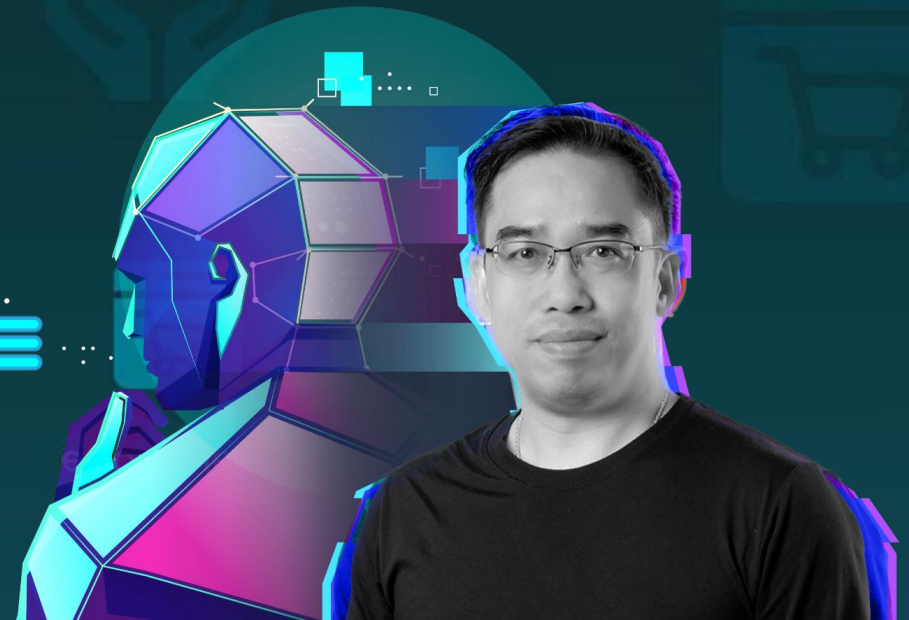

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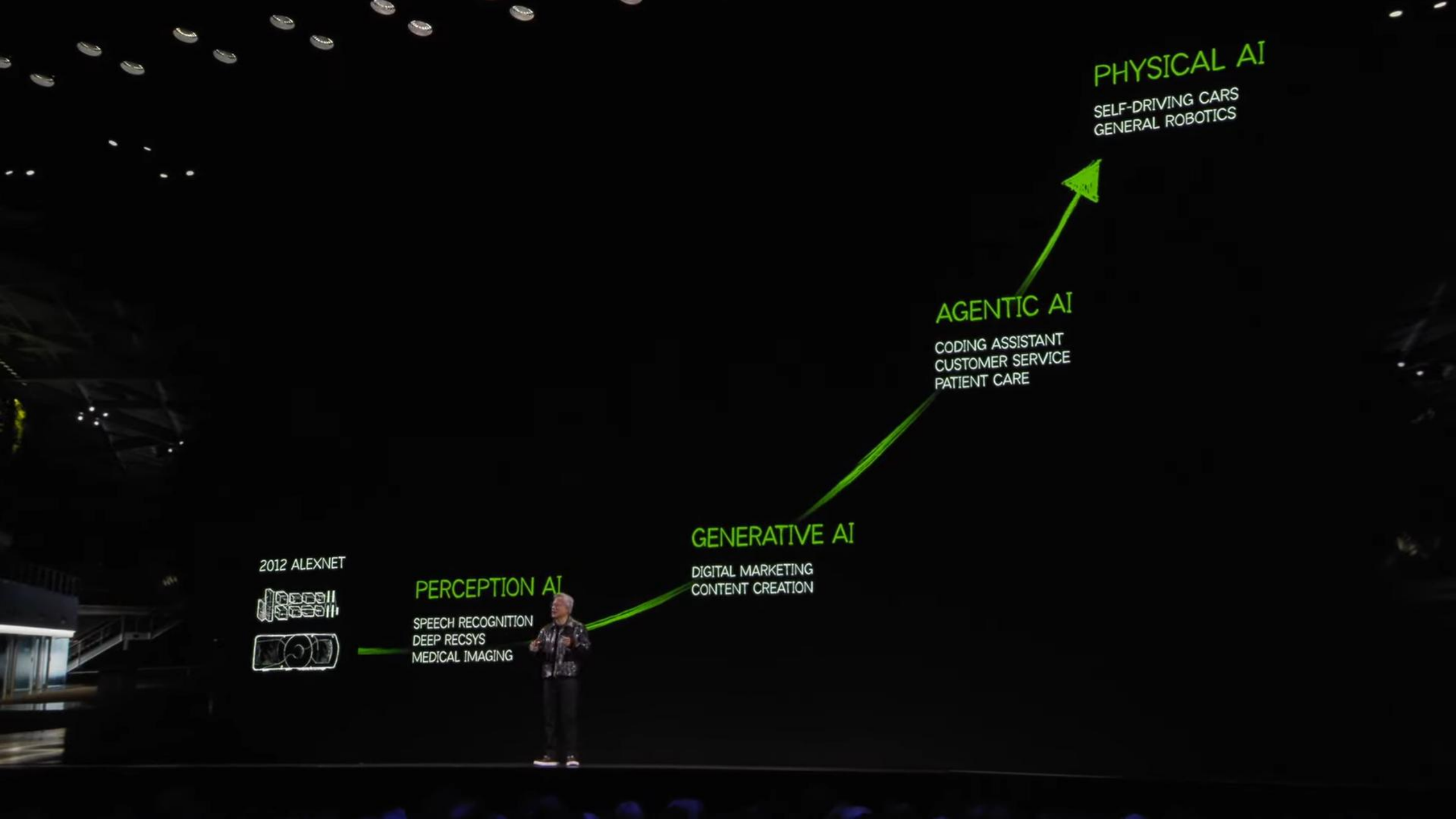
