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The role of generative AI in speculative design and futures thinking

Generative AI can become a new tool for designers, futurists, and strategists if they learn how to leverage it



A metro station in Montreal, Canada, with a futuristic art installation (Namur). The photo was taken by the author.

“We are all immigrants to the future.” — Marina Gorbis, Director of the Institute for the Future

Ever since the hype started around generative AI tools such as ChatGPT, Dalle-E, and Midjourney, it seems that all everyone is doing is trying to predict how the future of the world will be impacted by these tools.

Some lean on the side of doom-and-gloom (aka “All our jobs will be automated”) and some are a lot more optimistic (aka “Prompt engineering is the next hottest job in the market”), but it seems that we’re all about to experience some culture shock in the coming years living in a world that sees more and more of these tools.

As a professional working at the intersection of design thinking, data, and strategy, I decided that I’d really like to understand how generative AI tools can help us do exactly that — imagine a new future as part of our job.

In this article, I'm exploring how future thinking and speculative design can be done creatively by leveraging prompt engineering, specifically with ChatGPT. For me personally, this is just a starting point, and I'll try to explore the topic in further articles in the future.

Let's get started and travel to the future.

It's all about using the right analogies

The rise of generative AI tools brings new challenges and opportunities to our work. A few years ago, I wrote an article on how we're all likely to collaborate more and more with AI in the coming future, and I stayed very curious about the topic.

I believe that analogies have an important role in communicating what technology can do for us rather than how it can make us redundant. Ben Schneiderman, the author of the book Human-Centred AI suggests that we change our perspective on AI by changing the analogies we use to talk about it.

Instead of using the "assured autonomy," analogy while designing AI tools, meaning, AI is solely responsible for the results and can replace humans (e.g. fully autonomous cars), a better analogy is around "controlled centers" where humans can still have the final word on any decision made by the machine while leveraging its power.

I personally agree with this approach, and I think that if we see generative AI tools as a technology that augments our capabilities rather than replaces them, the future will look a lot less scary.

Moreover, in aviation, military, and other sensitive industries, people really do expect predictable behavior from AI systems, and it's easy to understand why (watch the Netflix documentary about the Boeing 737 Max if you need a good example).

However, in futures thinking and speculative design, some degree of unpredictability can, sometimes, actually be a good thing, because as Dan Ward said, there are no facts about the future.

Let's dive into a few examples of how to apply prompt engineering in our work as designers, futurists, and strategic thinkers, and when it can be a good thing to be a little surprised by the results.

Horizon Scanning

As design and foresight professionals, signals from the industry are our building blocks. If you're interested to learn more about signals I suggest this [Coursera MOOC by the Institute For The Future](#) about strategic foresight.

I'd be cautious about starting this process right on ChatGPT due to its potential accuracy problems and its [limitations](#). Luckily there's a myriad of other tools available for collecting signals almost in real-time that leverage AI as well (e.g. [Feedly](#), [Quantumrun](#) , and even Google Alerts).

Let's say that you found one particularly interesting signal. Now what? ChatGPT is a great place to check if there are similar signals or parallel phenomena that can form a trend.

Let's take an example. I found this [signal](#) about growing numbers of Europeans taking trains for travel rather than flying (aka "Ethical Travel").

I prompted ChatGPT to provide more examples just so I can explore it a bit further. I gave ChatGPT a role (Expert in tourism) and asked it to ask me questions if it needs more information from me to answer properly. (See more on [prompt engineering in this short YouTube tutorial](#)).

This was my prompt:

*"You're an expert in tourism.
In the past few years, people in Europe have been starting to take the train more often than flying for travel and work purposes. This is a signal of sustainable tourism. What are some other signals we can observe about sustainable tourism in the world? Ask me for clarifications if you need them."*

This is ChatGPT's response:

"Yes, the increasing trend of using trains instead of airplanes is definitely a positive signal for sustainable tourism. Here are a few other signals that can indicate sustainable tourism practices:

Growing demand for eco-friendly accommodations: More and more travelers are seeking out eco-friendly and sustainable accommodations, such as hotels that use renewable energy sources or have implemented sustainable water and waste management practices.

Focus on cultural immersion: Sustainable tourism emphasizes the importance of experiencing local cultures and traditions, rather than just visiting tourist hotspots. As a result, more travelers are opting for immersive experiences that involve local communities and allow for cultural exchange.

Reduction in single-use plastic: With increasing awareness of the environmental impact of single-use plastic, many tourism businesses are taking steps to reduce their usage of plastic. For example, some hotels are eliminating single-use plastic water bottles and replacing them with refillable options.

Increase in sustainable transportation: Apart from trains, more travelers are choosing to use sustainable transportation options such as cycling, walking, or using electric cars or buses for their travel needs. In addition, many cities around the world are investing in bike-sharing programs and pedestrian-friendly infrastructure to encourage sustainable transportation.

