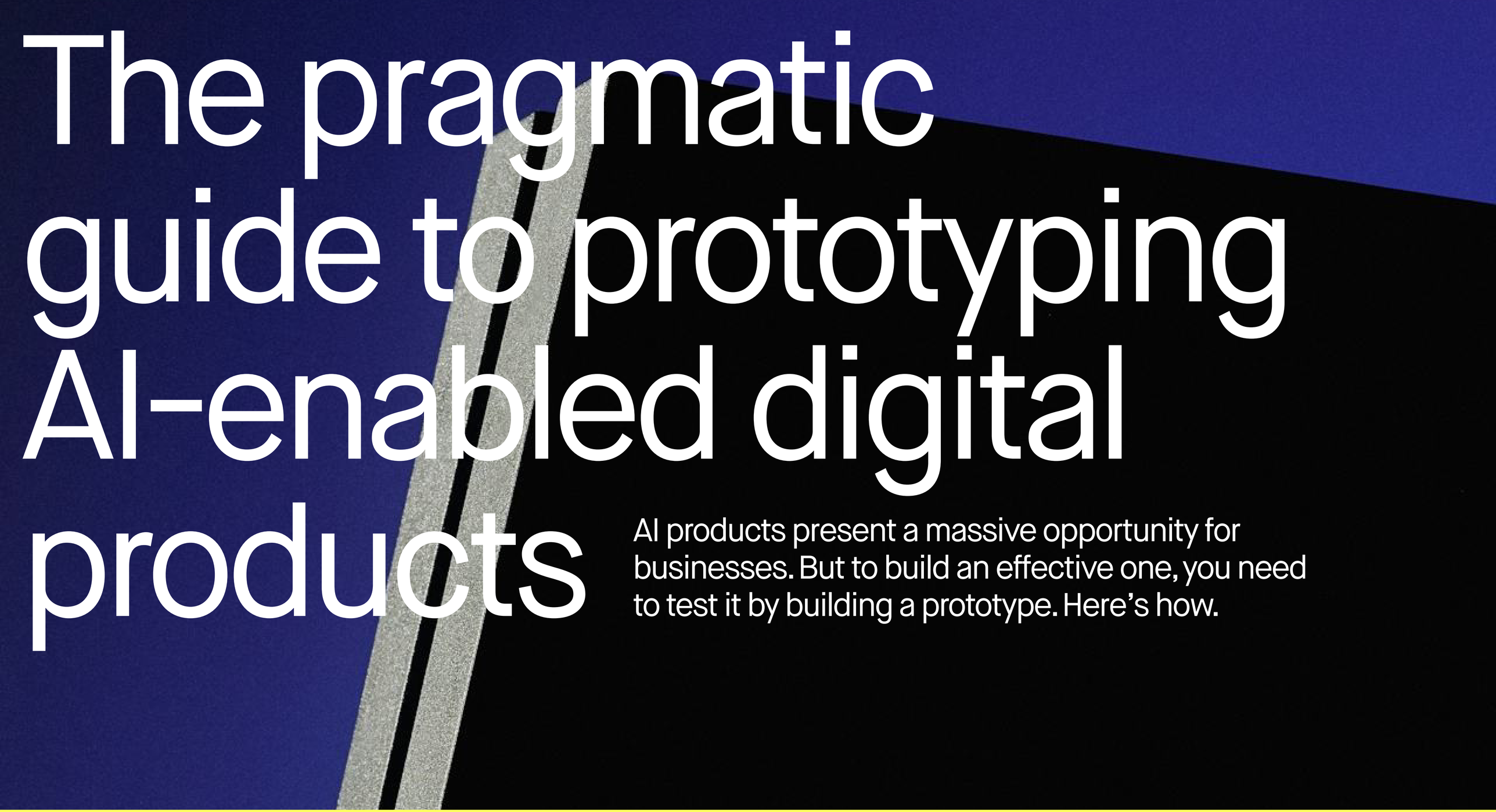

The pragmatic guide to prototyping AI-enabled digital products

AI products present a massive opportunity for businesses. But to build an effective one, you need to test it by building a prototype. Here's how.

