DISPATCHES FROM INDUSTRY

A Seat at the Table: Designing for AI with Strategy, Vision, and Collaboration

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Abstract: The speed at which artificial intelligence technology is integrated into products to ease user flows is redefining the role of designers, giving rise to specialized "AI designers" or "AI design specialists." In this article, I explore the evolving responsibilities of designers in the AI landscape, emphasizing the critical need for deep collaboration with engineering, legal, and product teams. Drawing from direct experience, I highlight the challenges of translating complex AI capabilities into user-centric, valuable product features, especially within established organizations grappling with legacy systems and lengthy development cycles. Key takeaways underscore designers' need to possess strong data literacy, continuously learn in a fast-paced field, and strategically advocate for AI applications that address genuine user needs. I outline the essential skills designers must cultivate, the opportunities presented by adaptive AI interfaces, the high stakes involved in responsible AI development, and the pressing questions the design community must address to shape a human-centered AI future.

Implications for research: This article focuses on the role and responsibilities of the emerging AI designer in modern product design and development. The distinction between AI for efficiency and AI for augmentation (Section 2.3) suggests a comprehensive framework that can help AI designers apply these categories and advocate for user and societal needs in the rush to incorporate AI functions into existing services. The discussion of user feedback loops (Section 2.6) characterizes good feedback systems as being granular, contextual, and actionable, with a palette of available UX patterns including inline corrections for refinement, transparent confidence scores, and feedback tagging. Empirical research is needed to provide AI designers with a generalized understanding of how these UI characteristics and UX patterns impact human understanding, and how they interact.

Keywords: AI design; AI implementation; AI strategy; collaborative practice; design industry

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1. Evolution of Designers' Roles in the World of AI

The role of designers in artificial intelligence (AI) technology development has evolved rapidly over the past decade. The new role of "AI designer" or "AI design specialist" reflects the field's unique challenges and responsibilities. Throughout my experience designing AI-powered features, several recurring challenges have shaped and unfolded my role as a designer.*

I have seen AI retrofitted into legacy systems, which leads to feature bloat and redundant workflows, often overwhelming users instead of streamlining their experience. Long development cycles can result in an AI model becoming outdated or needing an update by the time a feature ships. A lack of direct collaboration between designers and engineers can cause teams to miss key edge cases, while inadequate feedback mechanisms in a product limit a designer's ability to understand the real user needs and the system's practical function. And I have seen AI introduced without a real use case, creating a fake aura of innovation without lending actual value to the user.

I have also witnessed experiences delivered by designers who lack a general understanding of how AI systems work, which makes it challenging to anticipate model behavior or system risks. These issues have pushed me to consider a new definition of design practice that is more data-literate, collaborative, user-centered, and strategy-driven. The necessary evolution of the AI designer's role is reflected in Figure 1.

2. Key Considerations for Designers Working with AI

2.1. Designers Are Strategists, Not Service Providers

Historically, technical teams and project stakeholders tend to perceive design as a downstream activity, incorporating it only after making core technical decisions. In the AI age, that model is outdated. Designing for AI is not just about creating sleek, beautiful interfaces, but also about defining how intelligent systems behave, adapt, and evolve.

Designers are increasingly responsible for:

- Mapping user pain points that AI can solve.
- Framing problems that guide model development.

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* **Author note:** This article is based on firsthand experiences designing AI-powered features in creative tools used by millions, and in ongoing work in a cross-functional AI design systems team. It reflects real-world complexities, hard-learned lessons, and a deep belief that when design and development work in harmony, everyone wins, especially users.

- Visualizing system behavior to align teams across functions.
- Driving decisions about data input, transparency, and explainability.
- Advocating for human agency and ethical design.

Designers understand user behavior, human-computer interaction, and system feedback loops, so involving them from the start enables more meaningful use of AI.

2.2. From Visuals to Vision: Collaborating with Engineers and Product Teams

AI systems are not static. They are probabilistic, learning, and reactive. To design compelling experiences, designers must work closely with engineering teams to understand the AI system architecture, data pipelines, model behaviors, and potential edge cases.

