

DESIGNING TOMORROW

**A guidebook on
how to use Generative AI
during the creative process**

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1. Introduction

As a designer, new tools and techniques emerge to enhance the creative process and push the boundaries of what is possible. The rise of generative AI opens up a world of new possibilities, allowing designers to develop innovative solutions more rapidly and achieve higher-quality outcomes.

However, using generative AI successfully and ethically isn't as straightforward as it might seem. While generative AI can be a powerful tool during the process, it also comes with risks and limitations that must be navigated.

During my graduation thesis, my research focused on understanding the impact of generative AI during the design process, particularly the strategic design process. The study explored many methods, techniques, limitations, and capabilities. This booklet aims to be a comprehensive guide to leveraging the power of generative AI successfully and ethically during design. More information and references claims are made upon can be found in the thesis itself: Designing Tomorrow - The Impact of Generative AI on the Strategic Design Process.

First, the ethical considerations for using generative AI during the creative process are discussed. This way, designers better understand how to use generative AI responsibly. Second, the do's and don'ts are presented, giving designers tangible insights on how and how not to use generative AI. Third, prompting principles are explained, providing insights on details to include or exclude from prompts for better results. Fourth, different prompting methods are discussed, highlighting how they work and when they are best used. Fifth, various approaches to the usage of generative AI are presented, giving some insights into different ways of viewing the usage of generative AI. Last, examples of techniques to use generative AI during the creative process are provided, together with how they can be used, as well as examples of generative AI conversations showcasing the usage of the techniques.

Whether you're a seasoned designer or just starting your design journey, this booklet will serve as a valuable resource. It will educate you on enhancing your workflow and utilizing the power of generative AI with confidence and success.

2. Ethical considerations

Before understanding how to use it effectively, it is important to know how to use it responsibly. Generative AI is not perfect, and therefore, it is vital to understand its limitations and ethical considerations. This chapter addresses four critical areas that designers should consider: bias, intellectual property, dehumanization, and data privacy.

2.1 Bias

Bias is a primary concern as research has shown that generative AI models can give outputs based on different biases, such as gender, societal, political, and religious biases. Since design has the power to shape experiences, if bias is allowed to influence these experiences, it can reinforce harmful stereotypes and exclude certain parts of society. Therefore, designers must be aware of the possible bias in output and work to counteract these biases through iterating upon outcomes, using diverse data sources, and collaborating with stakeholders.

2.2 Intellectual Property

Intellectual property rights are another complex ethical consideration. Generative AI models are trained on various sources, so their generated outputs may resemble or be inspired by copyrighted material. Directly using AI-generated content could disrespect the copyright system, claiming others' works as one's own. Designers have the moral and legal obligation to respect the intellectual property of others. Therefore, designers must be careful when using AI-generated content by avoiding the direct use of potentially infringing content. Using outputs as inspiration instead of end results is a good practice to respect the original creators of the outputs.

2.3 Dehumanization

Another risk is the dehumanization of the design process. Over-reliance on generative AI could lead designers to view the outputs as absolute truths, ignoring the need to validate them against real-world human experiences and needs. This is crucial because design, at its core, creates something that resonates with the target audience. If this human element is lost, design solutions will ultimately fail to meet the needs of these intended users. Maintaining a human-centric focus is essential, as is using AI to enhance the process, not replace it entirely.

2.4 Data privacy

Finally, as designers leverage data to inform their work, they must know how that information is used, especially when fed into generative AI models. Since some models are said to be trained upon inputs of users, inputting sensitive data might mean spreading this data in the training data. Individuals have the right to privacy, and designers have the ethical obligation to protect the personal data entrusted to them. While using generative AI, designers should, therefore, not directly input sensitive data of others, avoiding the risks of potentially training the model on sensitive data. Anonymizing the data or using synthetic data while using AI can be good practices to still get the most out of it while respecting data privacy.

These considerations are essential to keep in mind while using generative AI. Designers must approach these tools critically to ensure the design process evolves in a way that genuinely benefits both designers and those they design for.

3. Do's and Don'ts

As powerful as generative AI can be, there are some essential practices to apply to reach its potential while mitigating risks. This chapter outlines the key do's and don'ts for designers looking to integrate generative AI into their workflows.

DO ask for 2-4 ideas

Asking for 2-4 ideas makes the output digestible for humans. Instead of skimming through many ideas, you can analyze the given ideas more thoroughly, which prevents decision paralysis and helps you enter a creative mindset.

DO ask for digestible outputs

Asking for a digestible output makes the output easier to read, making it easier to use as inspiration. Instead of needing to read a large chunk of text, you are presented with some inspirational highlights.

DO use AI Output as foundation or inspiration

AI can help you uncover new solution directions and perspectives you might not have considered before. Those insights can be very valuable, but only as inspiration for new ideas and solutions or as a foundation for further research and iterations.