While product leaders may not be the technologists who developed the LLMs that have driven the rise of AI, your role will be pivotal in determining its success. By helping define the application of this technology through digital products, you have the unique opportunity to drive the value of AI by making it usable.

After all, Apple built the iPhone, but it was product teams who built Zoom, Uber, Instagram, Tinder, and the platforms that made smartphones an integral part of daily life.

AI-enabled products present a massive opportunity for brands and businesses, but to build an effective one, you need to test it. And to test it, you need to build a prototype.

But traditional prototyping falls short in the world of AI, where search bars and chatbots are sometimes the full experience. Because AI's true magic lies in its dynamic and flexible responses to real-world inputs, evaluating the value of an AI-enabled product requires a new methodology.

Here, we'll share how to unlock that last mile of value in prototyping and the necessary first steps your product team needs to start building AI-enabled products and features.

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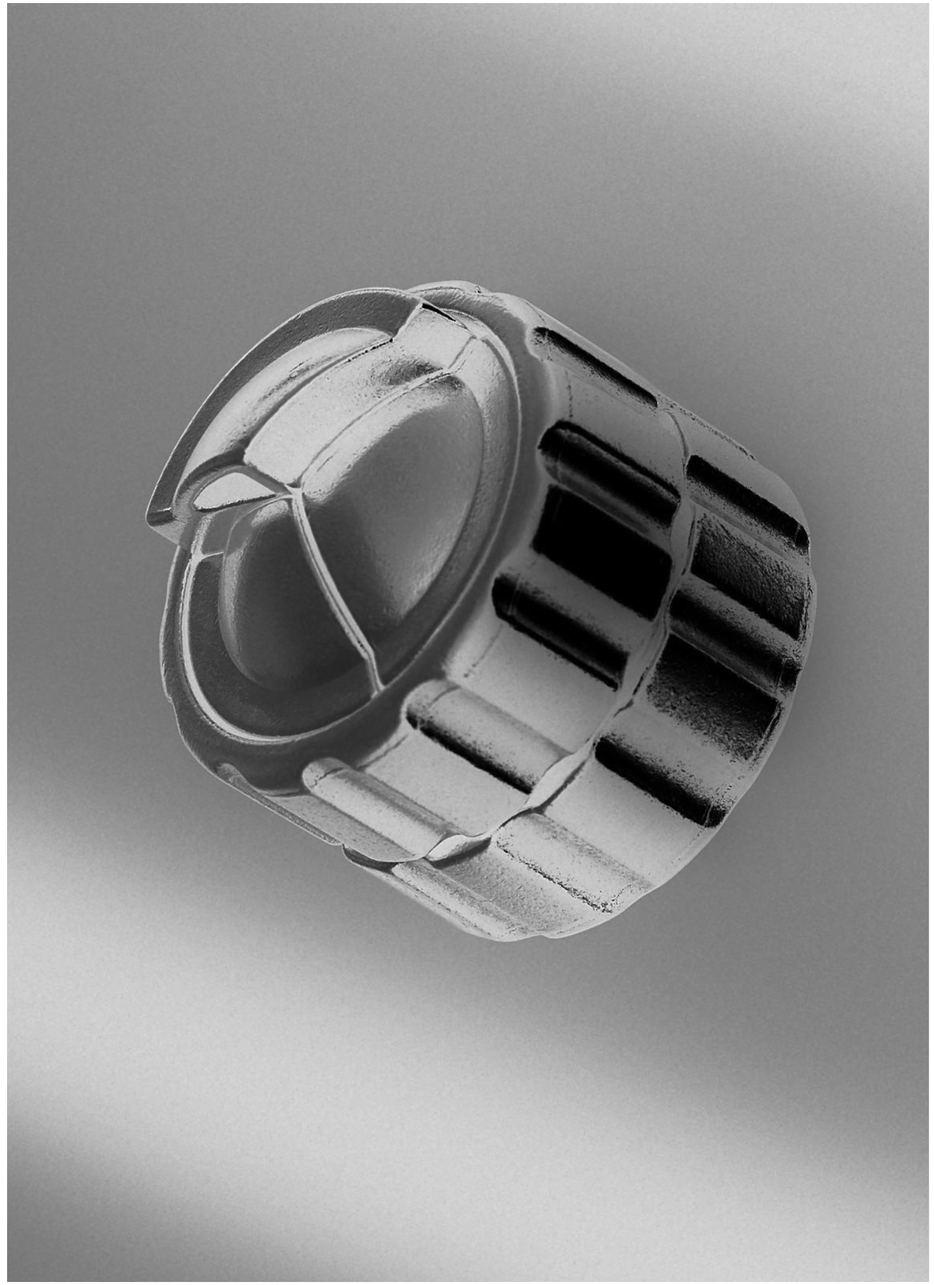
01 Building a stable foundation