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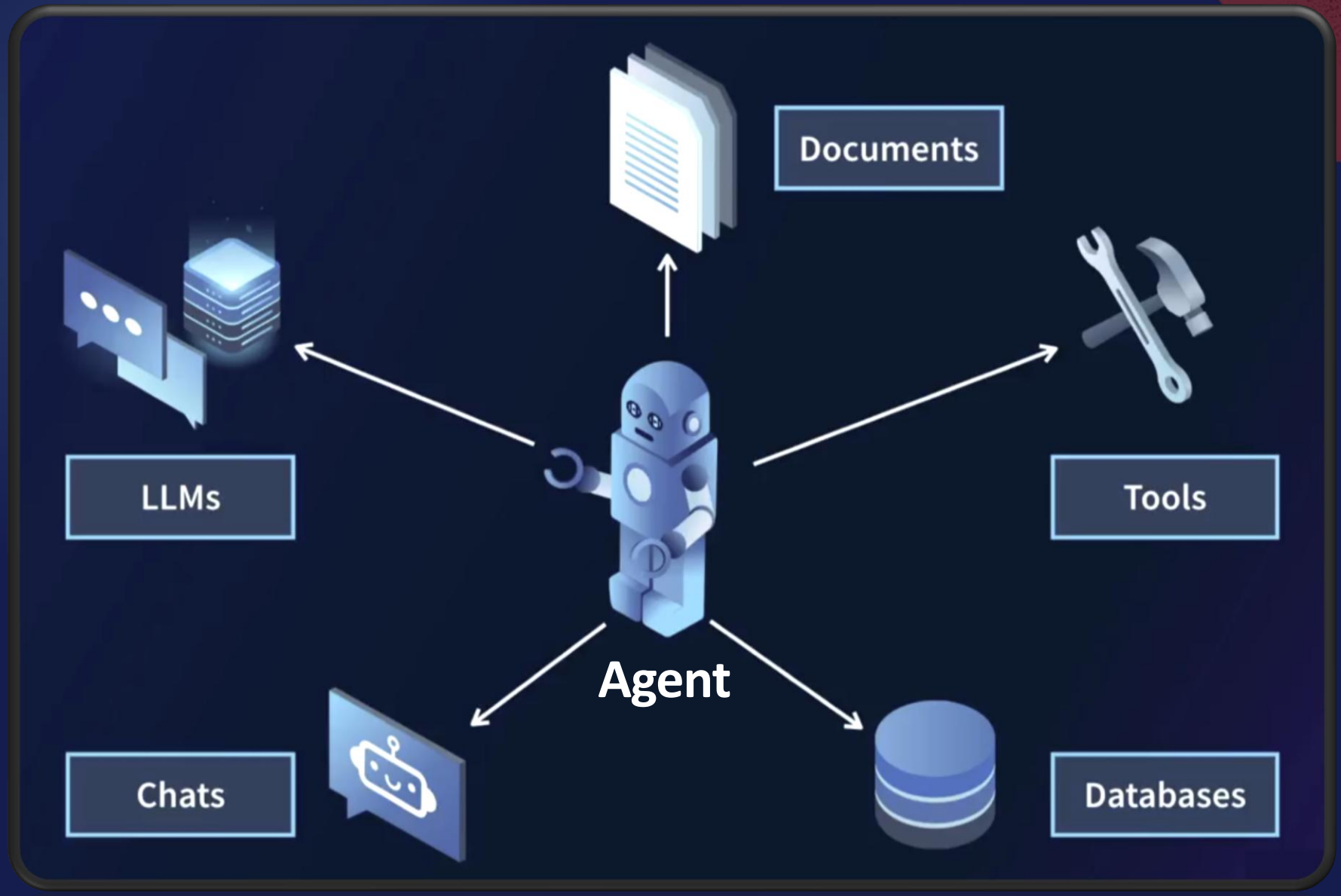
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