DO check AI-made assumptions

AI might hallucinate, coming up with ‘facts’ that are not true. Considering these statements as the truth can lead to incorrect decisions. Always check the claims AI is making yourself to make sure you're not designing for something that isn't real.

DON'T ask for as many ideas as possible

Although AI can generate a large number of ideas in a short amount of time, humans have difficulties processing so much data at once. When we are faced with so many ideas, decision paralysis can occur, hindering our creative thoughts.

DON'T use AI while interacting with others

AI can help during creative sessions. However, research has shown that it is more of a hindrance when used together with others than it is of any help. While ideating with others, focus on being inspired by others and inspiring others with your ideas. Using AI limits this interactivity with peers.

DON'T copy-paste output by AI

It might be tempting to think AI always gives the perfect answer and, therefore, copy-paste the outcomes like exact truths. However, this is not the case. AI can only come up with ideas, but the mind of a designer is needed to place those ideas in specific contexts and realize the implications of integrating ideas in this context.

DON'T expect the perfect result on the first try

AI is a great tool, but it can't read minds. You might be disappointed if you expect it to give exactly what you were looking for immediately. Instead, try to be clear about what you're looking for and provide it with feedback on what you liked and didn't like.

4. Prompt principles

Prompt engineering is the practice of designing inputs for AI tools that will produce optimal outputs. Research has collected 26 prompt principles that are proven to increase the quality and accuracy of AI generated outputs when applied during prompt engineering.¹ Applying these principles throughout the usage of generative AI can vastly enhance the experience. Table 1 shows an overview of the principles that are relevant to use in the design field.

Principle #	Prompt principle for instructions
1	Get straight to the point, avoid phrases such as “please”, “thank you”, “if you don’t mind”.
2	Specify the intended audience in the prompt, e.g. “the audience is an expert in the field”.
3	Break down complex tasks into multiple simpler prompts in an interactive conversation.
4	Mainly highlight what should be done, while not stating what shouldn’t be done.
5	When trying to understand something complex, try highlighting the desired ease of the answer, e.g. “Explain to me like I’m 11 years old” or “Explain to me as if I’m a beginner in [field]”.
6	Add “I’m going to tip \$xxx for a better solution!”
7	Implement examples of desired outputs during prompting (see 5.2 for more information).
8	When formatting your prompt, start with ‘###Instruction###’, followed by either ‘###Example###’ or ‘###Question###’ if relevant. Subsequently, present your content. Use one or more line breaks to separate instructions, examples, questions, context, and input data.
9	Incorporate phrases such as: “ Your task is..” and “You must..”
10	Incorporate phrases such as: “You will be penalized when..”
11	Incorporate the phrase “Answer a question given in a natural, human-like manner”
12	Use leading words such as “think step by step”.
13	Incorporate the phrase “Ensure that your answer is unbiased and avoids relying on stereotypes.”
14	Allow the model to gain all needed details and requirements by asking the user questions until it has enough information to fulfill the task, e.g. “Ask me questions to gain all needed details and requirements to fulfill your task successfully.”
15	To learn more about a specific topic or idea or any information and you want to test your understanding, incorporate the following phrase: “Teach me any [theorem/ topic/rule name] and include a test at the end, and let me know if my answers are correct after I respond, without providing the answers beforehand.”
16	Assign a role to the model, e.g. “You are a marketing director at a big multinational.”
17	Use delimiters.

1. Bsharat, S. M., Myrzakhan, A., & Shen, Z. (2023, December 26). Principled instructions are all you need for questioning LLAMA-1/2, GPT-3.5/4. arXiv.org. <https://arxiv.org/abs/2312.16171>

Principle #	Prompt principle for instructions
18	Repeat a word or phrase multiple times in a prompt.
19	Combine Chain-of-thought with Few-Shot prompts (see 5.4 for more information).
20	End prompts with the start of an anticipated response, e.g. “Discuss the importance of user-centered design. Start your output with: User-centered design is crucial because...”
21	Ask for detailed text when needing an essay /text /paragraph /article, e.g. “Write a detailed [essay/text/paragraph] for me on [topic] in detail by adding all the information necessary”.
22	When wanting to correct or change text without change the style, highlight so, e.g. “Revise every paragraph sent by users. You should only improve the user’s grammar and vocabulary and make sure it sounds natural. You should maintain the original writing style, ensuring that a formal paragraph remains formal.”
23	When wanting to initiate or continue a text using specific words, phrases, or sentences, utilize the following prompt: “I’m providing you with the beginning [song lyrics/story/paragraph/essay...]: [Insert lyrics/words/sentence]. Finish it based on the words provided. Keep the flow consistent.”
24	Clearly state the requirements that the model must follow in order to produce content, in the form of the keywords, regulations, hint, or instructions

Table 1: Relevant principled instructions for prompt engineering by Bsharat et al. (2023)

5. Prompting techniques

Apart from the usage of principles during prompting, there are also certain prompting techniques that can be utilized. In this chapter, we will go into a few of those techniques. Using these techniques is proven to be able to increase the quality and accuracy of outputs by AI.

