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Simulating Agentic AI with Prompt Engineering

IS 365 - 10/13/2025

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01

Prompt Engineering

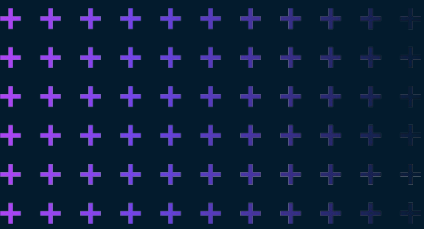




What Makes a Good Prompt?



- Task - What do you want done?
- Context - What should the model know to do the task?
 - Example - What does a good response look like?
 - Persona - Who should the model act like/as?
- Format - How should the response be structured?
 - Tone - How should the response sound?


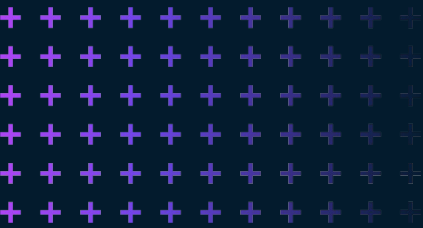




What Makes a Good Prompt?



Element	Description & Tips
Task	Start with an action verb (<i>solve, write, analyze...</i>)
Context	Supply the background or environment
Example	Illustrate what “good” looks like
Persona	Tell the model who it’s acting as
Format	Specify structure & constraints
Tone	Set voice or style

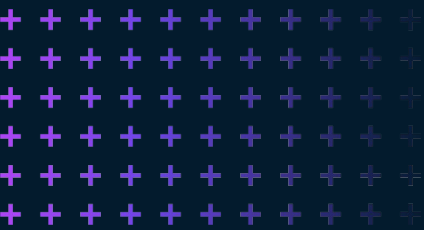




Anatomy of a Prompt



- Problem: Meal planning
 - Just asking “weekly foods” or “meal plan” won’t give you what you want
- Task:
 - Give me a 1 week plan for meals
- Context + Task:
 - I am a 180 lb male looking to maintain my weight. Give me a 1 week plan for meals.
- Context + Example + Task:
 - I am a 180 lb male looking to maintain my weight. Here’s an example of what one day should contain: Breakfast ... Lunch ... Snack ... Dinner. Give me a one week plan for meals

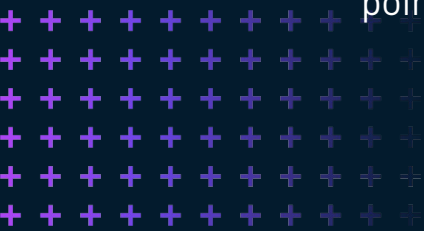




Anatomy of a Prompt



- Context + Example + Task + **Format**:
 - I am a 180 lb male looking to maintain my weight. Here's an example of what one day should contain: Breakfast ... Lunch ... Snack ... Dinner. Give me a one week plan for meals **in bullet points**
- **Persona** + Context + Example + Task + Format:
 - **Act like a Nutritionist and answer the following.** I am a 180 lb male looking to maintain my weight. Here's an example of what one day should contain: Breakfast ... Lunch ... Snack ... Dinner. Give me a one week plan for meals in bullet points
- Tone + Persona + Context + Example + Task + Format:
 - In a professional tone: Act like a Nutritionist and answer the following. I am a 180 lb male looking to maintain my weight. Here's an example of what one day should contain: Breakfast ... Lunch ... Snack ... Dinner. Give me a one week plan for meals in bullet points

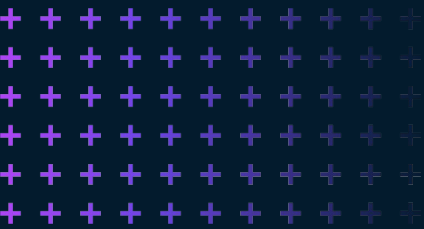




How to Keep Your Prompts Grounded



- Use a grounding document or dataset
- Explicitly limit the model's knowledge scope
- Ask for quotes or source references



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02

Live Demo

Building a Customer Experience Analysis agent





The Concept

- We'll simulate a Customer Experience Analysis agent
- Grounding Document:
 - Extracted Customer Reviews
- Tool:
 - ChatGPT (Web UI)
- Objective:
 - Extract top complaints
 - Reformat these insights for stakeholders



Layering Prompt Elements

- Iteration 1: Task
- Iteration 2: Add Persona and Format
- Iteration 3: Adding Tone and Context



Iteration 1 - Task

Summarize the top three most common complaints from the AirPods Pro 3 review digest.