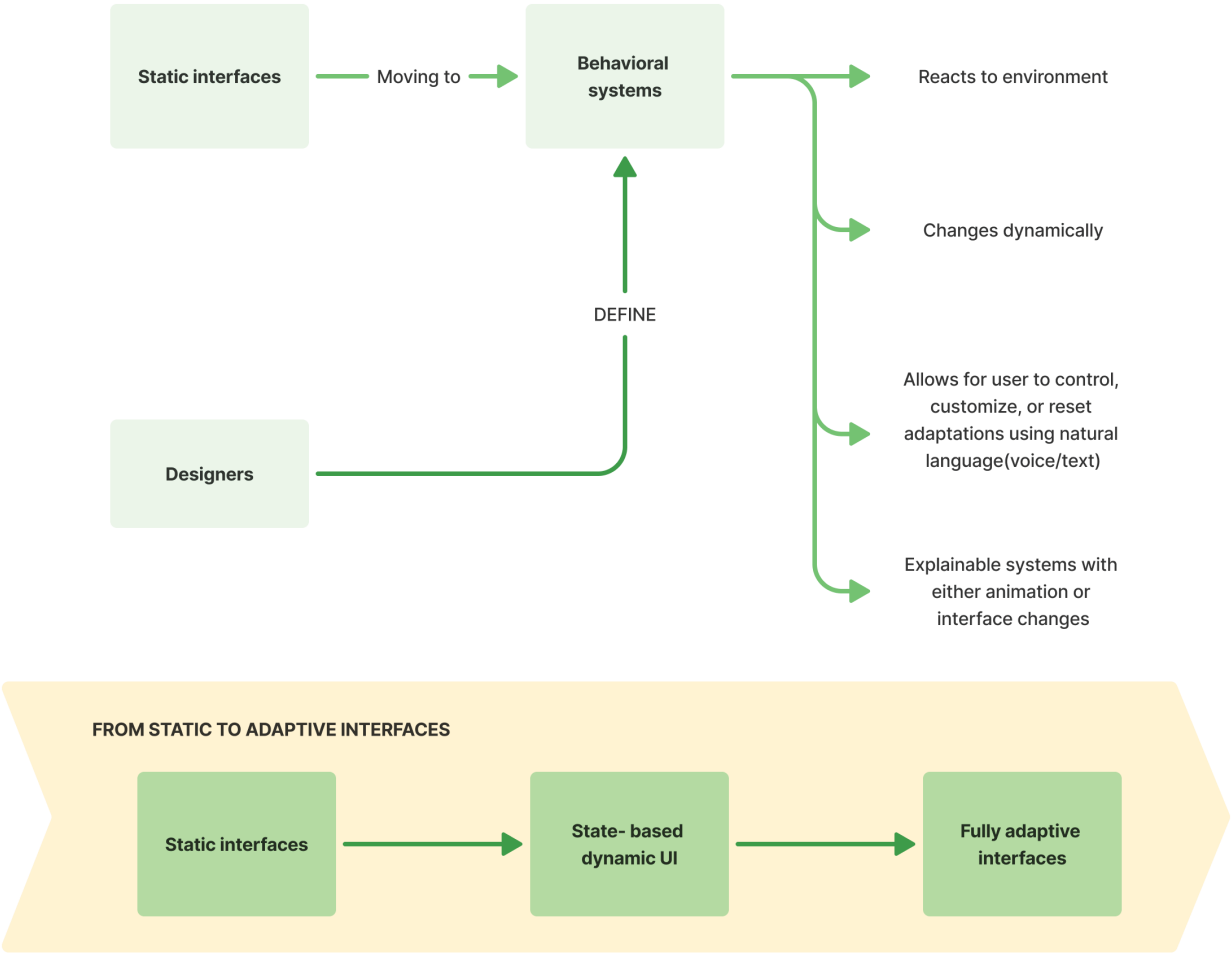


Figure 1. Evolution of AI-driven interfaces from static to fully adaptive interfaces that responds to the user's input.

Take, for example, Figma Make — a vibe coding tool that generates UI drafts using design system components (Levin, 2024). In 2024, Figma released an update following the discovery that the model inadvertently mimicked real-world app designs, so they held back its release to further train and reassess the model's performance. This emphasizes the importance of questioning how models are trained, what data is used, and where accountability lies (Figma, n.d).