5.1 Zero-Shot prompting

Zero-Shot prompting is a prompting technique during which the model is presented with a task without an example of the desired output. In this approach, the model is tasked to generate a response solely based on the given prompt and the pre-trained data. This is a quick and efficient way of prompting, but doesn’t work that well when the user is expecting a certain format of output. This technique mainly works when the task is self-explanatory. An example could be: “Describe the process of photosynthesis.” The prompt does not include any examples or references to guide the model. The model is expected to generate a response basd solely on its understanding of the topic acquired during training.

5.2 One-Shot prompting

One-Shot prompting is a technique that involves giving the model a prompt including an example to generate desired outputs. This approach sidesteps the need for extensive new training data, making it appealing for users that quickly want to use AI for something. For example, instead of asking: “Write a job description for a junior service designer”, one using One-Shot prompting would ask: “Write a job description for a junior service designer, use the following job description for a junior accountant as a guide. [Job description for junior accountant].” This way, the model knows what the user is looking for, and can learn from the already given example. This technique is specifically helpful when the task requires a specific format or context. This way, the output will be closer to desired format.

5.3 Few-Shot prompting

Few-Shot prompting is similar to One-Shot prompting, but allows for a lightly broader range of input examples. Instead of just providing a single prompt, users supply a few examples to guide the model in generating desired outputs. For instance, when one needs a job description, instead of supplying one example of a job description, a user might input multiple different job descriptions for different roles within a company. Few-Shot prompting is particularly beneficial in scenarios where a single example may not fully capture the nuances of the desired output. The task might be more complex, and therefore multiple examples should be given. It still results in receiving outputs that align more closely with the desired context or format.

5.4 Chain of Thought prompting

Chain of thought prompting is a technique that enables LLMs to tackle complex reasoning tasks by emulating a step-by-step process humans employ to solve problems. This approach aims to equip LLMs with the ability to generate sequences of reasoning steps leading to the final solution. This can be done by incorporating the following sentence in the prompt: “Let’s think step by step.” For example, one might ask the following question: “A woman has 10 apples. She eats 4 apples, and buys 3 new apples. How many apples does she have afterwards?” When the model is not asked to think step by step, it will give an answer directly. Asking it to think step by step, it will emulate the different steps, and output those steps, leading to an answer that is easier to understand, checkable, and also more often right.

5.5 Few-Shot-Chain-of-Thought prompting

Chain of thought prompting is a technique that combines the few-shot and chain-of-thought

prompting techniques. During this technique, the LLM is prompted to solve a problem while thinking step by step. While prompting to do so, the user also supplies an example of a solved problem, in which the user is writing out its own step by step approach, giving the model insights in how the problem can be solved. This brings the advantages of the two techniques to the table: the model knows how to solve the problem, and can do so in a structured and transparent approach.

6. Approaches

As discussed in the previous chapters, several practices and considerations should be considered when using generative AI during the design process. This chapter presents three approaches for leveraging generative AI's strengths while keeping ethical considerations in mind.

6.1 Hybrid-setting approach

Using generative AI in a setting with other stakeholders present can be difficult. When every individual interacts with their AI agent, it is difficult to interact with the other stakeholders since the main focus of each individual will be writing and refining prompts and reading and analyzing the outputs. Group dynamics can change negatively when all stakeholders need to work together with one central AI agent. The session will be focused on coming up with prompts together instead of brainstorming about the challenge or opportunity that needs to be solved. Besides, processing everyone's perspectives and opinions in one prompt is difficult, so some stakeholders might feel left out during sessions. This showcases that using generative AI in a group session is currently not an effective practice. Using AI individually has proven successful, as designers feel it can help explore diverse directions when looking for solutions to challenges or trying to understand a topic better. However, in this scenario, designers do note that they miss being inspired by other stakeholders, which is possible when they work together in collaborative sessions.

To get the best of both worlds, a hybrid approach is advisable. In this approach, when something needs to be done while wanting to use generative AI, individuals first separately prepare with their generative AI agent. This way, they better understand the challenge and could, for instance, already develop some essential solutions and directions while ideating. Afterward, a collaborative session with the different designers will be held, during which AI will not be used. This ensures the designers, already inspired by the diverse perspectives of their session, are inspired by and can inspire others to come up with new solutions to a challenge. This enables designers to both enjoy the advantages of working with AI and the benefits of working with other stakeholders.

For example, a group of designers might need to come up with some solutions for a certain problem. The group could first split into individual sessions with AI, in which all designers use generative AI to quickly come up with some first directions and ideas for the problem. After a certain amount of time, the group comes together and the AI is abandoned. In this phase, the different designers quickly present their ideas and directions they found interesting, which then can be used by the others to come up with new ideas in directions they hadn't thought of yet. This hybrid approach facilitates a dynamic exchange of ideas, leveraging the strengths of both AI-driven ideation and human creativity to achieve innovative solutions effectively.