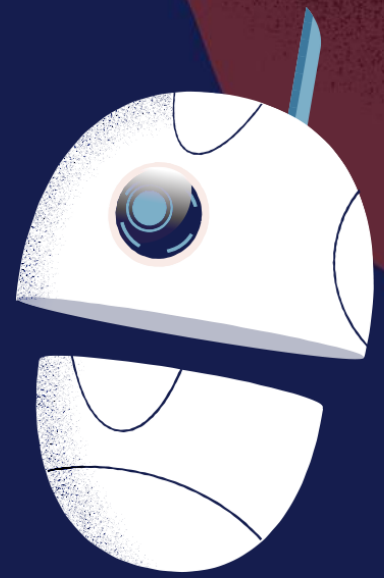
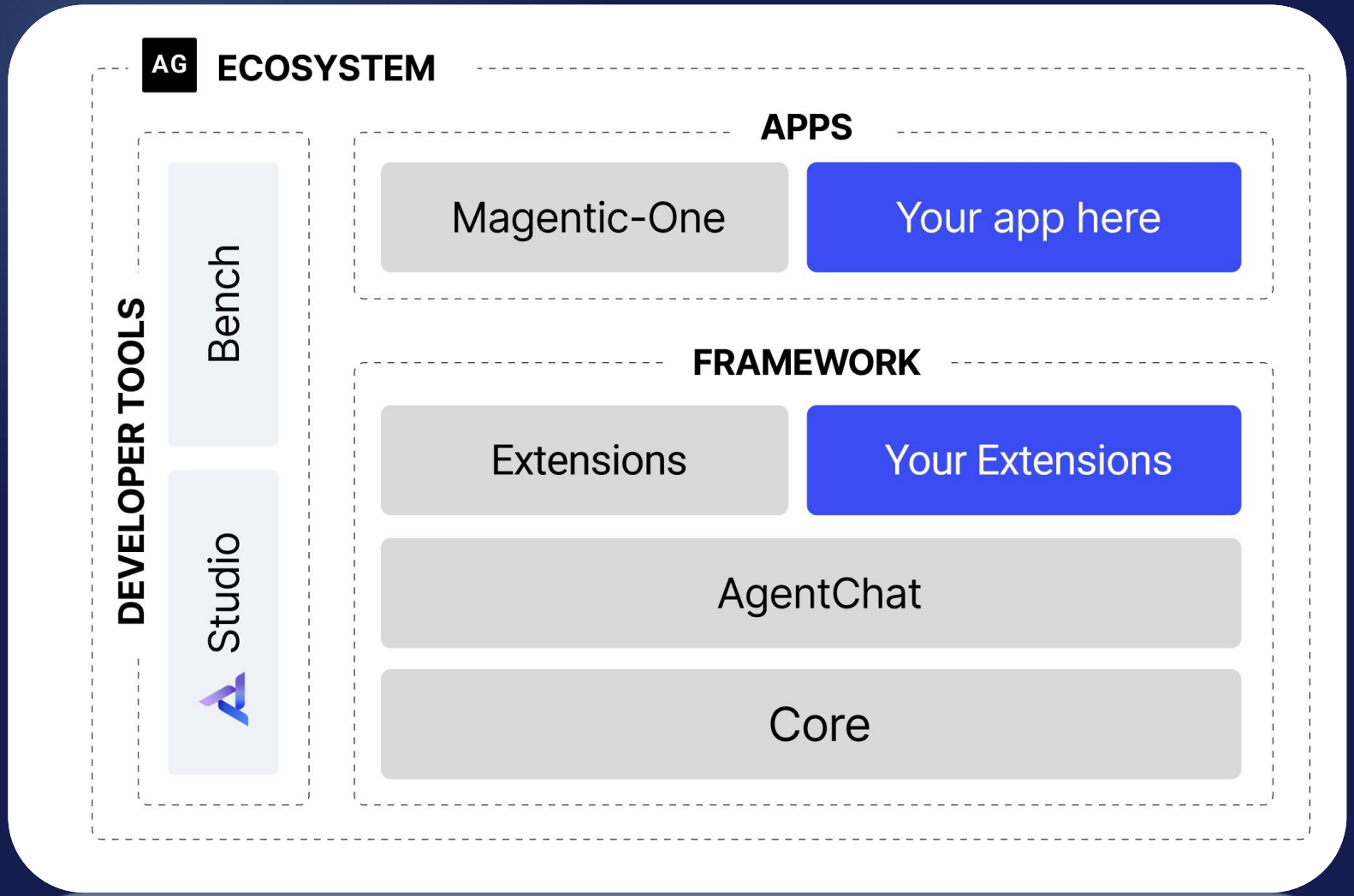
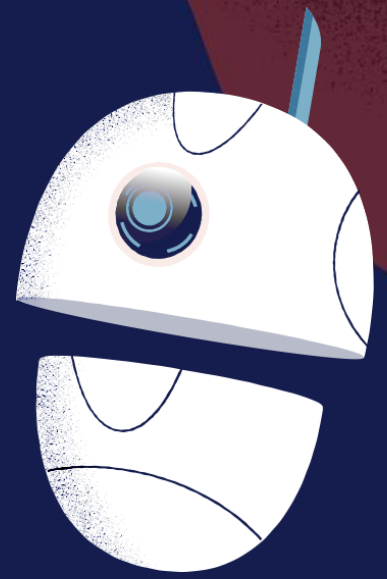