As product people, we have to be more than makers—we have to be innovators. And, to innovate successfully, we need to ensure that the effort, time, and budget we're allocated for a project feeds an evergreen product.



To innovate successfully, our guiding philosophy involves building an AI product that has a stable shell and a growth core.

For an example, let's consider the evolution of cars and their engines:

- Engines, the core of cars, have undergone serious increases in everything from horsepower to efficiency. This is the piece of car that is always being upgraded to reflect the most significant technological innovations and advancements.
- Everything else—wheels, steering, body, and so on—form the stable shell of cars. These are the essential components that have remained integral to vehicle design, even as we've evolved from the Ford Model T to the Porsche 911.

For product leaders like you, AI is your nimble core. The engine that powers your product and can be swapped out and optimized over time. And your car? The stable shell that anchors your product? That's your data—and all the processes associated with it.

Data is your company's key differentiator. It is unique and proprietary, and it is the only competitive advantage you have in today's world of ubiquitous AI access. That said, without the right processes in place, you lose the stability of the stable shell your data provides.

To leverage your data using AI, whether through an LLM or retrieval-augmented generation (RAG), to enhance an LLM's output according to your needs, you need to give your stable shell some TLC.

Step 1
Data discipline

Data discipline refers to an organization's guiding principles and processes to manage its data. Some typical aspects of data discipline include having a strict data architecture, not allowing for shortcuts, ensuring a single source of truth, and including data quality checks.

Ultimately, the modus operandi behind data discipline is all about preparation: If you stay ready, you don't have to get ready. If you allow data to become an afterthought, any products or features built with it become increasingly unwieldy as data grows.

That's why it is so essential to have a stable and trustworthy data platform with knowledge of user actions, segmentation data, and usage trends. In our experience, a single source of truth is the biggest asset to teams wanting to innovate and build better products.

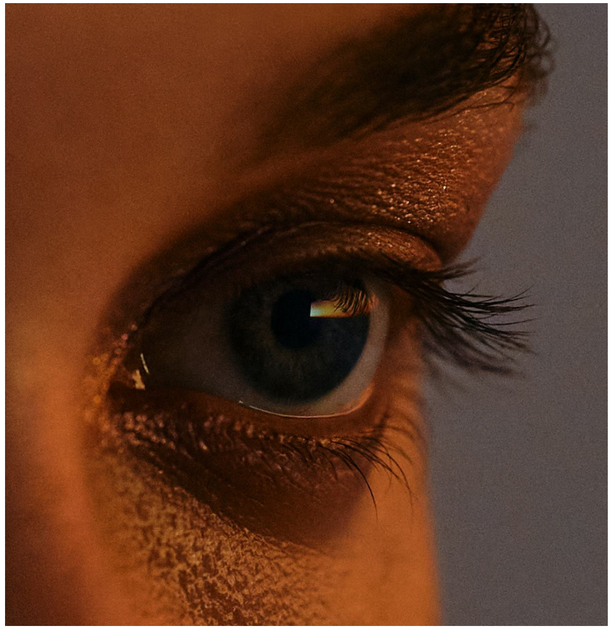
Step 2
Restructuring data for AI

Even if your data is integrated and you have a single source of truth, you still probably need to restructure it for AI models.

We've found that most organizations structure their data depending on how they're using it today—not necessarily how they might use it tomorrow.

Preparing for an AI environment may require a lot of work in the data journey, including defining AI objectives (which may or may not be known at first), identifying new data sources, preprocessing to make them suitable for AI models, and meeting other model-specific data requirements.