6.2 Human-centered approach

With the introduction of generative AI during the design process, there is a risk of dehumanization through over-reliance on generative AI. A human-centered approach to generative AI must ensure the results of the design process fit the stakeholders needs and align with are ethically responsible. During this approach, designers use generative AI as a source of inspiration and basic drafts, but not for information. All information should be gathered from different sources, such as users themselves, and online sources. This information can be used to prompt the AI with to come up with results such as ideas and drafts. These can be used to speed up the process for the designer, by automating the repetitive drafting during some activities, and can increase creativity, by quickly gaining inspiration. When not using generative AI as a source for information, but only for inspiration and foundations that will be iterated upon, you minimize the

risk of using false or unethical information throughout the design process.

For example, when doing user research, instead of asking generative AI what the main interests of boys from 12 to 15 year old are, designers can ask to create a interview draft to use to interview boys from 12 to 15 year old to find out what their main interests are. This way, the designer speeds up the process, while minimizing the risk of relying on false information.

6.3 Sparring-partner approach

While generative AI can provide information and answers on almost any topic instantly, there is also value in using it as a sparring partner. This approach is focused on AI asking the designer questions instead of the other way around. Rather than simply retrieving outputs, the sparring-partner approach engages designers in a back-and-forth dialogue.

Using this approach, a designer might encounter a challenge that needs to be solved. Usually, it would be logical to ask generative AI for direct solutions to the challenge and take these answers as inspiration to solve the challenge. Instead, during this approach, the designer describes the challenge to AI and asks AI to respond by posing questions that prompt the designer to explore the problem from different angles. This gives the designer a more profound knowledge of the challenge and possible solutions. It also ensures the designer remains in the creative position instead of the AI taking over the creative thinking. The AI's thought-provoking questions actively strengthen curiosity, contextual knowledge, and problem-solving skills. This ensures a holistic and appropriately scoped outcome.

7. Techniques

As explained before, generative AI can be a valuable tool during the design process if used correctly. In this section, we will explore several methods and techniques that leverage the capabilities of AI to accelerate your workflow and spark creativity. For each method, an explanation of the technique, how it can be used, the advantages and an example of a case in which it is being used will be given. The example has been derived from testing with ChatGPT 4. Below, a list of the discussed methods with their corresponding page numbers can be found.

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7.1 Questioning Assumptions

Description

Questioning assumptions is a technique that encourages you to challenge the underlying beliefs or “assumptions” behind a particular design concept or approach. Instead of unquestioningly accepting these assumptions, the designer critically examines their validity and relevance. This technique is especially useful during the early stages of the design process, such as defining the problem, generating ideas, and developing concepts. By questioning assumptions, the designer can avoid carrying forward flawed or outdated beliefs, which could limit the ability to create innovative and effective solutions.

Why AI?

Generative AI can analyze design briefs or problem statements and identify potential underlying assumptions. By processing and checking what assumptions AI notices, designers can surface assumptions that may normally be overlooked or taken for granted. This way, designers are inspired to explore new approaches that could normally be left unexplored. Additionally, AI can suggest alternative perspectives or hypothetical scenarios to challenge these assumptions, inspiring designers to think more critically and explore unconventional approaches.

How?

First, the designer lists their perceived assumptions about the problem, idea, concept, or similar. Then, the AI can be prompted with this list and the initial problem, idea, concept, or similar to identify additional potential underlying assumptions. The designer can critically analyze the AI’s outputs and decide what assumptions make sense. Afterward, these assumptions can be added to the list. The designer can even go on and ask AI to elaborate on certain assumptions while questioning them.

Example

DESIGNER - I am a designer and I need help with a problem statement I was given. The problem was: “Because of generative AI, students are overly reliant on AI, and won’t learn themselves anymore”. I found some assumptions, and I want to find out whether I am missing any. The assumptions I found were:

1. Students won’t learn anymore because they copy everything from AI
2. Students need to learn themselves

AI - It’s great that you’re examining the assumptions underlying the problem statement. Here are a few additional assumptions you might want to consider:

3. AI-generated content is always accurate and reliable.
4. Students have unlimited access to AI-generated content.
5. Learning solely from AI diminishes critical thinking and problem-solving skills.
6. Traditional teaching methods are more effective than AI-generated content.
7. All students have equal access to AI technology.

Considering these additional assumptions can help you develop a more comprehensive understanding of the problem and its implications for designing potential solutions.

DESIGNER - Now question assumption 6, and give me a reframed problem statement we can ideate upon.

AI - Questioning assumption 6, which states “Traditional teaching methods are more effective than AI-generated content,” prompts us to consider the effectiveness of both traditional teaching methods and AI-generated content in different contexts and for different learning styles.

