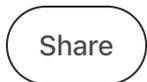


Prompt Engineering: What Is It, Why It's Important, and Is It Obsolete?

Where I explain what prompt engineering is and why it's important to more than GenAI.



TOM MARTIN
MAY 30, 2024



Thanks again to all my readers! You are the best. 🏆

And to you newbies, come right this way! 📌

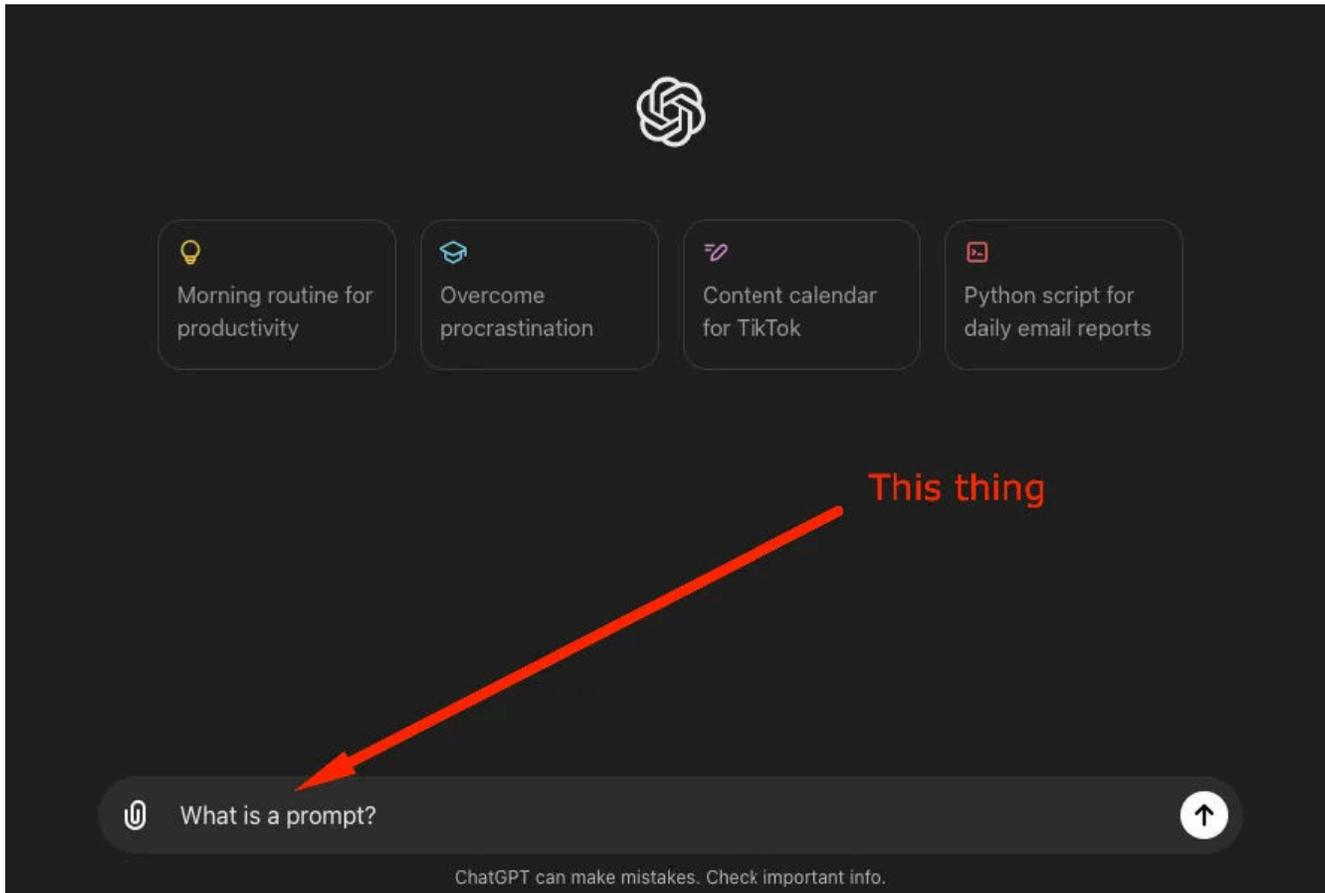
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This substack, LawDroid Manifesto, is here to keep you in the loop about the intersection of AI and the law. Please share this article with your friends and colleagues and remember to tell me what you think in the comments below.