Iteration 2 - Persona + Task + Format

You are a customer experience analyst. Based only on the uploaded AirPods Pro 3 review digest, return three bullet points summarizing the most common customer complaints. Include one short supporting quote under each bullet.

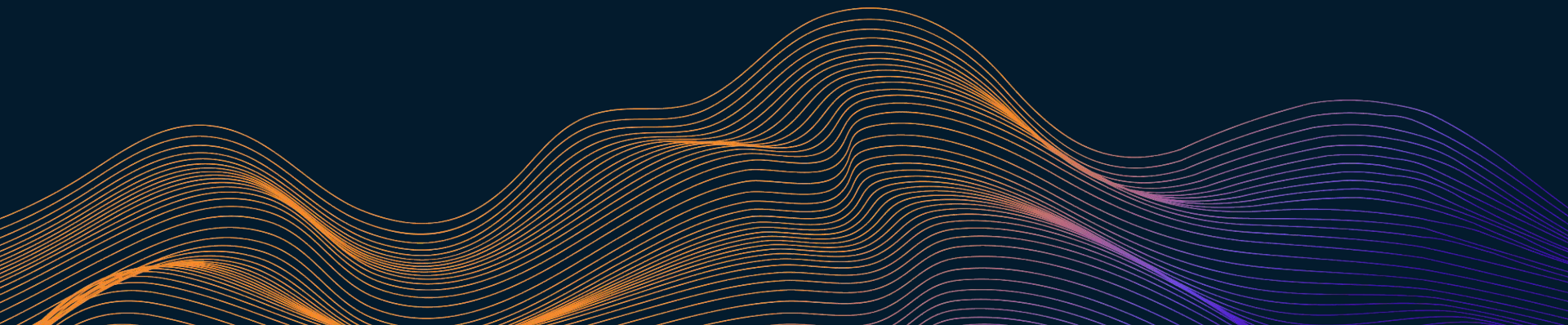
Iteration 3 - Persona + Context + Task + Format + Tone

You are a customer experience analyst preparing a summary for the product team. Using only the uploaded AirPods Pro 3 review digest, write a one-paragraph internal memo summarizing the top user complaints. Keep the tone neutral, professional, and focused on actionable insight.

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03

Agents vs Workflows



Two Layers of Intelligence

Reasoning Layer - Agents

Goal-driven systems that plan and take actions

Execution Layer - Workflows

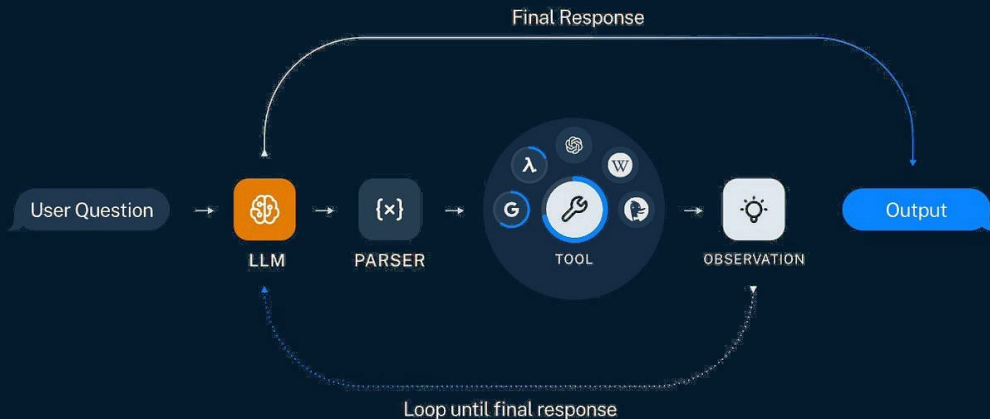
Defined, rule-based processes for repetition and consistency

Key Differences

Aspect	AI Workflows	AI Agents
Control Flow	Predefined, explicit	Dynamic, autonomous
Decision Making	Hard-coded logic	LLM-driven reasoning
Tool Usage	Linear, orchestrated	Self-selected by agent
Adaptability	N/A; Fixed path	Flexible execution
Complexity	Lower, more predictable	Higher, more capable
Use Cases	Well-defined tasks	Open-ended problems