Following are key questions that designers should ask in AI projects:

- What models power this experience?
- Is the model fine-tuned on user data? How is data collected and stored?
- What is the delivery mechanism (e.g., plugin, integrated system, API)?
- How will users give feedback, and how will the feedback be addressed? Does feedback require the user to share their data or their generation?
- Where is the data processing happening for the user? Is the user data anonymized? What is the default setting for enabling AI for the user? For example, Shakir (2024) outlines Apple's approach to keeping user data private.

Understanding AI system architecture is essential. Without this knowledge, designers risk shipping inconsistent experiences that fail to meet user expectations and raise data privacy concerns.

2.3. Designing AI: Where Capability Meets Context

AI's technical power means little if it does not meet real user needs. The most sophisticated algorithms are irrelevant when applied to the wrong problems, or worse, when they introduce unnecessary friction. Designers play a crucial role in grounding AI applications in real-world utility, ensuring that features address authentic pain points rather than showcasing novelty for novelty's sake.

In designing generative tools for image enhancement and object removal, I have witnessed firsthand how challenging it can be to bridge the gap between what AI can do and what users need. The gap between AI capability and users' needs is especially evident in creative tools, where users want precision and control, and considers those needs more essential than AI automation.

In general, AI use cases can be divided into two major value categories:

- **AI for efficiency:** streamlining repetitive, low-value tasks like smart cleanup, batch tagging, or background removal, to give users back their time.
- **AI for augmentation:** enhancing user creativity or judgment by delivering results better or faster than manual efforts, such as noise reduction, super-resolution, outcropping (extending the canvas), or improved stitching of frames in a video/movie.

For each implementation, designers must ask:

- Does this empower the user or obscure their control?
- Is it elevating human decision-making or replacing it entirely?

The distinction between assistive and autonomous systems is increasingly subtle. Designers are uniquely positioned to define this boundary — what gets handed off to the machine versus what remains in the user's hands? At Config 2025, speaker and roboticist Madeline Gannon stated that "automation is not inevitable; it is intentional" (2025, 02:35). As designers, we decide how an interaction works and what level of agency the user retains during and after an AI-driven process. Designing AI means shaping the conversation between human intent and machine intelligence.

2.4. Explainability: Building Trust, Not Just Functionality

Explainability is especially critical in generative AI systems, which are increasingly capable of learning and generating things that they were not explicitly trained on. These AI capabilities, even though quite excellent, require accountability, and through explaining the reasoning or logic, or data source, adoption and trust can be established with users (Stanford Institute for Human-Centered Artificial Intelligence, n.d.). Founders of Anthropic, which developed Claude AI, state that:

> ...generative AI systems are *grown* more than they are *built* — their internal mechanisms are "emergent" rather than directly designed. It is a bit like growing a plant or a bacterial colony: we set the high-level conditions that direct and shape growth, but the exact structure that emerges is unpredictable and difficult to understand or explain. (Amodei, 2025, paraphrasing Chris Olah)

This underscores the need for intentional design that makes AI systems *legible* to users. Whether through popovers, tooltips, or summary cards, designers must create affordances that explain how results are generated, what confidence levels are involved, and how users can override or refine outputs as reflected in Figure 2.

Explainability is not just an ethical concern, it is imperative for using any system with AI in it. It is how we build trust in systems that are otherwise black boxes.

2.5. Retrofitting Better: Using AI Tools to Present Vision

Startups often can integrate AI faster, not because they have better ideas, but because they operate with fewer constraints. Large organizations, in contrast, must navigate technical debt, complex review processes, legacy UX patterns, and rigorous legal, ethical, and accessibility checks.

