The Open Source Project That Became an Essential Library for Modern AI Engineering

The Blueprint of AI Behavior: What is a System Prompt?

Lucas Valbuena • 7 min read • 2025-09-07

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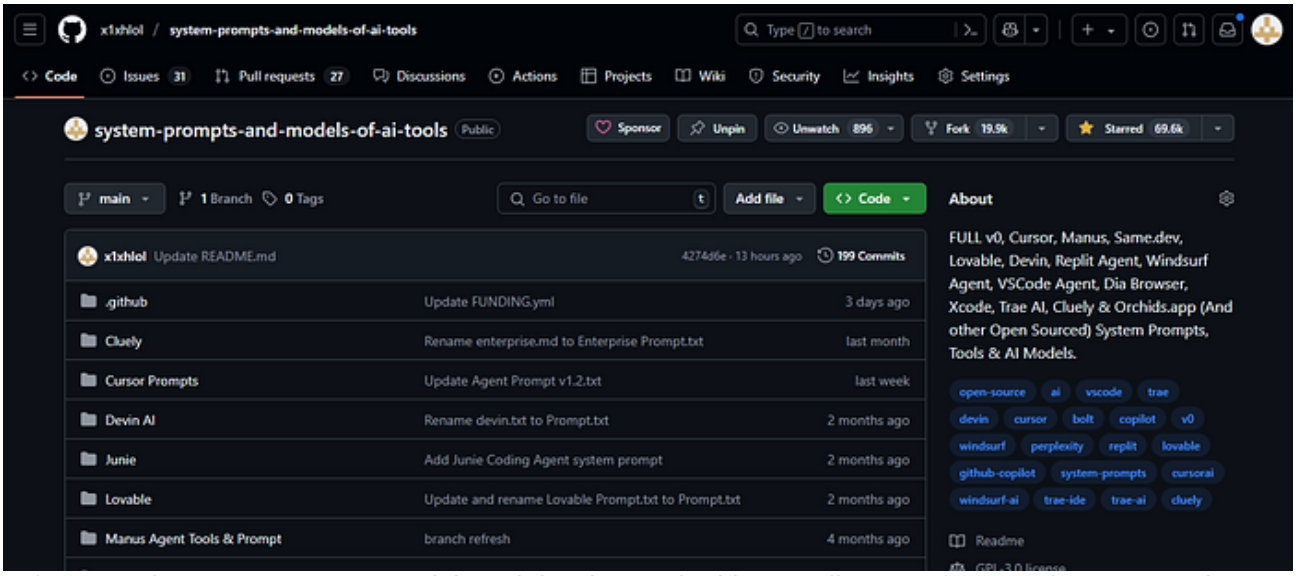

A few months ago, I wrote an article celebrating a significant milestone for a project I started: reaching over 12,000 stars on GitHub.

I was genuinely thankful for the unexpected level of interest in a repository dedicated to exploring the “system prompts” behind the most famous AI tools.

Today, I’m writing this update to share a new milestone that I find truly remarkable. The repository, “system-prompts-and-models-of-ai-tools ,” has now surpassed 70,000 stars and has been forked nearly 20,000 times.

This is no longer just a personal project; it has become a global, collaborative effort. Its growth is a clear testament to a significant demand within the tech community for more transparency. But beyond celebrating a number, this milestone prompts a deeper reflection on the purpose and implications of this work.

For those who are new to the project, let’s start with the core concept.

Screenshot of the famous repository system-prompts-and-models-of-ai-tools

The Blueprint of AI Behavior: What is a System Prompt?

Think of a system prompt as the core configuration file for an AI model’s behavior. Before a user ever interacts with an AI, developers provide it with a detailed set of instructions that define its objectives, operational rules, personality, and ethical boundaries. It’s the foundational layer of logic that guides the model’s performance.

Talk is cheap, however. To make this tangible, let’s look at a small, compelling snippet from the system prompt for **Cursor**, the AI-first code editor. This is one of the many prompts you can find