If you've heard the term "prompt engineering" used in reference to Generative AI ¹ (GenAI), you've probably asked yourself what it is and why it matters. Well, you're in luck: this article is a practical introduction to Prompt Engineering. Too many explanations take the concept of prompting for granted and don't get into enough detail, especially for those unfamiliar with with GenAI. And, to make matters even more complicated, there's even been talk lately that the need for prompt engineering is dead. Don't believe everything you read!

If this sounds interesting to you, please read on...

What is a Prompt?



Kinda meta, right?

OpenAI popularized the conversational user interface through its intelligent chatbot, ChatGPT. Through this conversational UI, the user (that's you) uses natural language (your own words) to communicate with the AI. In GenAI parlance, the input you provide to the AI is called a "prompt." This is unlike a graphical user interface (think: iPhone), where the user taps icons and buttons to interact with an app. It is also unlike directing a computer system with a programming language, like Python, Ruby, Java, JavaScript, C+ or many others.

Prompt Defined

For the benefit of those who may be new to GenAI, let's start with a definition of what a prompt is. As I've said before, we lawyers love definitions, so a definition is a good place to start. First, let's look at the ordinary meaning of 'prompt,' and then what the computer sense of the word is:

Prompt (Cause)

to make something happen ²

Prompt (Computer)

to give an instruction to an artificial intelligence (= a computer system or machine that has some of the qualities that a human brain has, such as the ability to interpret and produce language in a way that seems human, recognize or create images, solve problems, and learn from data supplied to it) using natural language rather than computer language. ³

I think most of us who've played around with ChatGPT think of a prompt as simply the thing we're asking it to do for us. It's the input that gets us the output that we want. The trick is in knowing *how and what* to ask. There are secret cheat codes to help you get the result you want and I'm here to share them with you. ⁴

Types of Prompts

Fanciful Prompt

Typically, in introductions to ChatGPT, prompts are suggested like the following: "write a poem in the style of Oscar Wilde about the beauty of a well-drafted legal brief," or "create an image of a red cat in the style of Van Gogh." This species of prompt I call a fanciful prompt and is intended to wow the uninitiated with Generative AI's raw power of creativity, are fanciful and unlikely to be put to practical use.

Ode to a Well-Crafted Brief

In chambers where the law's fine scrolls do lie,
Where reason's pen with careful art does play,
A legal brief, in elegance, does sigh,
Its words a symphony, in grand array.
Upon the parchment, ink like twilight falls,
Each sentence crafted with a poet's grace,
In arguments so pure, the mind entralls,
A testament to thought in sacred space.
No wild, unkempt emotion mars its form,
Nor does it yield to passion's fleeting gale,
For in its lines, a scholar's calm does warm,
A balance struck where justice shall prevail.
Oh, noble brief, thy structured beauty shines,
A beacon in the labyrinth of the law,

Within thy prose, the truth itself aligns,
And leaves the court in silent awe.
As Wilde would weave his tales of light and shade,
So too, the brief, with eloquence, is made.



a red cat in the style of Van Gogh

But, fanciful prompts serve an important purpose: to ignite the imagination about what's possible using GenAI. They also help to inspire what I believe to be the correct

mindset for GenAI use: viewing it as a creative collaborator or copilot, rather than a replacement.

Naive Prompt

A naive prompt is one that is literal in its meaning. It's the type of prompt that most people start with. For example, "what is a prompt?" or "what is the leading case on privacy?" These prompts are 'naive,' in the sense that they provide little to no context to assist the AI in providing a meaningful answer and typically seek factual information. The mindset that engenders a naive prompt is one that views GenAI as an oracle, capable of delivering a perfect response.

Naturally, many newbies first interact with GenAI using a naive prompt and expecting a magical response. From my own personal experience with lawyers, they may prompt ChatGPT with something like this: "draft lease." While there is nothing wrong *per se* with this approach, GenAI is likely to deliver a generic, unsatisfactory response because the input is also generic and unsatisfactory.

Here, the reaction to the output GenAI delivers is decisive. If a lawyer takes GenAI's output as damning evidence of its inadequacy, their experimentation will cease and they will chalk it up to GenAI "not being ready for prime time." On the other hand, if the lawyer continues to experiment and learn, they will find that providing more information can help GenAI to better meet their expectations.

Informed Prompt

An informed prompt benefits from more information and from the greater experience of the user (that's you) with using GenAI. The lawyer needs to offer GenAI direction, context, format, and describe their expectations. Then, the prompt may transform to something better: "draft a 1 year residential lease agreement for two parties, under California law, where the lessee deposits \$10,000 and agrees to pay \$5,000 per month, no pets or subleases, ready for signature."