At DEPT®, the number one thing we see stopping brands from an AI product sprint is a lack of data. If you can access organized, structured data, you can innovate with AI-specific tools and modules and begin to understand what's possible.



"The difference between launching a generative AI feature or product in months rather than years is well-structured data. At DEPT®, we've seen it again and again. Good data leads to good products and that is even more true with generative AI."

Bob Briski
Global SVP of AI at DEPT®

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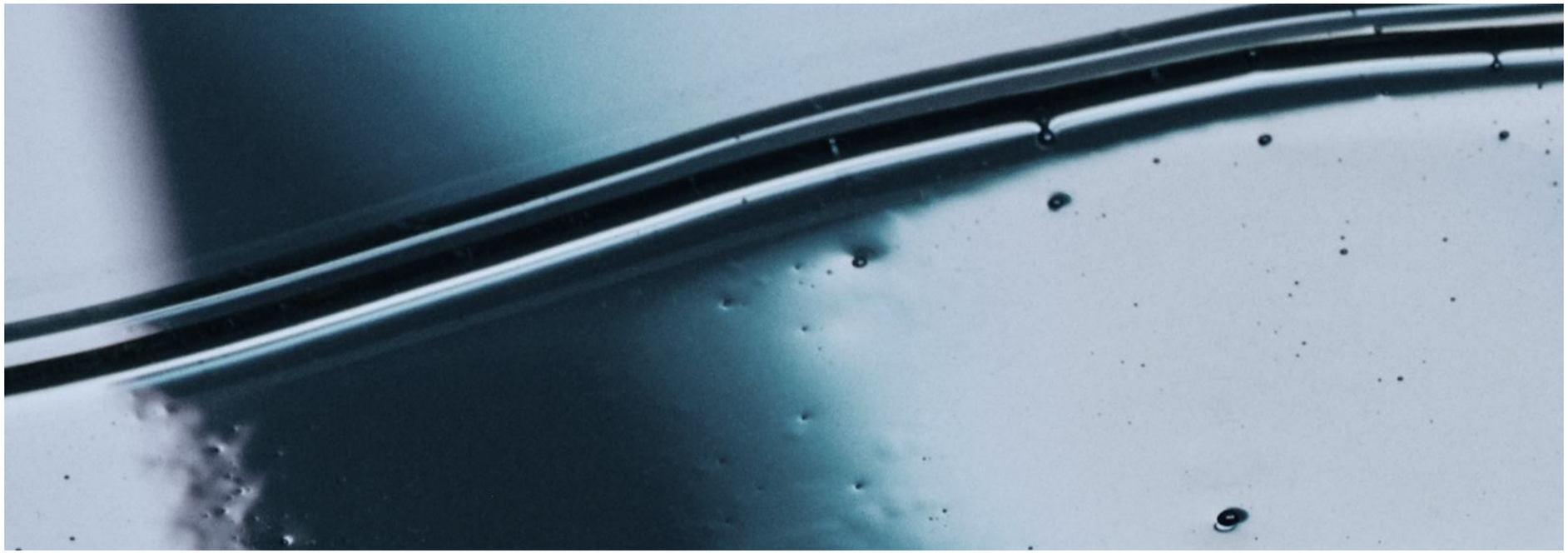
Prototyping with technical expertise

Traditional prototyping methods emphasize practicality and efficiency which, in turn, enables product teams to gather feedback quickly and stay agile. Likewise, efficiency and agility remain paramount for product teams working with AI.



With new models, techniques, and methods emerging every few weeks, the landscape of this technology is evolving at a breakneck pace. To sift through that slew of developments quickly, it's crucial that product teams develop a tried-and-true methodology to ensure they're able to stay on the cutting edge.

That said, traditional prototyping methods aren't built to effectively evaluate an AI product's most crucial features: The quality of its responses to open-ended prompts and the quality of the data it relies on to create them.

Because it is all but impossible to simulate a practically limitless range of prompts, traditional methods circumvent this crucial capability in their evaluation. This forces product teams to build out an AI-enabled product in real-time with the data and AI models live—an option that's too complex and costly to allow product teams to move at speed.

So, how do you develop a prototype for a digital product that uses AI and that you can iterate upon?