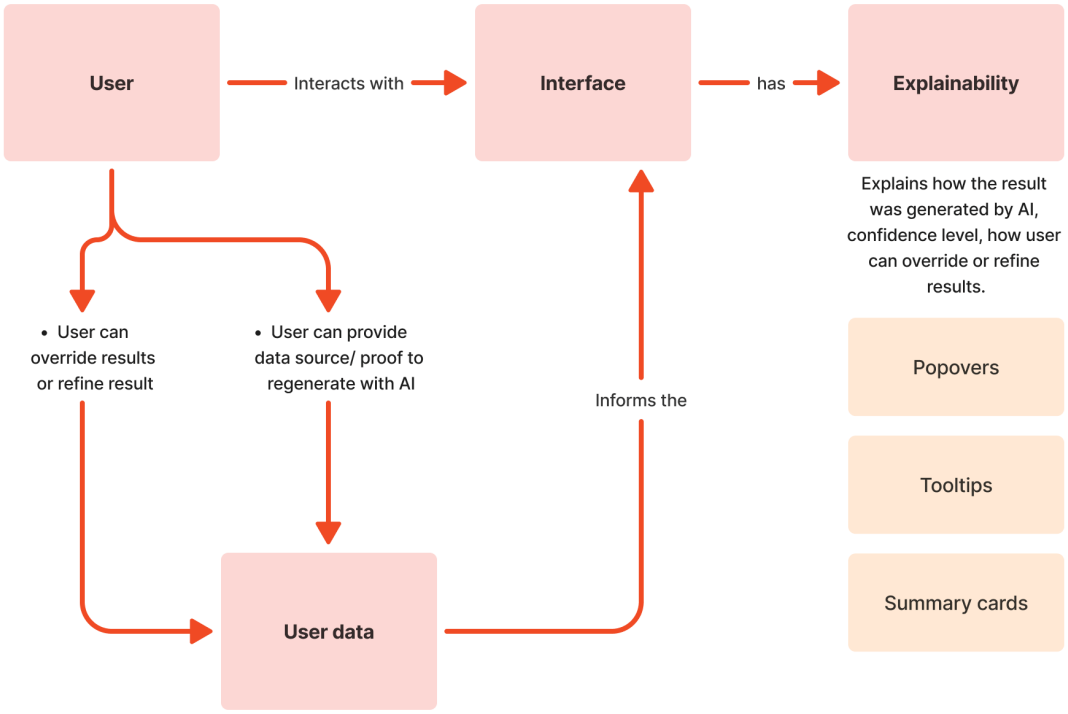


Figure 2. An explainability flow showing how users interact with an interface that should explain AI outputs and also help with refining, overriding, or regenerating results, through explanations using interface elements like popovers, tooltips, and summary cards.

Retrofitting AI into these mature systems often results in:

- **Feature bloat:** adding AI features without removing redundant ones.
- **Workflow redundancy:** offering multiple tools that solve the same or similar problems differently, without clearly indicating their distinction to the user. Photoshop's number of retouching tools reflects this (Figure 3).
- **Conflicting paradigms**: merging legacy interactions (like mouse select) with newer interactions for AI (e.g., prompts, voice, gestures), creating inconsistency and confusion.

The cumulative result is a bloated, disjointed experience that can overwhelm and confuse users rather than delight them with AI. Worse still, due to lengthy development cycles, the AI models powering these features are sometimes outdated by the time a feature ships.

In these scenarios, designers must advocate for modular systems, where AI features can evolve independently and plug into existing workflows without destabilizing them. However, the strategy also needs communication, which is where modern tools come in.

Tools that support *vibe coding* (low-code or no-code prototyping) can enable designers to prototype AI features faster and more accurately, even when developer collaboration is limited. These tools can turn sketches into working prototypes, making testing ideas easier, sharing vision, and aligning cross-functional teams early, an example of which is shown in Figures 4 and 5. I encourage students and professionals to use these tools to design and think through AI's behavior. Rapid prototyping is more than an execution tool — it is a strategy tool.

2.6. Feedback Loops: Where Did the Insights Go?

In AI-driven products, user feedback is not just important but essential for improvement. Nevertheless, most current systems treat feedback as a checkbox, using basic thumbs-up/down ratings that fail to capture nuance. What happens when a user's frustration does not fit into binary feedback?

Designers must build feedback mechanisms that reflect the complexity of AI interactions. Good feedback systems are:

- **Granular:** allow users to comment on why something worked or did not.
- **Contextual:** let users respond within the flow of interaction, not after.
- **Actionable:** tag feedback for tone, relevance, accuracy, or usability.