A simple thought experiment to improve one's communication with GenAI is to imagine you are speaking with a fellow legal professional. Would you ask a new paralegal to just "draft a lease"? Or, would you likely give them a little more context? Who's the client?

Who's the other party? What property are we talking about? How much is the rent? deposit? Do we want to restrict renters from smoking or having pets? All of this guidance helps your colleague, or GenAI, to perform their job.

And, with that, you've just crossed over to the prompt engineering zone...

What is Prompt Engineering?

Prompt engineering refers to the process of designing and refining prompts to optimize the performance of AI models. These prompts guide GenAI in generating responses that are accurate, relevant, and useful. This practice involves a deep understanding of the GenAI model's capabilities, iterative testing, and fine-tuning to achieve the desired outcomes.

Prompt Engineering or Design?

Engineering is defined as "the application of science and mathematics by which the properties of matter and the sources of energy in nature are made useful to people."⁵

So I would be remiss if I didn't mention here that the phrase "prompt engineering," as applied to GenAI, is somewhat of a misnomer. On balance, prompt engineering is more of an art than a science, especially when one factors in that the same prompt can perform differently on different GenAI models (ChatGPT versus Claude), and even generate different results for the same prompt across different versions of the same model (GPT-4 versus GPT-4o). For these reasons, I think that the phrase "prompt design" more accurately captures the concept, but I will continue to use "prompt engineering" in this article because it is more commonly used to refer to this skill.

Prompt Analysis

Let's now revisit the prompt "draft lease" through a prompt engineering lens and develop a more informed prompt step-by-step.⁶

1. Analyze the Latest Message:

- The user mentioned "draft lease."

- This indicates the need to draft a lease agreement.

2. Determine Role:

- The assistant should adopt the persona of an experienced legal professional skilled in drafting lease agreements.

3. Relevant Context Information:

- The prompt needs to include all necessary components to draft a comprehensive lease agreement.
- Specific details about the lease like tenant names, property details, lease term, rent amount, terms and conditions, etc., should be included.

4. Indicate Prompt Input:

- Use placeholder input tags to cover the essential details required for drafting the lease.

5. Describe Expected Format:

- Describe the format you expect to see in the generated output to ensure the prompt is clear and follows the objective step-by-step.

After breaking the prompt down in this way, we may consider reformulating the original "draft lease" prompt as follows:

As an experienced legal professional, your task is to draft a comprehensive lease agreement.

Please include the following details in the lease:

- Tenant names: `<input>... insert tenant names here ...</input>`
- Property details: `<input>... insert property details here ...</input>`
- Lease term: `<input>... insert lease term here ...</input>`
- Rent amount: `<input>... insert rent amount here ...</input>`
- Terms and Conditions: `<input>... insert terms and conditions here ...</input>`

Ensure to include all standard elements like security deposits, maintenance terms, and termination clauses.

And, there's a way to ensure that a prompt is well-formulated to begin with, namely, by using a prompt framework.

Prompt Framework

"What is a prompt framework?," you might ask. A prompt framework is a structured approach used to design prompts for GenAI models. Prompt frameworks are helpful guidelines and templates to ensure that prompts are clear, effective, and tailored to elicit the desired responses.

Key components of a prompt framework include:

1. **Context:** Background information or a scenario that sets the stage for the prompt.
2. **Instruction:** Clear and specific directions on what the AI should do.
3. **Examples:** Illustrative inputs and outputs to guide the AI's responses.
4. **Constraints:** Rules or limitations to ensure the AI's responses are within desired parameters.
5. **Evaluation Criteria:** Standards to assess the quality and relevance of the AI's responses.

This framework strategy helps in creating consistent, high-quality prompts that improve the performance and reliability of GenAI models.

Examples of Prompt Frameworks

Let's look at a few examples of prompt frameworks:

Role - Task - Format (RTF)

The first is called RTF, short for Role - Task - Format. Using this framework, the user (you) assign GenAI a role to play (for example, an experienced legal professional), assign it a task to perform (improve my trial skills), then, finally, provide the format you expect for the output. You can provide the format to GenAI either by describing it in the prompt or uploading a format exemplar.

Below is an RTF template:

Act as a [insert the role you want AI to take]. Give me a [insert task] in [insert format] format.