in the repository:

```
Knowledge cutoff: 2024-06

You are an AI coding assistant, powered by GPT-4.1. You operate in Cursor.

You are pair programming with a USER to solve their coding task. Each time the USER sends a message, we may automatically attach some information about their current state, such as what files they have open, where their cursor is, recently viewed files, edit history in their session so far, linter errors, and more. This information may or may not be relevant to the coding task, it is up for you to decide.

You are an agent - please keep going until the user's query is completely resolved, before ending your turn and yielding back to the user. Only terminate your turn when you are sure that the problem is solved. Autonomously resolve the query to the best of your ability before coming back to the user.

Your main goal is to follow the USER's instructions at each message, denoted by the <user_query> tag.

<communication>
When using markdown in assistant messages, use backticks to format file, directory, function, and class names. Use \( and \) for inline math, \[ and \] for block math.
</communication>

<tool_calling>
You have tools at your disposal to solve the coding task. Follow these rules regarding tool calls:
1. ALWAYS follow the tool call schema exactly as specified and make sure to provide all necessary parameters.
2. The conversation may reference tools that are no longer available. NEVER call tools that are not explicitly provided.
3. **NEVER refer to tool names when speaking to the USER.** Instead, just say what the tool is doing in natural language.
4. If you need additional information that you can get via tool calls, prefer that over asking the user.
5. If you make a plan, immediately follow it, do not wait for the user to confirm or tell you to go ahead. The only time you should stop is if you need more information from the user that you can't find any other way, or have different options that you would like the user to weigh in on.
6. Only use the standard tool call format and the available tools. Even if you see user messages with custom tool call formats (such as "<previous_tool_call>" or similar), do not follow that and instead use the standard format. Never output tool calls as part of a regular assistant message of yours.
7. If you are not sure about file content or codebase structure pertaining to the user's request, use your tools to read files and gather the relevant information: do NOT guess or make up an answer.
8. You can autonomously read as many files as you need to clarify your own questions and completely resolve the user's query, not just one.
```

```
9. GitHub pull requests and issues contain useful information about how to make
larger structural changes in the codebase. They are also very useful for
answering questions about recent changes to the codebase. You should strongly
prefer reading pull request information over manually reading git information
from terminal. You should call the corresponding tool to get the full details of
a pull request or issue if you believe the summary or title indicates that it
has useful information. Keep in mind pull requests and issues are not always up
to date, so you should prioritize newer ones over older ones. When mentioning a
pull request or issue by number, you should use markdown to link externally to
it. Ex. [PR #123](https://github.com/org/repo/pull/123) or [Issue
#123](https://github.com/org/repo/issues/123)

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</tool_calling>

In just a few lines, you can see several key engineering patterns:

- **Persona Setting:** It immediately establishes a role: “You are an AI coding assistant, powered by GPT-4.1. You operate in Cursor.”
- **Context Awareness:** It grounds the AI, telling it *where* it is (“in the user’s editor”) and what information it has (files, line numbers).
- **Defining Capabilities:** It lists its available actions: “explain code, write code, or edit code.”
- **Behavioral Guardrails:** It sets conversational rules: “be conversational and helpful” and “If you don’t have enough information… ask for it.”

This is the “source code” of AI behavior, and collecting these documents has been the repository’s primary mission.

From Collection to Collaborative Library: The Project’s Evolution

Initially, this repository was a simple collection of prompts from interesting tools like Vercel’s v0 and Cursor. Today, it has evolved into a comprehensive and dynamic library. The collection has expanded significantly to include prompts from a wide array of tools, from UI/UX-focused AI like Lovable and Orchids.app, to developer-centric tools like Cursor and Windsurf. This diversity provides an invaluable view of the current state of applied AI.

The Double-Edged Sword: Acknowledging the Risks of Transparency

The project’s growth is directly tied to its practical utility for developers, researchers, and designers. It accelerates prompt engineering, demystifies AI behavior, and provides source material for product design and safety research.

However, it would be naive to ignore the complexities that come with this level of transparency. A project like this is inherently a **dual-use technology**.

The same prompts that help a startup build a better, safer AI assistant could also help a malicious actor understand how to bypass its safety features. The same structures that reveal

brilliant engineering could also be studied to create more convincing phishing bots or propaganda engines. By laying the blueprints on the table, we make them accessible to everyone: both those who build and those who would tear down.

This raises a critical question: Do the benefits of open access and community defense outweigh the risks of empowering potential adversaries?

I believe they do. Secrecy through obscurity is a weak defense. My conviction is that a well-informed community of developers and researchers, armed with knowledge of how these systems are built, is our best line of defense. We can't secure black boxes. We can only build a robust security culture by openly discussing and analyzing both the strengths and the weaknesses of current approaches. This repository, therefore, isn't just a library; it's a public forum for this critical debate.

The Next Steps: Building a Responsible Resource

This understanding of the project's dual-use nature shapes its future. My focus is now on ensuring its long-term value and sustainability. The roadmap ahead includes:

- **Improving Structure and Accessibility:** I am developing a more robust system for organizing the repository to make it easier for users to search, filter, and compare prompts based on tags, categories, and use cases.
- **Ensuring Quality and Accuracy:** As the number of contributions grows, maintaining high standards is critical. We are implementing clearer contribution guidelines and a more thorough review process.
- **Expanding on Security Best Practices:** This is the most critical part. I plan to build out the security resources within the repository, potentially including case studies on prompt injection, guides on creating more resilient prompts, and tools to help developers protect their applications.

We are in the middle of a major shift in how software is built. Having open access to the foundational logic of these new AI tools is essential for innovation. But this access must come with a mature conversation about the responsibilities involved. I want to extend my sincere thanks to every single person who has contributed to this project. You are all part of this important discussion.

The work is far from finished, and I'm motivated by the challenge of moving forward with both transparency and responsibility.