# The AutoGen ecosystem



# Python Packages

Agent Chat

- `autogen-agentchat`

Extension: OpenAI Model Client

- `autogen-ext[openai]`

Extension: Azure OpenAI with AAD authentication

- `autogen-ext[azure]`

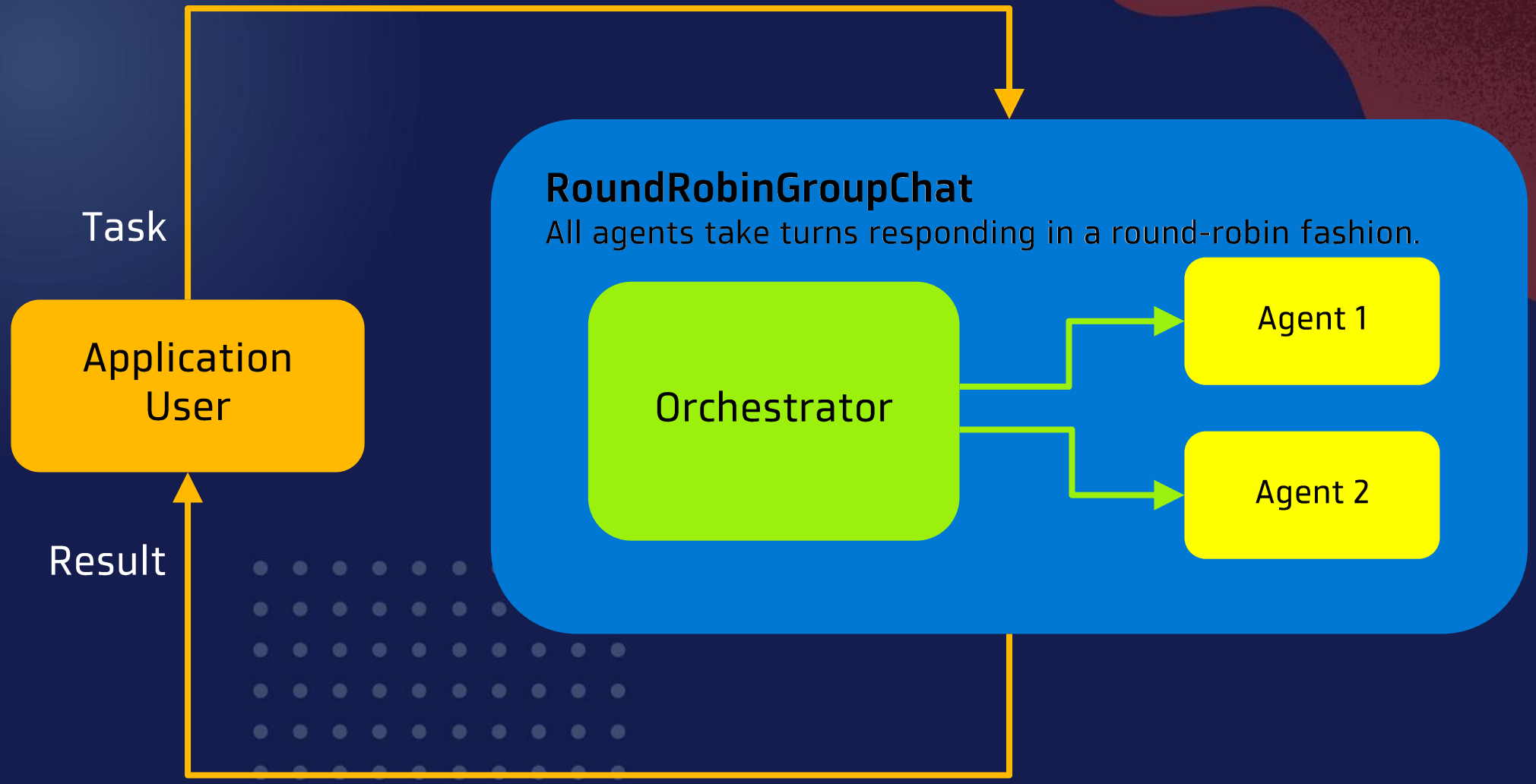
# AutoGen AgentChat

- autogen_agenchat.agents
  - AssistantAgent - assistance with tool use
  - BaseChatAgent - base class for a chat agent
  - CodeExecutorAgent - executes code and returns the output
  - SocietyOfMindAgent - inner team of agents to generate responses
  - UserProxyAgent - represent a human user through an input function
- autogen_agentchat.ui
  - Console
  - UserInputManager