Assuming your AI product uses an LLM-powered system, here are the five best practices we recommend:

Make sure you have relevant data—and only relevant data

- Double-check your data to ensure it is organized, accurate, and well-suited to the conversations you anticipate users having.
- Data sources that are factually correct but irrelevant to user conversations will not be flagged by fact-checking and hallucination detectors... but they can wreak havoc on LLM responses.

Automate your expected conversations

- Think about your organization's brand and POV. Once you take both of these into account, it's likely you'll want certain prompts to elicit an answer that incorporates specific language or information.
- Take some time to document those expectations and use them to build helper scripts, which validate those answers to ensure the LLM continues to refer to them as data and agent prompts evolve.

Test LLMs using LLMs

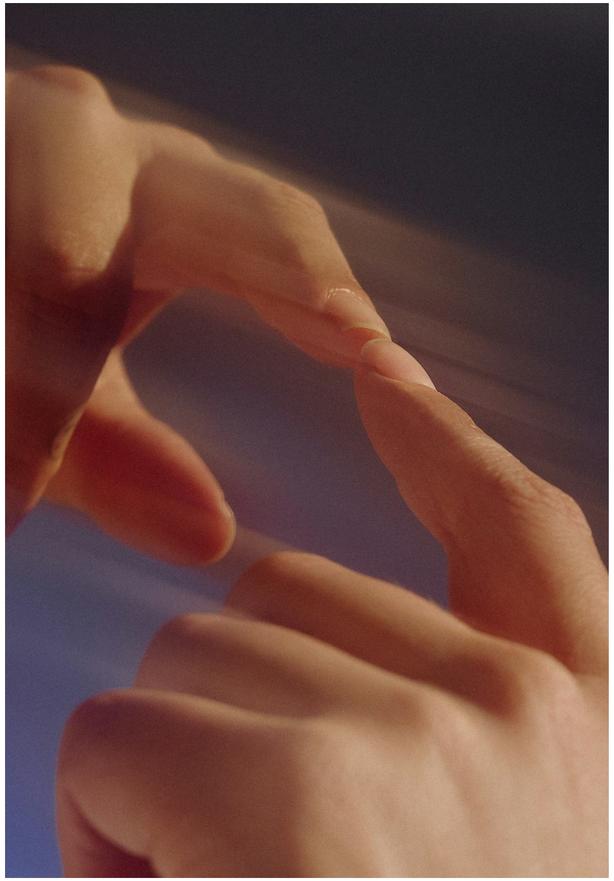
- Because user behavior is hard to predict, it would seem as though thorough user testing offers the best way of testing an AI product or feature—but this can be both a time-consuming and expensive process. Moreover, if you don't have an MVP ready, human users may not be an option.
- If you're not sure how users might engage with the LLM, build a series of customer agents that represent relevant segments and personas. These artificial users will give you insight into how their real-life counterparts might interact with the system you're building.