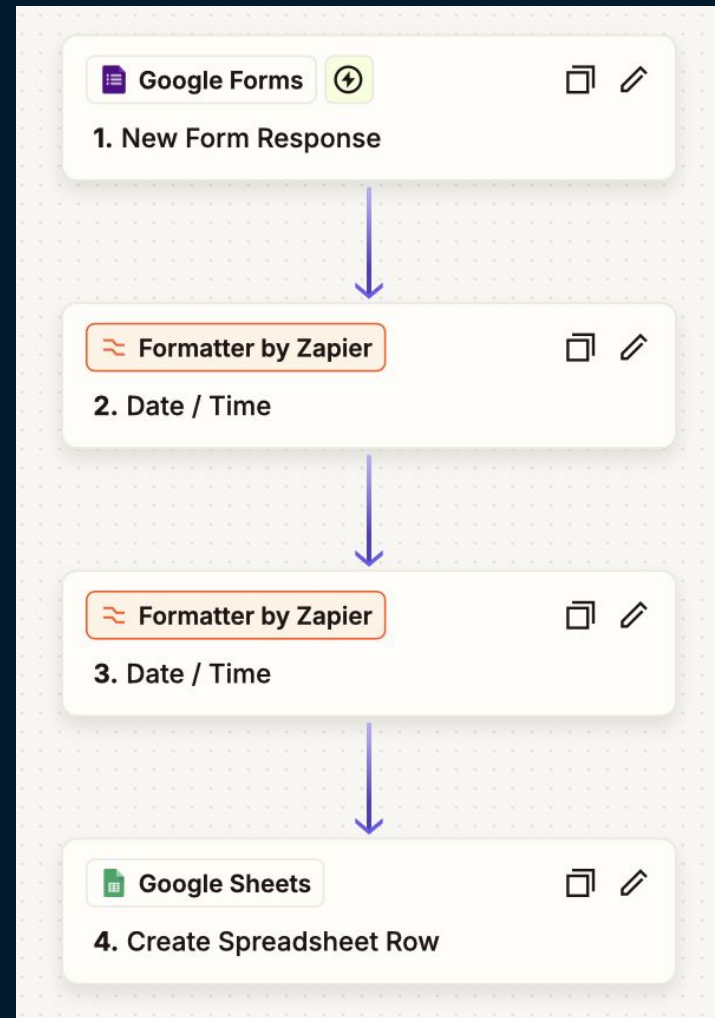
Agentic AI Depends on Tools

- Just like us, Agents need access to tools:
 - Retrieval, summarization, communication, memory, etc.
- Tools enable capability
 - Building tools = Building agency



Workflows + Agents

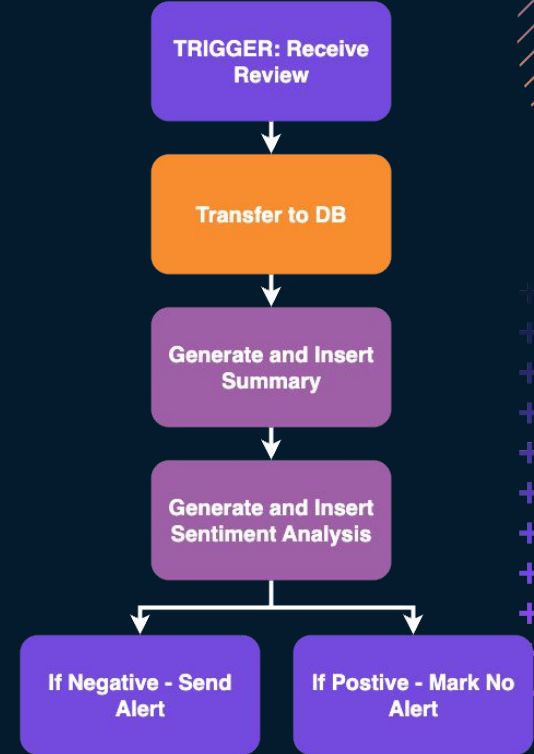
- Workflows establish execution structures
 - Trigger -> Process -> Output
 - Provides reliability, traceability, and clarity
- These form the base layer that Agents plug into
 - When LLMs join the loop, systems *think* instead of just *running*