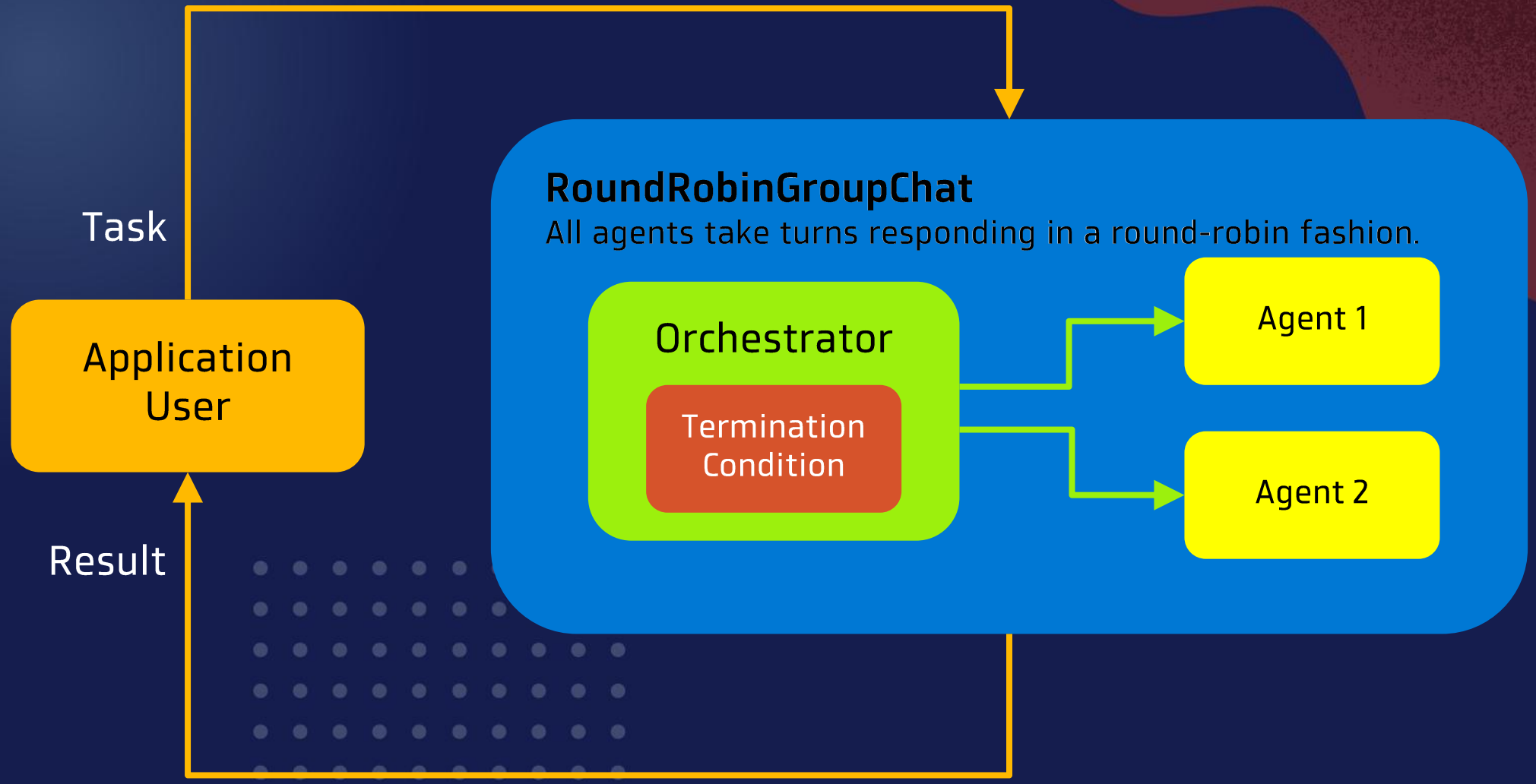
# AutoGen AgentChat

- autogen_agentchat.teams
  - BaseGroupChat - base class for group chat teams.
  - MagenticOneGroupChat - participants managed by the MagenticOneOrchestrator.
  - RoundRobinGroupChat - participants taking turns in a round-robin to publish a message to all.
  - SelectorGroupChat - participants takes turn to publish a message to all,