Divide and conquer functionality

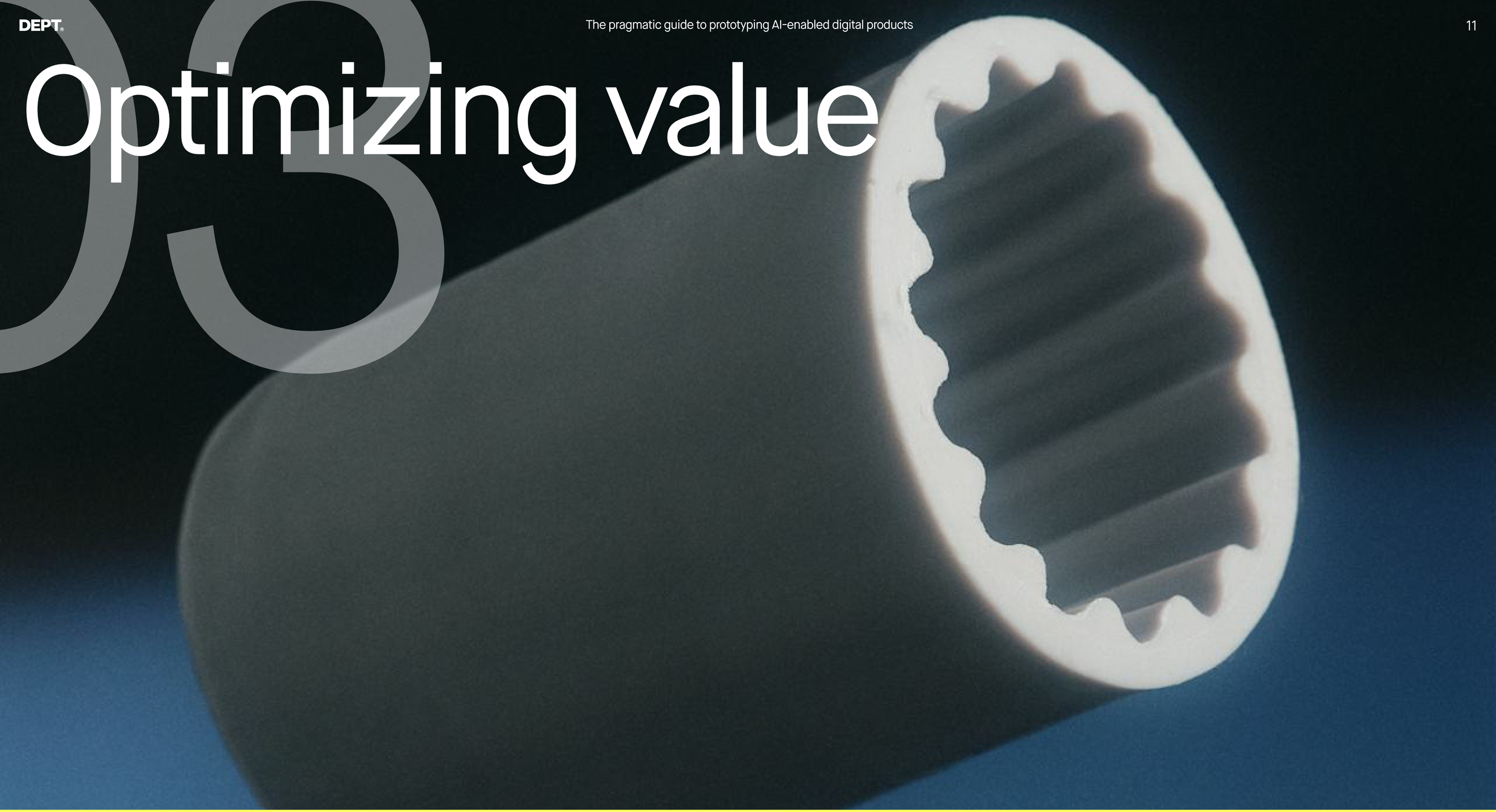
- The use case of any digital product or feature is the result of several layers of functionality coming together—and AI products are no exception.
- Parse out the functionality of the LLM and divide it among separate, individual agents. Then, configure your system so that a different agent (think of this determine the final output. By dividing functionality in this way, you're able to keep LLM prompts small, which prevents the individual instructions from being diluted and establishes a more effective overall system.

Lastly, build out the guardrails

- We've saved this one for last for a reason: All of the above best practices are designed to help you ensure that your LLM system can function according to its intended use. Once you've established that, it's time to make sure it can still function even when a user isn't using the product as intended.
- Incorporate guardrails to prevent an LLM from falling down a rabbit hole of misleading or irrelevant prompts and create helper scripts that are designed to redirect users to a more relevant prompt in a way that's fitting to both use case and brand. Then, check to make sure that the guardrails do not interfere with the system's intended functionality.



03 Optimizing value



One of the best methods for uncovering how to add value to users with an AI-enabled product is to figure out how you can add value within your own organization.

According to McKinsey, about 75% of the value that GenAI use cases could deliver falls across four areas:

- Customer Operations
- Marketing & Sales
- Software engineering
- Research & Development

The potential value of AI across business functions is enormous, and taking the time to test tooling in an internal environment enables your team to hone their AI skillset without the pressure to meet client needs.