Reframed Problem Statement:

“In the age of generative AI, how can educational institutions optimize the integration of AI-generated content alongside traditional teaching methods to foster holistic learning and critical thinking skills among students?”

This reframed problem statement acknowledges the potential benefits of AI-generated content while also recognizing the importance of traditional teaching methods. It opens up avenues for exploring how these two approaches can complement each other to create a more enriching educational experience for students.

7.2 Brainstorming

Description

Brainstorming is a creative ideation technique where designers generate multiple ideas in an unconstrained, non-judgmental setting. The goal is to explore as many possibilities as possible, ignoring critique or evaluation until later stages. This free-flowing process helps spark creativity, identify unexpected solutions, and push beyond initial obvious ideas. Brainstorming is commonly used early in the design process to rapidly develop a collection of potential concepts to develop further.

Why AI?

Generative AI can be a powerful brainstorming aid that diversifies the range of ideas produced. AI can be prompted with the design brief or problem statement and will output a high volume of new ideas, some of which may be innovative or unconventional that a human team may never arrive at alone. Additionally, AI can diversify ideas by inspiring designers to think in directions completely different from their typical directions.

How?

The most effective way to leverage generative AI for brainstorming is by first using it during individual ideation sessions. Each designer prompts the AI separately with their questions and can use the outputs to inspire new ideas. To prevent overwhelming creative capacity, it is good practice to prompt for limited and digestible outputs to use as inspiration. After receiving outputs, designers should use them until the output no longer inspires them. Only then is the designer ready to prompt AI again. Afterward, the designers bring their ideas to a group session without AI, in which the ideas are shared, and new ideas can be developed by combining and being inspired by other ideas.

Example

DESIGNER - I am a designer trying to ideate new ideas for the problem statement: “What can we do with the abandoned church in the middle of the town.” Give me 3 ideas that inspire me to come up with new ideas in new unconventional directions. Make your output digestible.

AI - Absolutely! Let’s infuse some creativity into this:

1. *Community Hub Transformation:* Picture this abandoned church as a vibrant hub for the community. Convert it into a multifunctional space that serves various needs. It could house a farmer’s market on weekends, a co-working space for local entrepreneurs during the week, and even host events like art exhibitions or small concerts. Think of it as a dynamic center where people gather, collaborate, and celebrate local culture.
2. *Urban Green Oasis:* Transform the church into a lush green oasis right in the heart of the town. Create a vertical garden on its exterior walls, turning it into a visually stunning green facade. Inside, imagine a serene garden courtyard where people can relax, meditate, or enjoy a peaceful stroll amidst nature. This transformation not only revitalizes the space but also promotes environmental sustainability and mental well-being in the community.
3. *Interactive Art Installation:* Turn the abandoned church into an interactive art installation that captivates both locals and visitors alike. Imagine using its towering walls as a canvas

for immersive projections, transforming the building into a living artwork that changes with the seasons or in response to community input. Add elements like interactive light displays or soundscapes that engage the senses and encourage exploration. This unconventional approach not only revitalizes the space but also sparks curiosity and fosters a sense of wonder in the community.

These ideas aim to ignite your imagination and inspire unconventional directions for reimagining the abandoned church. Feel free to let your creativity flow and adapt these concepts to suit your vision!

DESIGNER - Now give me two very creative ideas, suitable for children.

AI - Of course! Here are two imaginative ideas tailored for children:

1. *Fantasy Playground Castle:* Transform the abandoned church into a whimsical castle playground straight out of a fairy tale. Imagine turrets to climb, secret passages to explore, and slides spiraling down from the tower tops. This enchanting playground sparks children’s imagination and invites them into a world of adventure and make-believe.
2. *Magical Storybook Library:* Turn the church into a magical library filled with storybook wonders. Picture shelves lined with colorful books, cozy reading nooks tucked into alcoves, and enchanting murals depicting scenes from beloved children’s tales. This magical space not only encourages a love for reading but also transports children into the realms of their favorite stories, inspiring creativity and curiosity.

7.3 SCAMPER

Description

SCAMPER is a creative thinking technique that helps designers generate novel ideas by changing them in different ways. It stands for Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, and Rearrange/Reverse. By applying these actions to an existing idea, concept, or product, designers can reimagine and transform it in unexpected ways, often unlocking innovative solutions.

Why AI?

Generative AI can significantly speed up the SCAMPER process. When prompted with the initial idea, concept, or product, combined with the specific action of SCAMPER, it can quickly spit out novel ideas and alterations the designers may never have come to in the same amount of time. AI can make surprising conceptual leaps, exploring novel directions and radically modifying a product for an entirely different use case. These suggestions can help designers get out of their predictable thought patterns.

How?

To leverage generative AI for SCAMPER, designers can prompt the AI with a specific action (e.g., “Substitute this product with...”) and their idea, concept, or product. The AI will generate diverse ideas and suggestions, which designers can take as inspiration for further ideation. This process can be repeated multiple times, allowing designers to explore various directions and generate a rich pool of novel ideas. It is advisable to only use one action at a time as inspiration to avoid getting overwhelmed by the output of AI.