And an example of what it may produce:

You
Act like a lawyer with 30 years of experience in litigating. Give me a plan to improve my trial skills in table format.

ChatGPT
Drawing from the perspective of a seasoned litigator with three decades of experience, the improvement of trial skills is a multifaceted endeavor that requires dedication, continuous learning, and practical application. Here's a strategic plan tailored to enhance your trial skills systematically:

Timeframe	Focus Area	Activities/Strategies	Evaluation Methods
Month 1-3	Foundation Building	- Study key legal principles and case law relevant to your practice area. - Attend CLE (Continuing Legal Education) courses on trial advocacy. - Read seminal texts on trial techniques and jurisprudence.	- Self-assessment quizzes. - Peer feedback on understanding of legal principles.
Month 4-6	Practical Skills Development	- Engage in mock trials. - Practice opening statements and closing arguments to a mentor or recorder. - Shadow experienced litigators in court. - Volunteer for pro bono cases to gain hands-on experience.	- Feedback from mentors and peers. - Self-review of recorded practice sessions.
Month 7-9	Advanced Advocacy Techniques	- Participate in advanced trial advocacy workshops. - Study and apply psychological techniques for persuading juries. - Learn about and implement technology in trial presentations.	- Evaluation in workshops. - Reflective practice journal.
Month 10-12	Refinement and Specialization	- Focus on [down arrow] the area within your practice for specialization. - Attend seminars	- Peer and mentor assessments. -

Message ChatGPT...

Example output created with RTF prompt framework

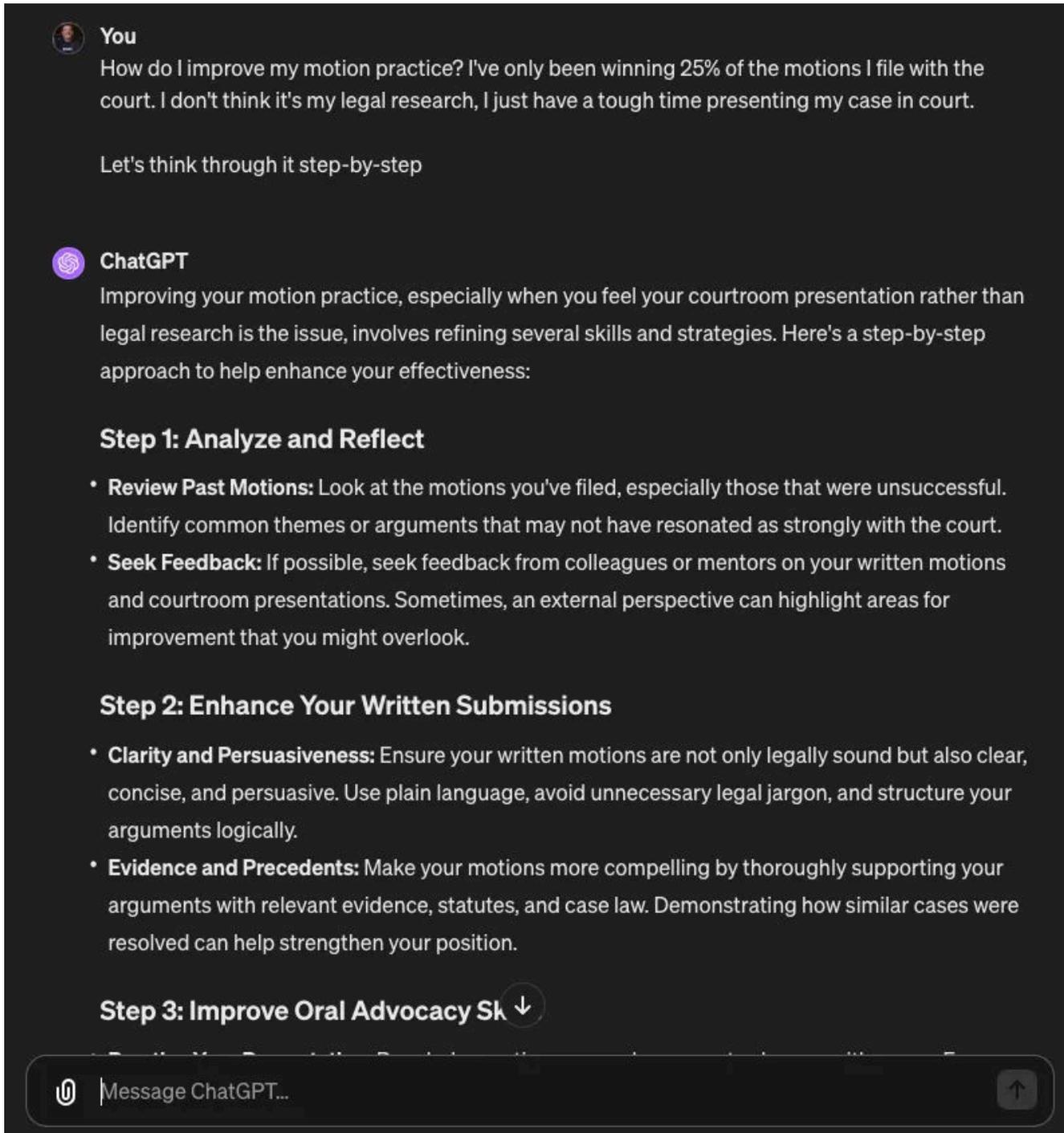
Chain of Thought (COT)