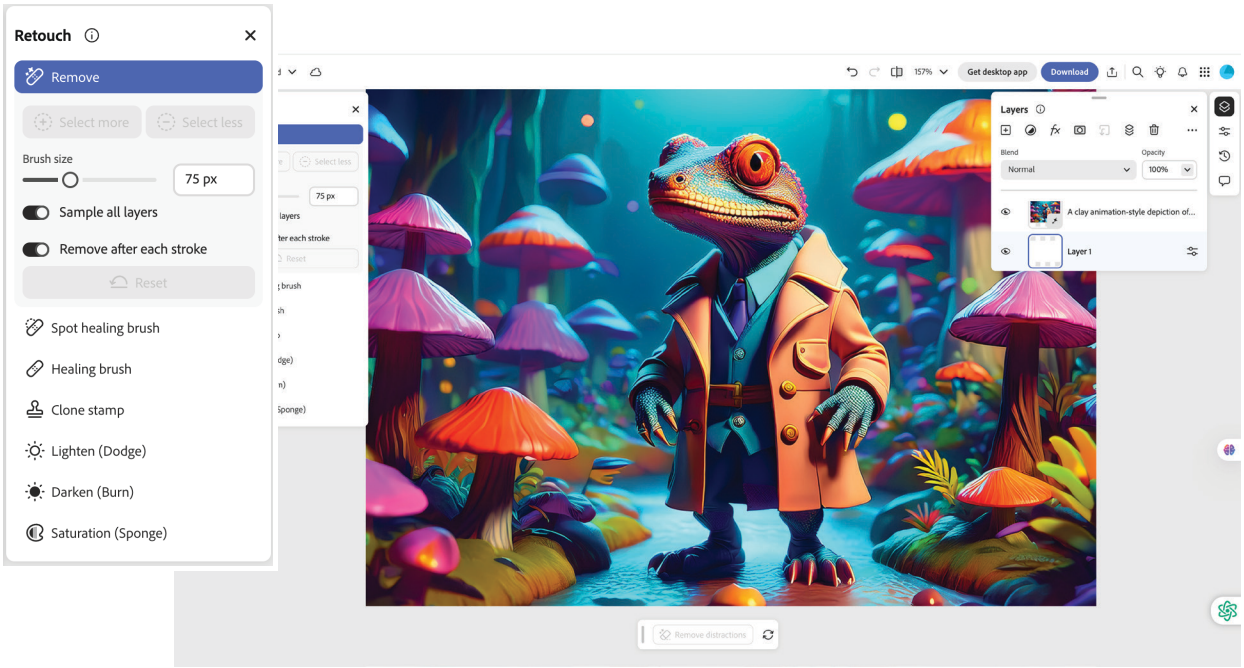
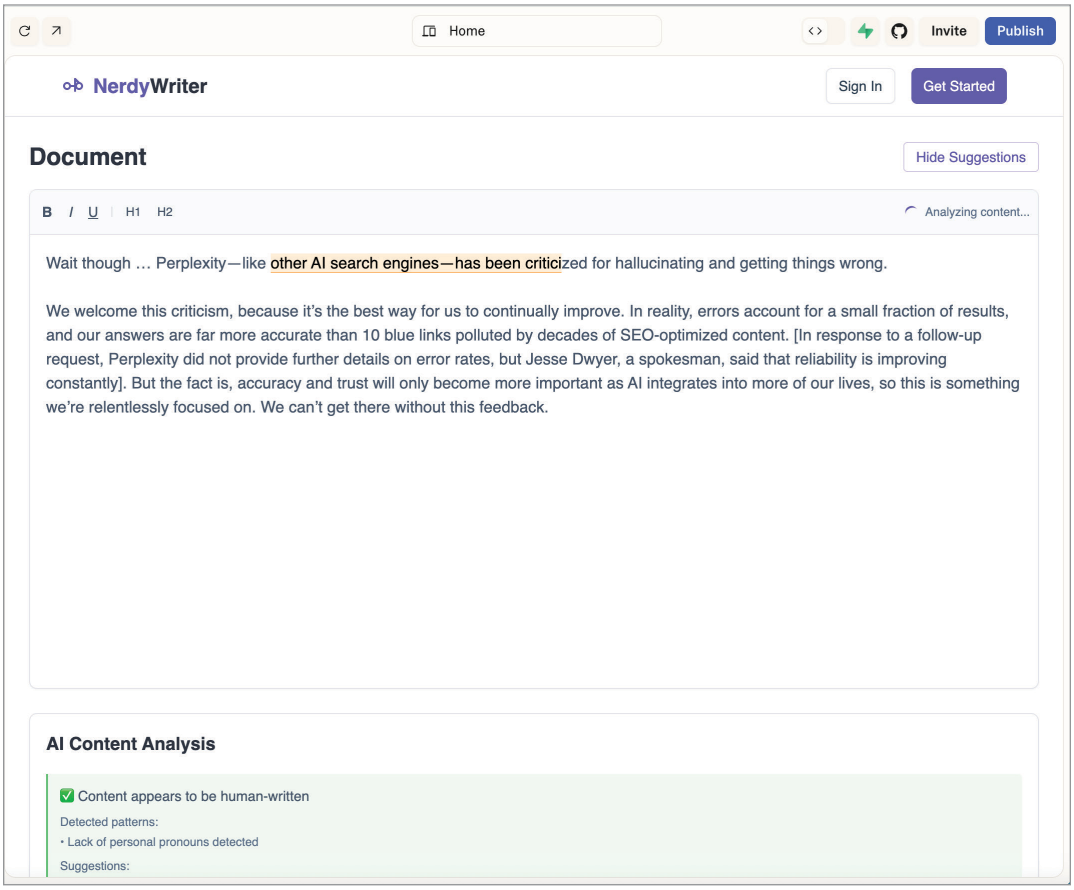