  - Swarm - selects the next speaker based on handoff message only.
- autogen_agentchat.conditions
  - ExternalTermination
  - HandoffTermination
  - MaxMessageTermination
  - SourceMatchTermination
  - StopMessageTermination
  - TextMentionTermination
  - TimeoutTermination
  - TokenUsageTermination

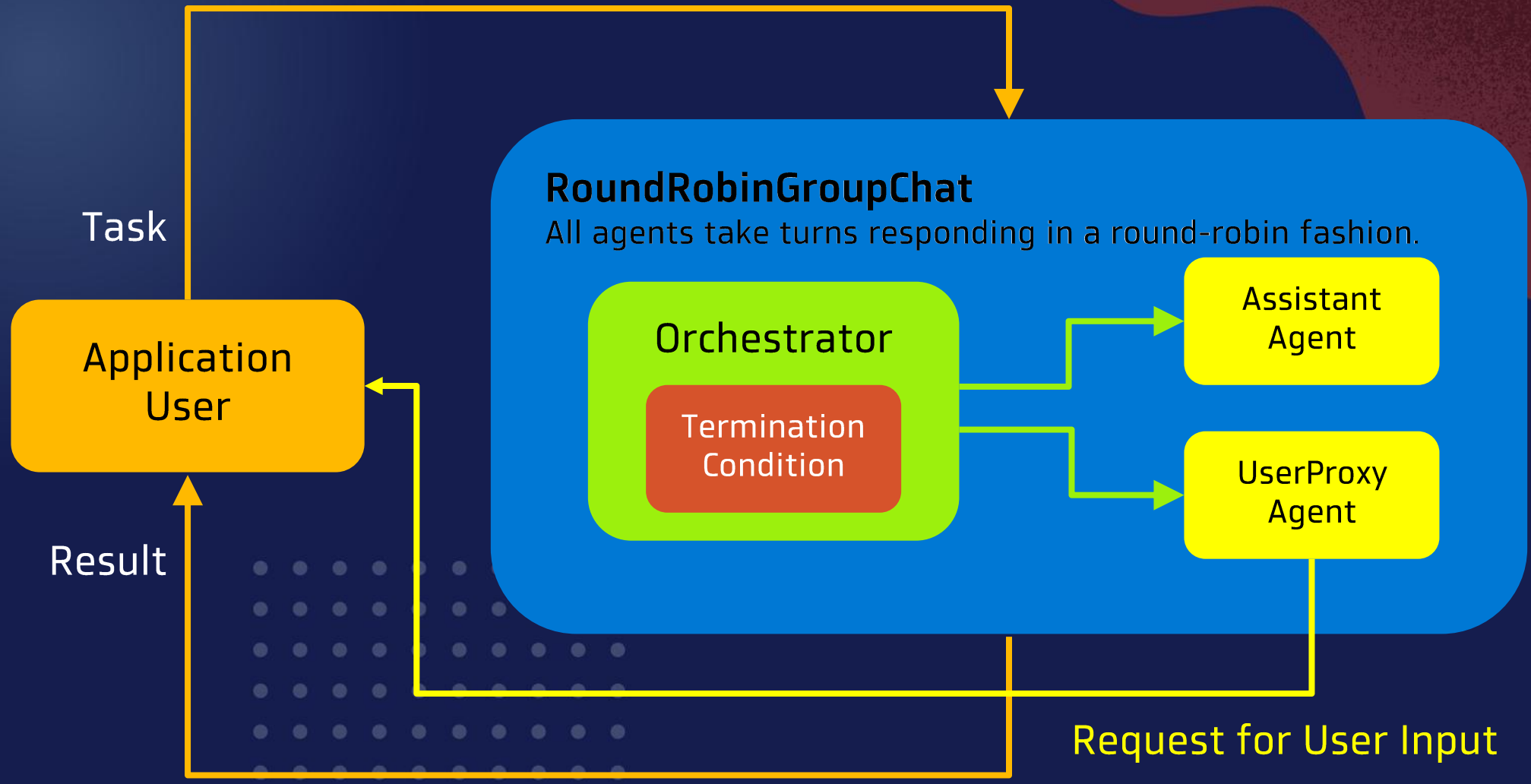
# Team is a group of agents that work together



