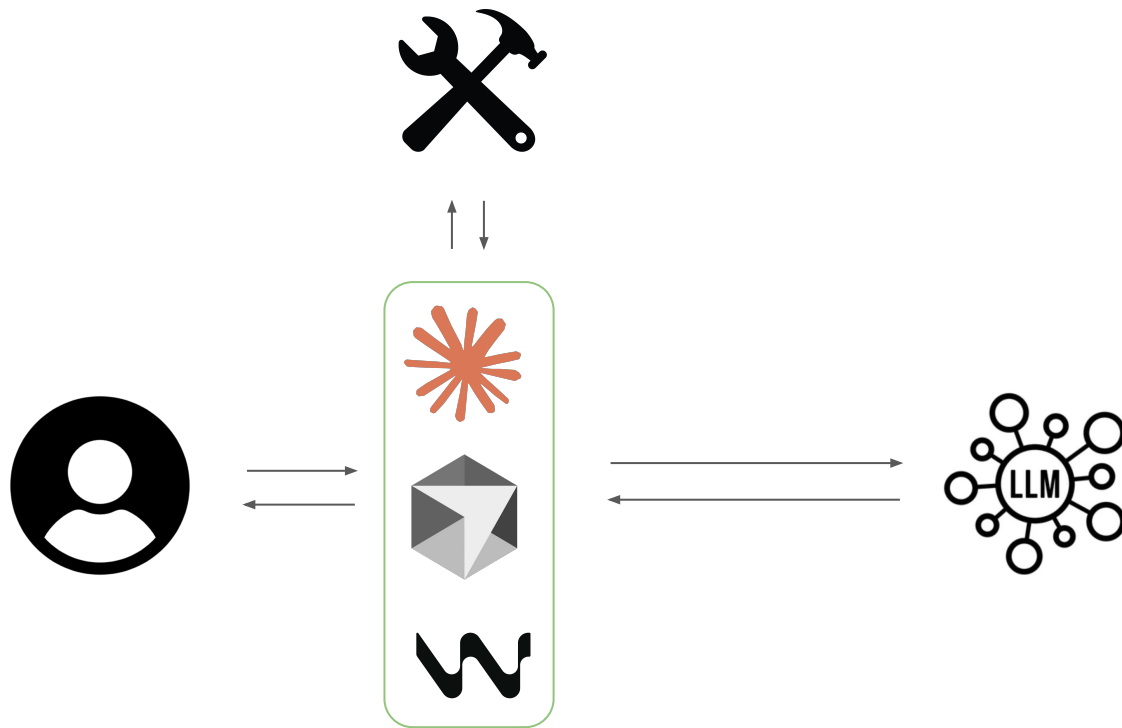# The Modern Software Developer

CS146S
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Building a Coding Agent From Scratch

It's that simple

Terminology

- System prompt
  - Define the behavior and some directives for the overall LLM
- User prompt
  - Custom user requests
- Assistant prompt
  - LLM's response

Steps

- Read in terminal and keep appending to conversation
- Tell LLM what tools are available
    - It asks for tool use at appropriate time
    - You execute tool offline and return response
    - "Read_file"
    - "List_dir"
    - "Edit_file"
- Create a new file, edit a new file

Let's build a coding agent from scratch!

The "Secret" Sauce

- Looking under the hood of Claude
  - Front-load context with tiny targeted prompts
  - System reminders everywhere including system/user prompts, tool calls, tool results to prevent drift (<system-reminder> tags)
  - Command prefix extraction
  - Spawns sub agents (likely to help with preventing context overloading)