Support for local conservation efforts: Sustainable tourism promotes the conservation of natural resources and ecosystems, and many travelers are showing their support for local conservation efforts by participating in eco-tours or volunteering with environmental organizations.

These are just a few examples of signals that can indicate sustainable tourism practices. Let me know if you have any further questions or need more information.

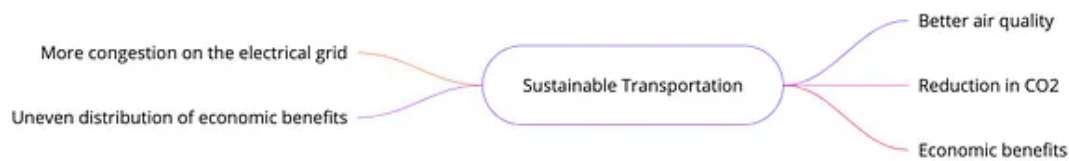
As you can see, there's enough information here to get started with.

You can prompt ChatGPT to give you further information. I asked ChatGPT to come up with both negative and positive implications of increased use of sustainable transportation (number 4), and it helped me develop the following implications wheel. If you're curious about the implications wheel and basic futures thinking skills, I invite you to take [Lisa Kay Solomon's course](#) on LinkedIn Learning.

ChatGPT was particularly helpful in helping me to see both the positive and the negative consequences of sustainable transportation. I think it can help in situations where you have to act fast and cannot brainstorm with somebody else, or

if your group needs to get unstuck during the brainstorming process and see both types of implications.

Implications Wheel



miro

Implications wheel for sustainable transportation (done on Miro). Image by the author.

Scenario Building

So now that you understand the signal and its implications and you want to take it a step further, it's the right time to build a scenario of the world 10 years from now. Here's a scenario I came up with:

"In the year 2033, the EU banned internal flights under 1 hour. As a result, tourists can travel between most major European cities on high-speed trains in under 6 hours.

It's also possible to buy a flying ticket with any major European airline and an additional trip by train to your final destination in less than 3 clicks online.

People are excited about the possibility of low-carbon travel, but people are also worried about some small cities that are not connected to the high-speed rail network and that previously had small regional airports."

It's impossible to think about all the things people are excited or worried about. In futures thinking, it's all about trying to bring some clarity to a world that has no shortage of VUCA (Volatility, Uncertainty, Complexity, and Ambiguity).

Let's prompt ChatGPT to develop this scenario further. Hopefully, we'll get some surprising things.

Here's what some people will be excited about in this future scenario:

"There are several things that people might be excited about in this scenario:

Increased sustainability: *The ban on internal flights under 1 hour and the promotion of high-speed trains as an alternative could be seen as a major step towards more sustainable travel options. People who are concerned about the environmental impact of air travel may be particularly excited about this development.*

Greater convenience: *The ability to purchase a flying ticket and an additional train trip to the final destination in just a few clicks could be seen as a major improvement in convenience for travelers. This could make it easier for people to plan and book their trips, and reduce the time and effort involved in travel planning.*

Faster travel times: *With high-speed trains connecting most major European cities in under 6 hours, people may be excited about the prospect of faster travel times. This could make it easier for people to take weekend trips or make short visits to other cities for business or leisure purposes.*

More affordable travel: *Depending on the pricing of train tickets and the availability of flight-and-train packages, this scenario could also make travel more affordable for many people. This could open up new opportunities for travel, particularly for those who may have been deterred by the cost of flights or train tickets in the past.*

Improved travel experiences: *High-speed trains can offer a more comfortable and enjoyable travel experience compared to air travel, particularly for shorter journeys. Passengers may appreciate the ability to stretch their legs, move around freely, and enjoy scenic views during their journey.*

Overall, people may be excited about the prospect of more sustainable, convenient, and affordable travel options that this scenario could bring. However, it's important to note

that there may also be some challenges or trade-offs associated with this scenario, such as potential impacts on local economies or transportation infrastructure.”

And the other side of the coin — concerns:

“While there are many potential benefits to the scenario you described, there may also be some concerns that people could have:

Reduced options for travel: *While the availability of high-speed trains could make it easier to travel between major European cities, the ban on internal flights under 1 hour could limit people’s options for travel. This could be particularly concerning for people who live in more remote areas or who need to travel to smaller cities or towns.*

Potential impacts on regional economies: *The ban on internal flights could have significant impacts on regional economies that rely on tourism or business travel. For example, businesses that rely on short-haul flights to transport goods or conduct business could be negatively affected.*

Dependence on transportation infrastructure: *The success of this scenario would depend on the availability and reliability of transportation infrastructure, such as high-speed train networks. If this infrastructure is not developed or maintained properly, it could lead to disruptions or delays in travel.*

Trade-offs between convenience and sustainability: *While high-speed trains are generally considered more sustainable than air travel, they may not always be the most convenient or practical option for some travelers. For example, some people may prefer to take a short flight rather than spend several hours on a train, particularly if they are traveling for business purposes.*

Uneven distribution of benefits: *Depending on the pricing of train tickets and flight-and-train packages, this scenario could benefit some people more than others. For example, people who live in major European cities with well-developed transportation infrastructure may benefit more from the availability of high-speed trains, while those who live in more rural or remote areas may be negatively affected by the ban on internal flights.*

It is important to carefully consider and address these potential concerns in order to ensure that this scenario is implemented in an equitable and sustainable way.”