Example

DESIGNER - I am a designer of an energy drink brand focused on sports players, but I want to extend the market. Using the put to another use action from the SCAMPER technique, give me 2 new ideas on which people to target, and why. Make your answer digestible.

AI - Sure, let’s put the SCAMPER technique into action!

1. *Students and Professionals: Extend the market by targeting students and professionals who need a boost of energy during study or work sessions. By repositioning the energy drink as a tool for mental focus and productivity, you tap into a new demographic. Students preparing for exams and professionals working long hours could benefit from the drink’s energy-boosting properties to stay alert and focused.*

2. *Fitness Enthusiasts: Repurpose the energy drink as a pre-workout supplement for fitness enthusiasts. Market it as a way to enhance performance during workouts and aid in recovery afterward. By emphasizing its ability to provide a quick energy boost and support muscle function, you can attract gym-goers, athletes, and fitness buffs who are looking for a convenient and effective way to maximize their workouts.*

DESIGNER - Is there a way to combine those target groups to come to one niche group?

AI - Absolutely! By combining the target groups of students/professionals and fitness

enthusiasts, you can create a niche market focused on “Active Achievers.” These are individuals who lead busy lifestyles, balancing academic or professional responsibilities with a commitment to health and fitness.

This niche group values products that support their active lifestyle by providing both mental alertness and physical energy. By positioning the energy drink as a versatile solution for staying focused during study or work sessions while also enhancing performance during workouts, you can appeal to the needs and aspirations of this target audience.

DESIGNER - Give me some examples of specific personas that would fit this market group.

AI - Certainly! Here are a few examples of personas that would fit the “Active Achievers” market group:

1. *Sarah, the Fitness Professional: Sarah is a personal trainer and fitness influencer who runs her own business. She leads a hectic schedule, juggling client sessions, social media content creation, and her own workouts. She relies on an energy drink to stay sharp during long days and power through intense training sessions at the gym.*

2. *Mark, the MBA Student: Mark is pursuing his Master’s in Business Administration while working part-time as a consultant. His days are filled with classes, group projects, and client meetings. To stay focused during study sessions and maintain energy levels throughout the day, Mark turns to an energy drink that helps him stay alert and productive.*

3. *Emma, the Entrepreneur: Emma is a startup founder who is passionate about her business and works tirelessly to bring her vision to life. She spends long hours brainstorming ideas, meeting with investors, and managing her team. To keep up with the demands of entrepreneurship, Emma relies on an energy drink to boost her mental clarity and endurance, allowing her to tackle challenges head-on.*

These personas represent individuals who are ambitious, driven, and committed to both their professional or academic goals and their health and fitness. They see the value in a product that supports their active lifestyle and helps them perform at their best in all aspects of their lives.

7.4 Preparing a user interview

Description

User interviews are important for understanding people's behaviors, pain points, and needs. Crafting an effective interview guide from scratch can be challenging since asking insightful questions that uncover meaningful insights without steering participants or making assumptions is desirable.

Why AI?

Generative AI can be a powerful aid when designers prepare for user interviews. By providing some initial information regarding the interview, such as the context of the research goals and the participant's background, AI can create a basic outline for the interview, saving time and effort. While refining this outline, the AI can suggest questions that may not have occurred to the designer yet and can help rephrase questions to be more open-ended and less leading. This can help designers prepare better and more efficiently for interviews.

How?

Before developing the interview guide, designers can spend some time describing their research topics and goals to AI. Afterward, they can ask to provide a basic interview draft. This can then be reviewed and refined by the designer. Once the draft exists, the designer can prompt AI to refine it by rephrasing the questions and suggesting additional questions to make the interview more complete. As a result, the designer will have a full and efficient interview guide that enables the designer to conduct user interviews.

Example

DESIGNER - I want to find out the main annoyances men experience while shaving their beards with traditional manual razor blades. For this, I will conduct a user interview. Provide me with a draft for the interview.

AI - User Interview: Understanding Men's Annoyances with Traditional Manual Razor Blades

Introduction:

Hello! Thank you for taking the time to participate in this interview. My name is [Your Name], and I'm conducting research on men's shaving experiences, particularly focusing on the annoyances associated with using traditional manual razor blades. Your insights will be incredibly valuable in understanding this topic better.

Background Questions:

1. Can you tell me a bit about your experience with shaving? How long have you been using traditional manual razor blades?
2. What are your reasons for choosing traditional manual razor blades over other shaving methods, such as electric razors or subscription services?

Exploring Annoyances:

3. What are some of the main annoyances or challenges you experience when shaving with traditional manual razor blades?

4. Can you describe any discomfort or irritation you may feel during or after shaving with a traditional razor blade?
5. Have you encountered any specific issues like nicks, cuts, or razor burn while using manual razor blades?
6. How do these annoyances impact your overall shaving experience or routine?