# Termination Condition is called after each agent responds



# Human-in-the-Loop providing feedback during a run



# Termination Condition

1. MaxMessageTermination: Stops after a specified number of messages have been produced, including both agent and task messages.
2. TextMentionTermination: Stops when specific text or string is mentioned in a message (e.g., “TERMINATE”).
3. TokenUsageTermination: Stops when a certain number of prompt or completion tokens are used. This requires the agents to report token usage in their messages.
4. TimeoutTermination: Stops after a specified duration in seconds.

# Termination Condition

5. HandoffTermination: Stops when a handoff to a specific target is requested. Handoff messages can be used to build patterns such as Swarm. This is useful when you want to pause the run and allow application or user to provide input when an agent hands off to them.
6. SourceMatchTermination: Stops after a specific agent responds.
7. ExternalTermination: Enables programmatic control of termination from outside the run. This is useful for UI integration (e.g., “Stop” buttons in chat interfaces).
8. StopMessageTermination: Stops when a StopMessage is produced by an agent.

# Magentic-One

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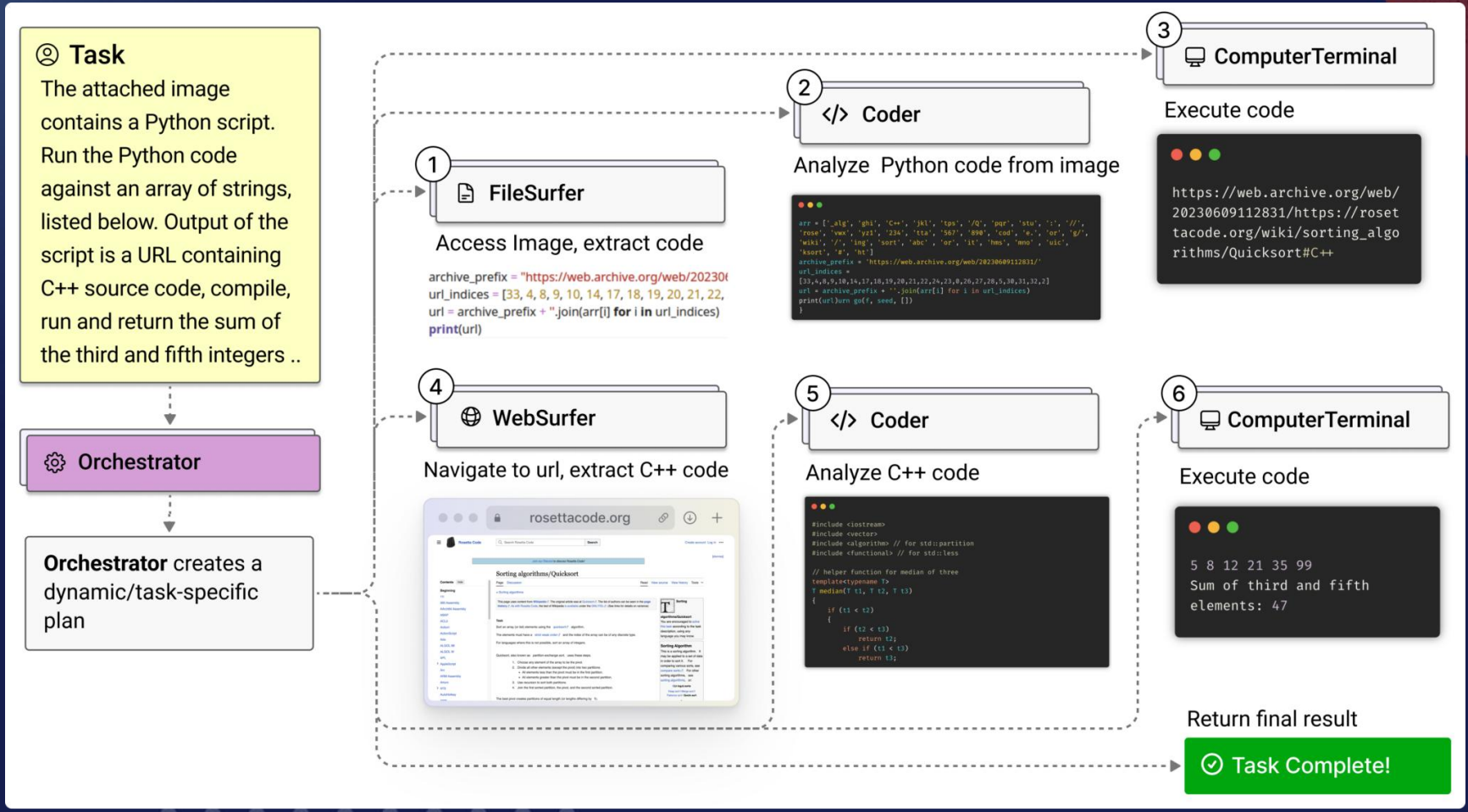