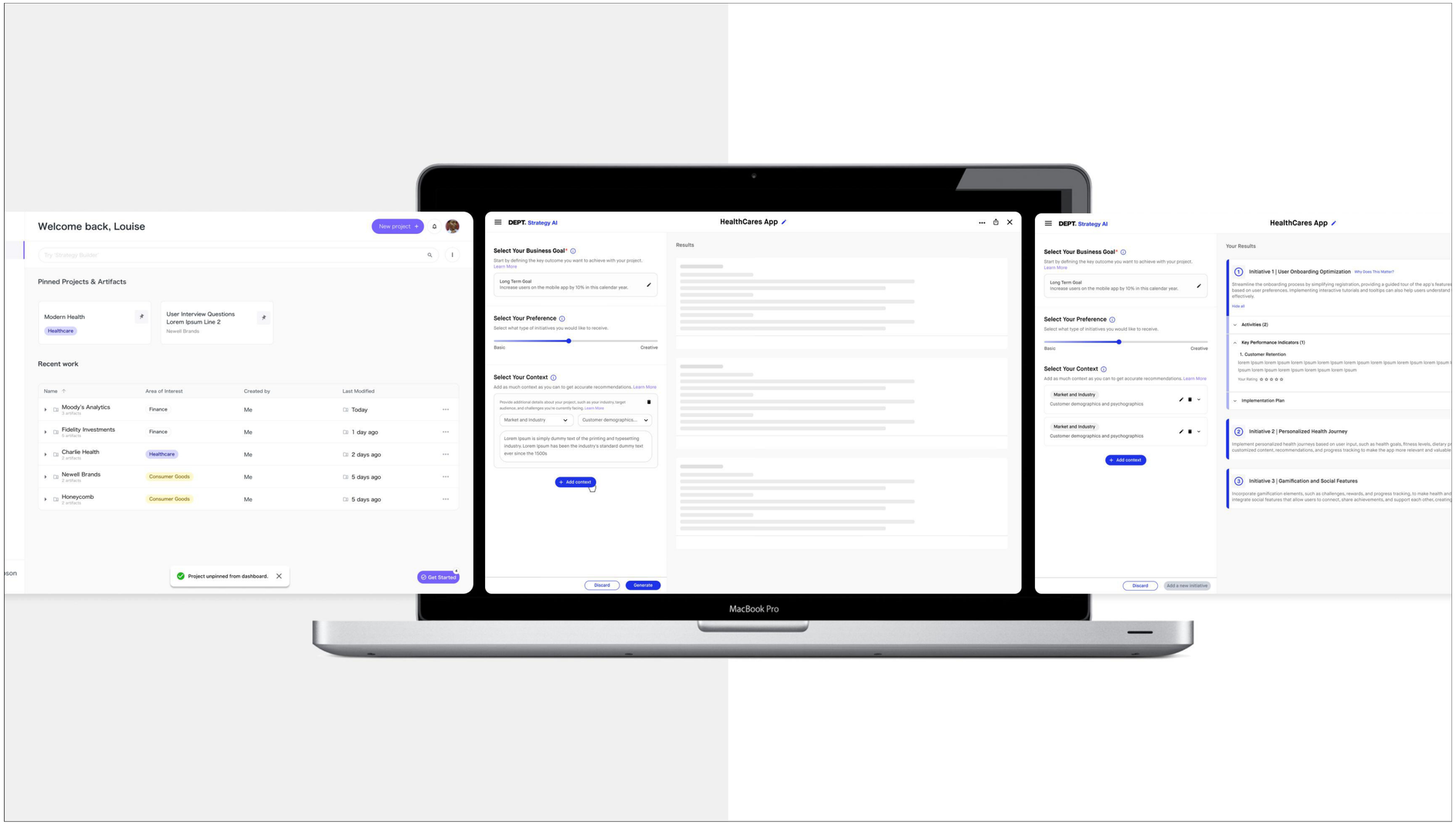
That's why we recommend that every company set up an internal sandbox and begin experimenting with open AI tool sets that can be utilized by different teams as a co-pilot.

At DEPT®, we built an internal strategy tool that used RAG to optimize the output of an LLM according to data we provided. Users input a specific business goal and any additional context related to problems within that space, and the tool outputs a series of initiatives and discovery activities.

By using this tool, we've generated artifacts—like market research and user interview questions—that we can further iterate upon to create an array of different initiatives you could undertake.