Comparison and Preferences:

7. Have you ever tried other shaving methods besides traditional manual razor blades? If so, how do they compare in terms of comfort, convenience, and effectiveness?
8. Are there any features or improvements you would like to see in traditional manual razor blades to address the annoyances you've mentioned?
9. Do you think there are any misconceptions or myths surrounding shaving with traditional manual razor blades that you'd like to address?

Closing Questions:

10. Is there anything else you'd like to add about your experiences with traditional manual razor blades or shaving in general?
11. Finally, do you have any recommendations or advice for others who may be facing similar annoyances with shaving?

Conclusion:

Thank you once again for sharing your insights and experiences. Your input will be invaluable in informing my research. If you have any further thoughts or would like to provide additional feedback in the future, please don't hesitate to reach out.

DESIGNER - I am missing a question focused on when and where the respondents shave.

AI - You're absolutely right! Including a question about when and where respondents shave can provide valuable context to understand their shaving habits and potential annoyances better. Here's an additional question you can include:

Additional Questions:

12. Could you describe your typical shaving routine in terms of when and where you usually shave? For example, do you shave in the morning or evening, and do you typically shave at home or while traveling?
13. How does your environment or timing impact your shaving experience with traditional manual razor blades?

7.5 Wishing

Description

Wishing is a creative ideation technique where designers intentionally suspend disbelief and imagine their absolute dream solution or product without limitations. By envisioning the perfect scenario without boundaries, new possibilities may inspire innovative breakthrough ideas.

Why AI?

Generative AI can be a catalyst for the wishing process. AI models can generate unconventional ideas unbounded by human assumptions when prompted to imagine the ideal scenario or solution without constraints. These AI-generated materials can serve as inspirational material for designers, enabling them to ideate new directions that they may not have considered without AI.

How?

To use generative AI for wishing, the designer first prompts the AI with the design challenge or opportunity. Then, the designer asks the AI to describe the absolute ideal solution or experience without considering constraints like budget, technology, physics, etc. This way, AI will generate fiction-like scenarios and concepts that the designer can use as inspiration to come up with new novel ideas. Later, the designer can potentially explore with other stakeholders how to make these “wished” ideas a reality within the project constraints.

Example

DESIGNER - I am designing a novel pair of headphones for children. Describe the absolute ideal solution or experience for this headphone without considering constraints like budget, technology, physics, etc.

AI - Designing the perfect pair of headphones for children without constraints opens up a world of creative possibilities. Here’s an ideal solution that prioritizes safety, comfort, and fun:

1. Adaptive Volume Limiting Technology: Imagine if the headphones could automatically adjust the volume based on the ambient noise level, ensuring that it never exceeds safe listening levels for children. This feature would use advanced sensors to detect the noise level in the environment and adjust the headphone’s volume accordingly. It would provide parents with peace of mind knowing that their children’s hearing is protected, even when they’re listening to music or watching videos in noisy environments like playgrounds or classrooms.

2. Interactive Learning Mode: Incorporate a feature that transforms the headphones into a personalized learning tool. Children could engage in interactive educational activities, such as language learning games, audiobooks with follow-along text, or interactive storytelling experiences. This mode would not only entertain children but also stimulate their cognitive development and creativity. Imagine a scenario where a child listens to a story through the

headphones and can interact with the characters or environments using voice commands or gestures, creating an immersive and educational experience.

3. Customizable Design Options: Provide children with the opportunity to customize their headphones according to their preferences and interests. This could include interchangeable headband covers featuring their favorite cartoon characters, adjustable ear cup designs with colorful patterns or LED lights, and personalized sound profiles that allow them to choose different equalizer settings based on their favorite music genres or activities. By offering a range of customization options, the headphones become more than just a listening device; they become a reflection of each child’s unique personality and style.

In summary, the ideal pair of headphones for children would prioritize safety, education, and personalization, offering innovative features such as adaptive volume limiting technology, interactive learning modes, and customizable design options to provide children with a fun, engaging, and personalized listening experience.

DESIGNER - Next to it being safe and educational, give me two more innovative features that would make it extremely wantable by children.

AI - Certainly! In addition to safety and educational features, here are two more innovative features that would make the headphones extremely desirable for children:

4. Augmented Reality (AR) Integration: Imagine if the headphones had built-in AR capabilities that allowed children to immerse themselves in interactive virtual worlds and experiences. Using a companion app, they could explore augmented reality games, puzzles, and adventures that seamlessly integrate with their physical surroundings. For example, they could go on virtual scavenger hunts in their backyard, interact with virtual pets that appear to be right in front of them, or explore historical landmarks in an interactive and educational way. This feature would add a whole new dimension of excitement and engagement to the headphone experience, making it irresistible to children who love to explore and play.