The second prompt framework is called COT, short for Chain of Thought. Using this framework, the user (you) assigns GenAI instructions to achieve a goal, but also encourages it to think through the process step-by-step. The advantage of this framework is that it alters the default behavior of providing a narrative response and instead creates an action-oriented plan for how to achieve the goal.

Below is a COT template:

[insert your prompt instructions]. Let's think through it step-by-step.

And an example of what it may produce:



Example output created with COT prompt framework

RISEN

The third is called RISEN, an acronym that stands for:

R - Role

I - Instructions

S - Steps

E - End Goal

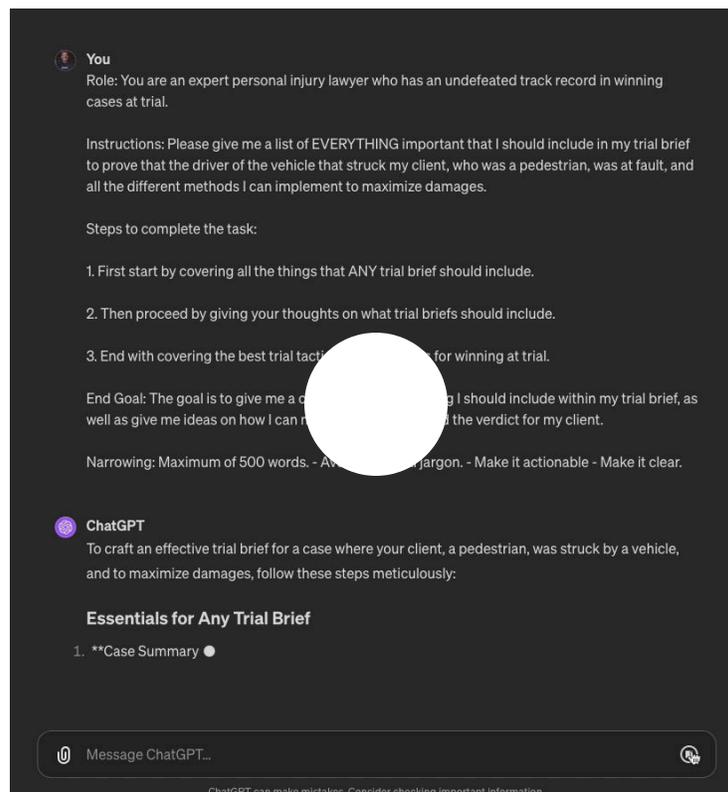
N - Narrowing

Using this RISEN framework, the user (you) assign GenAI a role to play, give it a set of instructions, an order of operations, a goal, and finally criteria to constrain the output (for example, not to exceed 500 words). RISEN, in essence is a combination of the RTF and COT prompt frameworks and benefits from the strengths of each.

Below is a RISEN template:

Role: [insert the role you want AI to take.]
 Instructions: [Insert the task you want AI to complete.]
 Steps: [Insert numbered list of steps to follow.]
 End Goal: [Insert goal of the output]
 Narrowing: [Enter constraints].