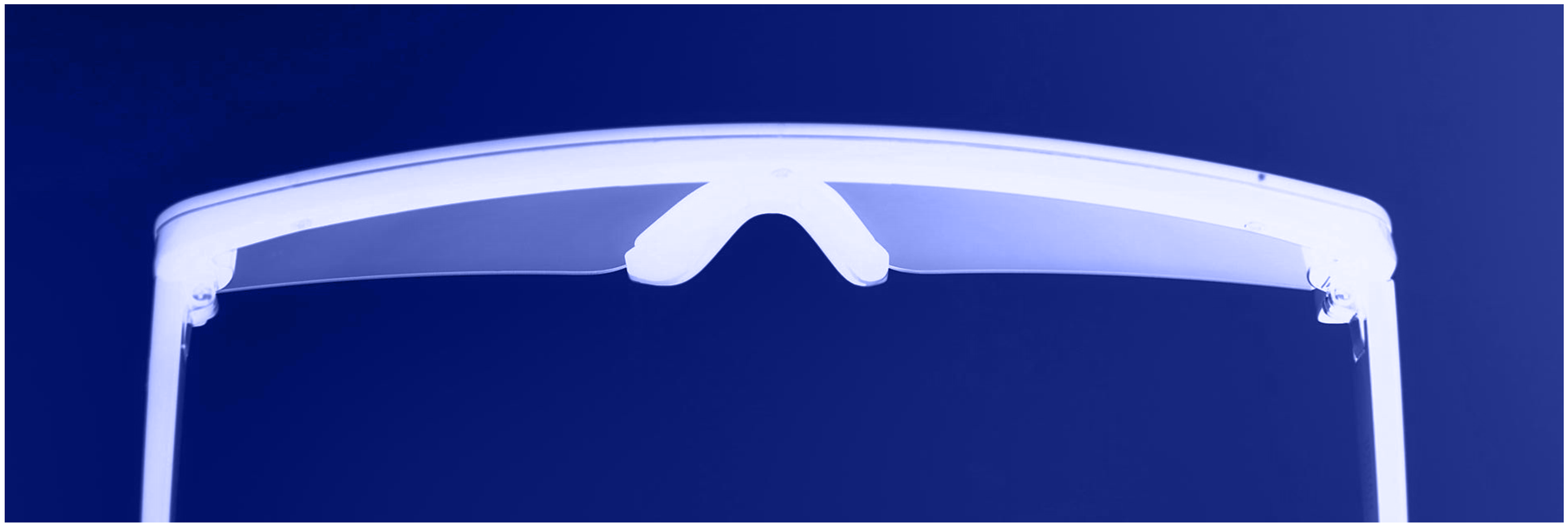
These could include conducting user interviews, studying how to attract more users to the platform, or learning how to prevent people from leaving the platform.

In any case, we've found that the product has provided significant value to our strategy team. A process that could have easily required a week of work now takes literally minutes. Moreover, it removes layers of human bias and a cognitive load that gives our strategists the ability to iterate more easily.



Building the path toward an AI-driven future

Many experts have predicted that, with AI at our disposal, the interface between human users and the digital world will undergo a fundamental change: The loss of the traditional screen.



Instead of a smartphone, for example, we might have smart glasses—or a smart earpiece, like in Her (2013)—that could overlay what we see with AR-rendered GPS directions, weather predictions, store sales, and so on.

This new form of digital interaction will bring with it an unprecedented level of personalization. And, in turn, a host of new opportunities across industries for brands to engage with consumers.

That said, the screen-less future is still a long way off. Before users can learn to run without screens, they need to learn to walk with AI-enabled tech. And, before that, product teams need to learn how to build it.

Now's the time to start.

If you'd like to pull in a group of like-minded folks to help, feel free to reach out to our team.

DEPT®

About DEPT®

DEPT® is a pioneering technology and marketing services company that creates integrated end-to-end digital experiences for brands such as Google, KFC, Philips, Audi, Twitch, Patagonia, eBay, and more.

Our team of 4,000+ digital specialists across 30+ locations on five continents delivers pioneering work on a global scale with a boutique culture. DEPT® is committed to making a positive impact on the planet and, since 2021 has been Climate Neutral and B Corporation certified.

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