As you can see, generative AI could play an interesting role in brainstorming exercises while building future scenarios and adding some more richness to them.

Speculative Design and Narrative Development

Now that you have a scenario, that's a great point to move into speculative design and get immersed in the story.

According to Johanna Hoffman, author of the book Speculative Futures, narratives and stories are great tools to bring future realities to life as a starting point for discussion and strategy development.

Stories make us all feel and sense the future, and then we can start to imagine what we like about this future, and what parts of this future make us concerned.

Since many of us aren't trained in fiction writing, ChatGPT is a great tool for getting inspiration for fiction. Let's try to develop the scenario from before into a story.

Any good story has a conflict, so I prompted ChatGPT to write a short narrative that includes the not-so-great part of the future of sustainable transportation — interruptions in the electrical grid.

This was my prompt:

“Develop a short script that describes a conversation. The story happens in the year 2033, a French young girl named Annabelle is taking a week's vacation to Slovenia and travels there by one of the high-speed trains.

Something goes wrong while the train is traveling through the Alps. A sudden spike in the electricity demand causes an interruption in the grid. Who is Annabelle speaking to? What do they feel? Create a conversation around this topic.”

This is what I got in return:

“Annabelle sat nervously in her seat on the high-speed train, her eyes glued to the stunning scenery of the Alps passing by outside the window. Suddenly, there was a jolt, and the lights flickered before going out completely. Annabelle's heart started pounding as she realized that something was wrong.

Annabelle pulled out her phone and tried to connect to the internet, but there was no signal. She could hear the other passengers murmuring worriedly in their seats, and she

felt a sense of panic rising within her.

Annabelle leaned over to the woman sitting next to her, who was also French and appeared to be in her late 30s. "Excusez-moi, madame," Annabelle said. "Do you know what's happening? Why did the power go out?"

The woman looked just as worried as Annabelle felt. "I'm not sure," she replied, her voice trembling slightly. "It could be a problem with the train or with the power grid. But either way, it's not good."

Annabelle could feel her palms starting to sweat as she contemplated the possibility of being stranded on the train in the middle of the Alps. She looked around the carriage, searching for some sign of hope or reassurance.

Just then, a voice crackled over the intercom. "Ladies and gentlemen, we apologize for the interruption in service. We are experiencing a spike in the grid, and our engineers are working to resolve the issue as quickly as possible. In the meantime, please remain calm and stay in your seats."

Annabelle let out a sigh of relief as she heard the announcement. At least they were still connected to the outside world and hadn't been completely cut off. She turned back to the woman next to her.

"I'm Annabelle," she said, extending her hand. "What's your name?"

The woman smiled weakly and shook Annabelle's hand. "I'm Catherine. It's nice to meet you, even under these circumstances."

Annabelle nodded, feeling a sense of camaraderie with Catherine. Even though they were strangers, they were both in the same situation and needed to rely on each other for support.

As they waited for the power to come back on, Annabelle and Catherine struck up a conversation, sharing stories and experiences from their travels. And even though the train was stalled, Annabelle realized that the unexpected interruption had brought her a new friend and a sense of connection with the world around her."

As you can see, it's not perfect, but it's definitely a way to immerse yourself in this surprising future world where traveling is sustainable and convenient, up until the

next generation of problems occurs.

Anything that's a bit more imaginative than that would still require a trained fiction writer.

The important thing to remember is that by using narratives like this, it's easier to design solutions and strategies for such future scenarios. It's one of the tools that does help with empathizing.

Conclusion — The machine cannot do it all by itself

ChatGPT isn't perfect. After a few experiments with it, I still believe that brainstorming with humans, especially specialists in different fields, can lead to much better and more interesting results when it comes to strategic foresight and futures thinking.

However, in situations when you or your group feel stuck, generative AI can definitely help. The trick is to learn how to prompt it in a way that can help you get unstuck. Sometimes you'll need to try a few prompts up until you'll get something you like.

As future thinkers, I still think we should start to experiment with such tools, and determine for ourselves where they can be beneficial to us, and where they don't add value.

The main value I found in this technology is to help humans think about the implications of certain futures, find similar phenomena to the signals we found, and write scenarios that sound more like narratives to help us get immersed in them.

Remember, AI is as good as the data it's trained on. If we're exploring radical possibilities that haven't happened yet or happened but there aren't many examples, AI might not pick it. This is where we as designers, researchers, and futurists will always have the upper hand due to our creativity and imagination.

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