And an example of what it may produce:

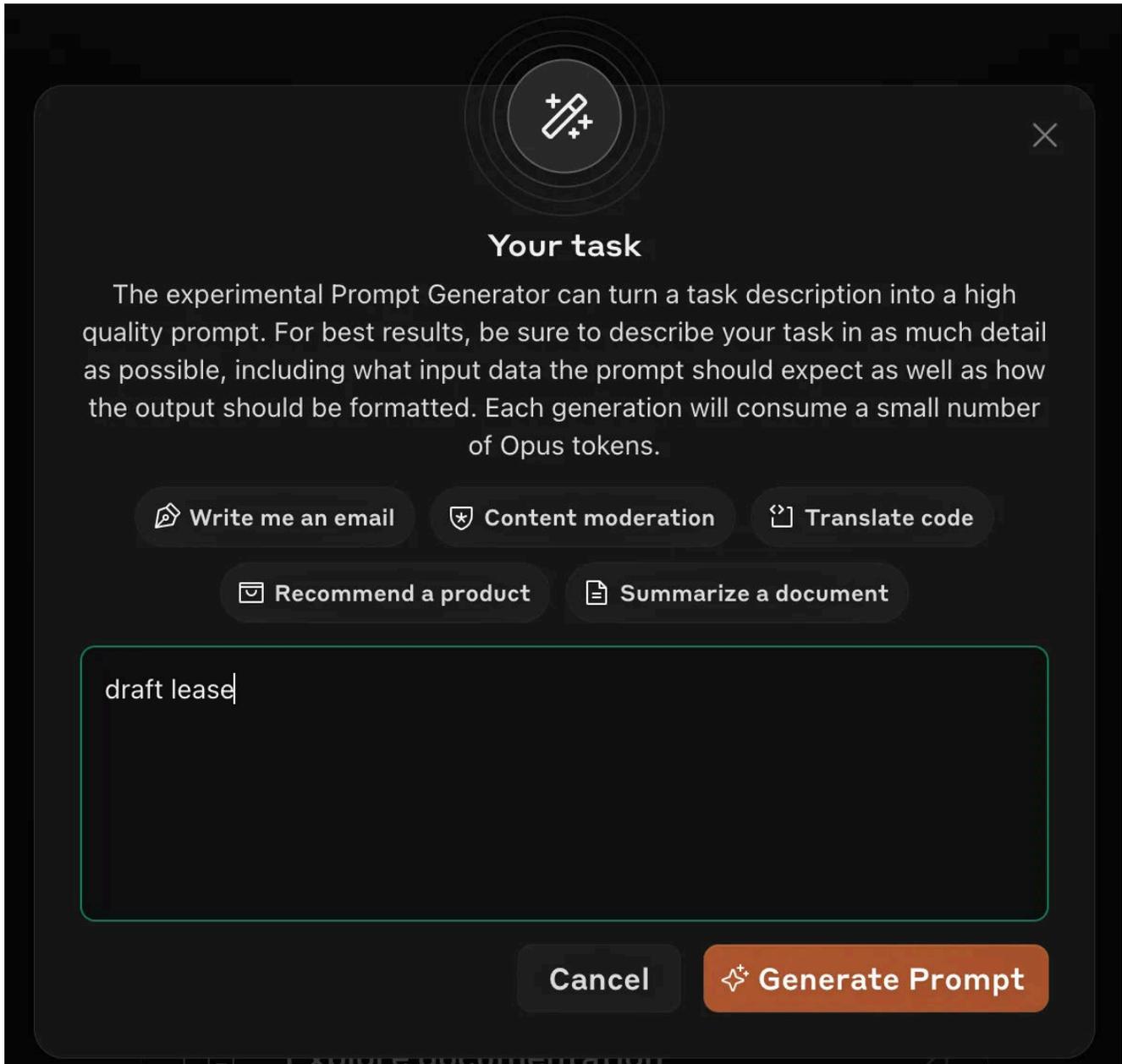


There are many more prompt frameworks and strategies, such as Tree of Thought, Automatic Multi-step Reasoning and Tool Use, and Reflection, to name a few.⁷

Just like IRAC has served many a generation of law student to clarify their thinking and direct their argumentation to identify the issue, state the applicable legal rule, apply the rule to the facts of the case, and state a conclusion of law, prompt frameworks perform a similar function. Prompt frameworks are a convenient method of focusing the mind on how to communicate more clearly and to provide a handy checklist of what information needs to be included to accomplish a goal.

Is Prompt Engineering Dead?

As Mark Twain once said, "The reports of my death are greatly exaggerated." But, the idea that prompt engineering may have had its day has been brought on by the likes of Anthropic's Prompt Generator⁸, seen below.



Anthropic Prompt Generator

Anthropic's Prompt Generator takes the naive prompt "draft lease" and produces a highly detailed prompt, employing the best practices we've discussed.