5. Emotion Sensing Technology: Introduce emotion sensing technology that can detect the child’s mood and adjust the headphone experience accordingly. By analyzing factors such as heart rate, facial expressions, and vocal intonations, the headphones could personalize the content and interactions to match the child’s emotional state. For example, if the headphones detect that a child is feeling sad or stressed, they could play calming music or guided meditation exercises to help them relax. Conversely, if the child is feeling happy and energetic, the headphones could play upbeat music or suggest interactive games to keep them entertained. This feature would create a truly personalized and empathetic listening experience, making the headphones not only a source of entertainment but also a supportive companion for children as they navigate their emotions and experiences.

7.6 Six thinking hats

Description

The six thinking hats is a technique that helps designers systematically explore different perspectives on a challenge or opportunity. By metaphorically wearing different colored “hats,” each representing a specific way of thinking, designers can analyze a situation through varied lenses. The different lenses are facts and figures (white), optimism (yellow), risks (black), intuition and feelings (red), alternatives and suggestions (green), and helicopter view (blue). This technique can make discussions richer and solutions more complete.

Why AI?

Generative AI can be an excellent help during individual sessions when different thinking techniques are desired. By assigning the AI specific “hats,” designers can interact with the AI to discuss a certain challenge, idea, or opportunity and receive insights from different perspectives. This way, a discussion can be held to make certain challenges or ideas more complete, refining them with different perspectives in mind. Using AI for this makes it easier to use since it’s very accessible.

How?

To use the six thinking hat method with AI, the AI should first be presented with background on the design challenge or idea. Then, the designer can cycle through each colored hat, instructing the AI to approach the challenge or idea from that specific lens. The AI’s ideas and insights can be used to better understand the given challenge or idea and to make sure the idea has been reviewed from different perspectives.

Example

DESIGNER - I have a design challenge in which I need to design a communal living space which will be shared with elderly and immigrants. Using the black, and afterwards the white hat from the six thinking methods, give me insights on how people might view the scenario in which immigrants are give the responsiblity to take care of the elderly.

AI - Sure! Let’s first put on the black hat, which represents critical thinking and focusing on potential problems or challenges.

When considering the scenario where immigrants are given the responsibility to take care of the elderly in a communal living space, some concerns or challenges might arise:

1. **Language and Cultural Barriers:** Immigrants and elderly individuals may come from diverse cultural backgrounds and speak different languages, leading to communication difficulties and misunderstandings in caregiving.
2. **Training and Qualifications:** Ensuring that immigrants have the necessary training and qualifications to provide appropriate care for the elderly, especially if they come from countries with different standards or practices in eldercare.
3. **Acceptance and Trust:** Elderly residents may be hesitant to receive care from immigrants due to unfamiliarity or prejudices, potentially leading to resistance or conflicts within the community.
4. **Integration and Social Dynamics:** Immigrants taking on caregiving roles might face challenges integrating into the community and building trust with both elderly residents and

other members of the communal living space.

Now, let’s switch to the white hat, which represents focusing on facts, information, and objective data.

In this scenario, there are also potential positive aspects to consider:

1. **Diverse Perspectives:** Immigrants bring diverse cultural perspectives and experiences, which can enrich the communal living space and provide different approaches to eldercare.
2. **Skill and Resource Utilization:** Immigrants may possess valuable caregiving skills or experiences from their home countries, which can be utilized to enhance the quality of care for the elderly residents.
3. **Community Building:** Immigrants taking on caregiving roles can contribute to building a sense of community within the living space, fostering relationships and mutual support among residents.
4. **Opportunities for Empowerment:** Providing immigrants with the responsibility to care for the elderly can empower them, fostering a sense of purpose and belonging within the community.

By considering both the black hat and the white hat perspectives, you can gain a more comprehensive understanding of the potential challenges and opportunities associated with immigrants taking care of the elderly in a communal living space.

DESIGNER - How would you look at this solution wearing the yellow hat?

AI - Wearing the yellow hat, which represents optimism and positivity, let’s examine the solution of immigrants taking care of the elderly in a communal living space:

1. **Shared Learning and Growth:** Both immigrants and elderly residents have the opportunity to learn from each other, fostering personal growth, empathy, and mutual respect within the community.
2. **Efficient Resource Allocation:** Leveraging the skills and experiences of immigrants for caregiving can optimize resource allocation within the communal living space, potentially leading to cost savings and more efficient use of personnel.
3. **Enhanced Quality of Life:** Immigrants providing care for the elderly can contribute to improving the overall quality of life for residents by offering personalized attention, emotional support, and companionship.
4. **Promotion of Social Inclusion:** By empowering immigrants to take on caregiving roles, the communal living space promotes social inclusion and diversity, creating a supportive environment where everyone feels valued and included regardless of their background.

Overall, the solution of immigrants caring for the elderly in a communal living space, when viewed through the yellow hat lens, highlights the potential for fostering positive relationships, cultural exchange, and mutual growth within the community.