Agentic Tool View



Workflow Demo



Two Layers of Intelligence

Reasoning Layer - Agents

Goal-driven systems that plan and take actions

Execution Layer - Workflows

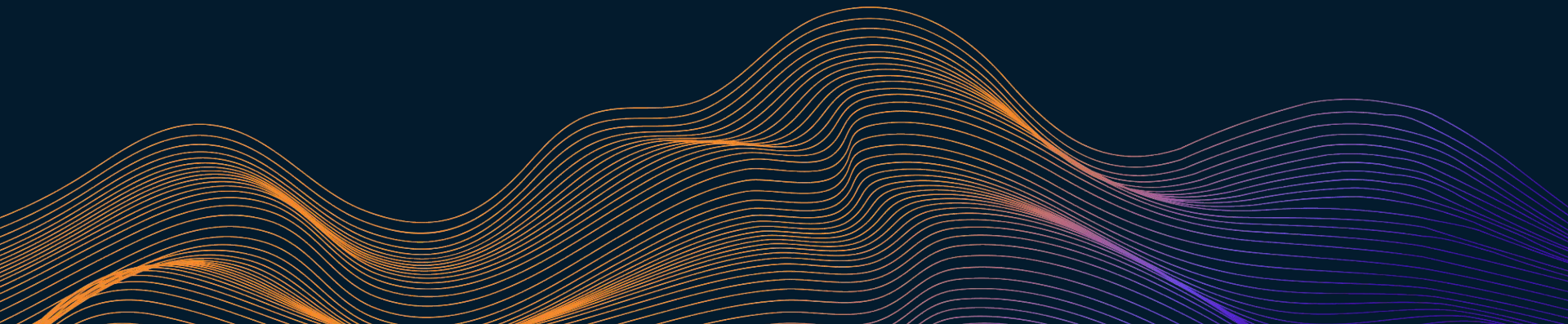
Defined, rule-based processes for repetition and consistency

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04

Zapier Demo

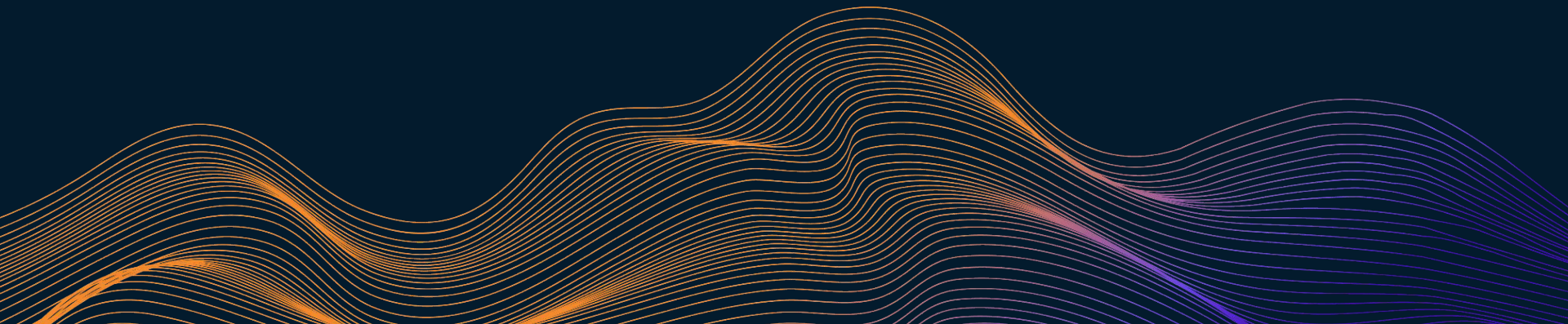
Applying AI Workflows



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05

Wrapping Up and Day 3 Preview

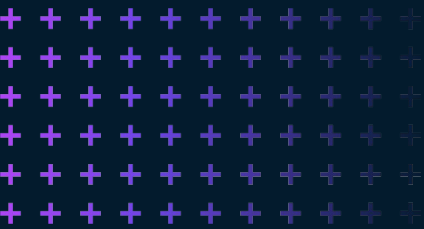




What You'll Be Doing



1. Pick a **role**
2. Choose a **knowledge source**
3. **Write + Refine** prompts to simulate agentic behavior
4. **Observe** outputs and **iterate**
5. Build a system with clear inputs and outputs





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