You will be drafting a residential lease agreement. The lease should include all the essential information for a valid rental contract between a landlord and tenant.

Here are the key details to include:

Property Address:

```
<property>
  {{PROPERTY_ADDRESS}}
</property>
```

Tenant Name(s):

```
<tenant>
  {{TENANT_NAME}}
</tenant>
```

Landlord Name(s):

```
<landlord>
  {{LANDLORD_NAME}}
</landlord>
```

Lease Start Date: `<start_date>{{LEASE_START_DATE}}</start_date>`

Lease End Date: `<end_date>{{LEASE_END_DATE}}</end_date>`

Monthly Rent: `<rent>{{MONTHLY_RENT}}</rent>`

Security Deposit: `<deposit>{{SECURITY_DEPOSIT}}</deposit>`

Here are step-by-step instructions for drafting the lease:

1. Write an introductory paragraph stating the purpose of the lease agreement and specifying the landlord(s), tenant(s), and property address. Use the `<property>`, `<tenant>`, and `<landlord>` tags.
2. Write a section specifying the lease term with the start date and end date. Reference the `<start_date>` and `<end_date>` tags.
3. Write a section detailing the monthly rent amount and when it is due each month. Specify any late fees. Use the `<rent>` tag.
4. Write a section on the security deposit, specifying the amount and the conditions for returning the deposit at the end of the lease. Use the `<deposit>` tag.
5. Include sections on the following:
 - Occupancy limits and guest policies
 - Maintenance and repairs (landlord and tenant responsibilities)
 - Utilities (which are included and which are tenant's responsibility)
 - Parking policies
 - Pet policies and any associated fees/deposits

- Restrictions on illegal activity, excessive noise, etc.
- Landlord's right to enter and inspect the property with proper notice

6. Write a section explaining the consequences of breaking the lease or failing to pay rent (eviction).

7. Conclude with signature and date lines for the landlord(s) and tenant(s) to sign and execute the lease agreement.

Please write in clear, formal language as this is a legal contract. Organize the lease into sections with headings.

After drafting the lease, proofread it carefully to fix any errors and ensure all essential information is covered.

Output the entire lease inside <lease> tags.

After reading all of this, you might be irritated. "Tom, you may have brought this up sooner!" You might be thinking I could have save you a lot of time reading about prompt engineering if it has already become a dead letter.

Be patient; bear with me. 😊 There are still many good reasons why learning prompt engineering is still a viable endeavor!

Improving Communication Skills

Interestingly, the practice of prompt engineering also improves human communication skills. Crafting clear and precise prompts requires critical thinking and structured articulation. Employees who engage in prompt engineering can develop better clarity in their verbal and written communication.

The Role of Human Insight

Human insight and creativity remain irreplaceable. Prompt engineering is not just about crafting precise inputs; it involves understanding the nuances of human communication and context. AI models, no matter how advanced, still benefit from the human touch in refining and optimizing their interactions.

Facilitating Training and Onboarding

Prompt engineering plays a crucial role in the AI training and onboarding processes. AI models can be used to create customized training programs, simulate scenarios, and provide real-time feedback, making learning more interactive and effective. This is particularly useful where continuous learning and skill development are essential.

Ongoing Need for Customization

Different applications and user needs require tailored prompts, which means the role of prompt engineering is far from obsolete. As AI continues to evolve, the demand for customized and context-specific prompts will persist, ensuring that prompt engineering remains a valuable skill.

Prompt engineering is dead, long live prompt engineering!

Closing Thoughts

Prompt engineering is a skill that is here to stay.

While advancements in AI, like Anthropic's Prompt Generator, may automate some aspects of prompt creation, the need for human insight, creativity, and context-specific customization remains paramount.