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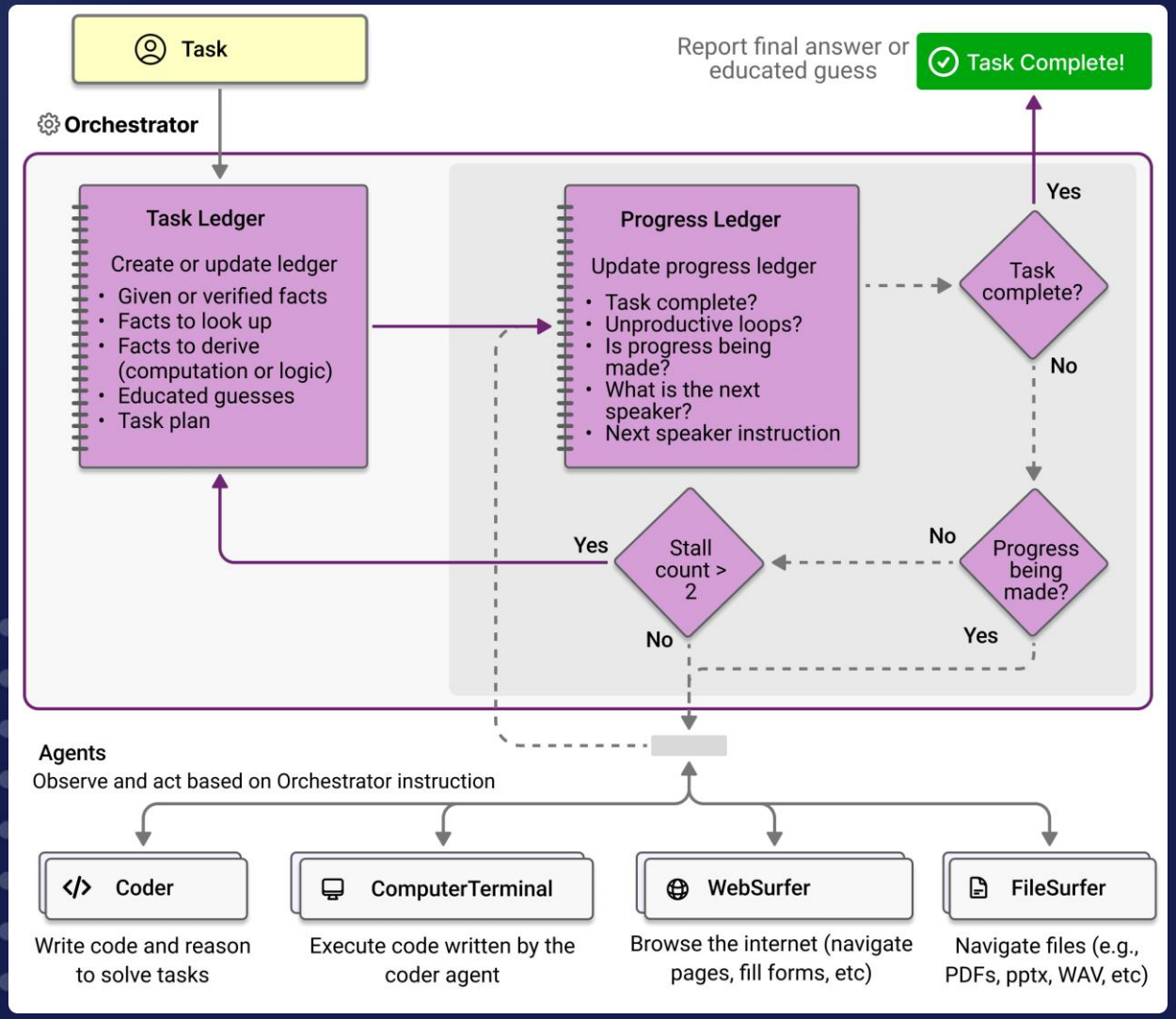
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