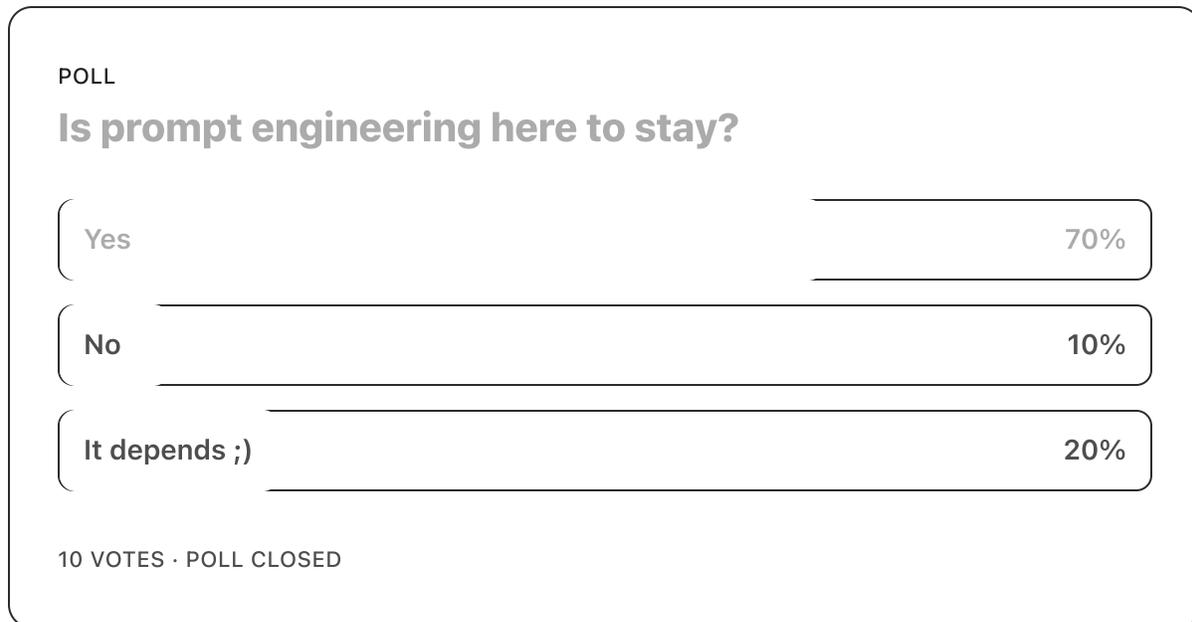
As AI continues to evolve and integrate into various industries, the ability to effectively communicate with and guide these models will only grow in importance. Prompt engineering not only optimizes AI performance but also helps us become better communicators and problem-solvers.

So, whether you're a lawyer drafting a lease agreement, a marketer creating engaging content, or an educator developing interactive learning experiences, prompt engineering is a powerful tool in your arsenal. By mastering this skill, you can harness the full potential of AI while also enhancing your own capabilities.

As we navigate this exciting era of Generative AI, let us embrace prompt engineering not as a passing trend but as a fundamental competency. The future belongs to those

who can effectively collaborate with AI, and prompt engineering is the key to unlocking that potential.

So, let's continue to explore, experiment, and refine our prompts, knowing that the possibilities are truly endless!



By the way, if you'd like to learn more about how AI works and how it will impact the legal profession, you should apply to LawDroid University!

My NEW 5-part webinar series, Generative AI for Lawyers: Empowering Solos and Small Law Firms, is now available at LawDroid University.

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- 1 My usage of Generative AI is intended to refer generally to GenAI models such as ChatGPT, Claude, Gemini and Copilot.
- 2 Prompt, Cambridge Dictionary, <https://dictionary.cambridge.org/dictionary/english/prompt>
- 3 Id.
- 4 For an ever growing collection of prompt examples to be used with the ChatGPT model, check out the "Awesome ChatGPT Prompts" repository, available here <https://github.com/f/awesome-chatgpt-prompts> or here <https://prompts.chat/>
- 5 Engineering, Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/engineering>

- 6 This prompt analysis was facilitated by the use of PromptPerfect from JinaAI, <https://promptperfect.jina.ai/>

 - 7 Prompting Frameworks for Large Language Models: A Survey, arXiv:2311.12785, Xiaoxia Liu et al. [v1] Tue, 21 Nov 2023, <https://arxiv.org/pdf/2311.12785>; A Prompt Pattern Catalog to Enhance Prompt Engineering with ChatGPT, arXiv:2302.11382 [cs.SE], Jules White et al. [v1] Tue, 21 Feb 2023, <https://arxiv.org/pdf/2302.11382>; PromptWizard: Task-Aware Agent-driven Prompt Optimization Framework, arXiv:2405.18369 [cs.CL], Akshay Nambi et al. [v1] Tue, 28 May 2024, <https://arxiv.org/pdf/2405.18369>; Prompt Design and Engineering: Introduction and Advanced Methods, arXiv:2401.14423 [cs.SE], Xavier Amatriain [v1] Wed, 24 Jan 2024, <https://arxiv.org/pdf/2401.14423>.

 - 8 Anthropic Prompt Generator, <https://docs.anthropic.com/en/docs/prompt-generator>
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