Figure 3. Beginners often struggle to choose between Photoshop's retouching tools (inset detail at left): the Healing Brush, Spot Healing Brush, Clone Stamp, and Remove Tool. Captured June 4, 2025.



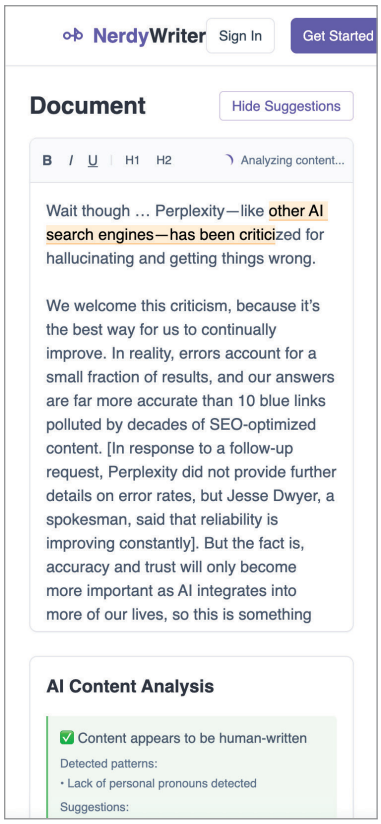


Figure 4 (above). An early prototype of NerdyWriter, a Grammarly-style writing tool built with Lovable.ai using "vibe coding" (Lovable, n.d.). Though AI models are not fully integrated, this mockup helps explore user flows and edge cases. The screenshot shows AI-generated content, inline grammar suggestions, and a scrollable horizontal layout for suggestion cards. It also raises critical UX questions: What if AI analysis fails? Can users regenerate or prompt AI? How do we distinguish between AI and user-edited or pasted content? This approach enables early thinking around product behavior and design, even before full AI integration.

Figure 5 (left). Mobile version of the Nerdy writer. I can see some issues that are easily fixed.

Some effective UX patterns include:

- Inline corrections or quick edits to refine the AI's result.
- Confidence scores with transparency and override options.
- Feedback tagging (e.g., "not accurate," "not useful," "inappropriate tone").

More importantly, this data must return to designers and machine learning (ML) teams, not just sit in dashboards. Feedback is not just about improving AI or achieving key product metrics, but also about the relationship between humans and the systems they rely on (Figure 6). Google addresses this with a "Feedback + Control" resource for designers (Google, n.d.). In addition, there is a tightly coupled relation between explainability, control, feedback, and trust, which designers can keep in mind when designing for human-AI interaction (Figure 7).

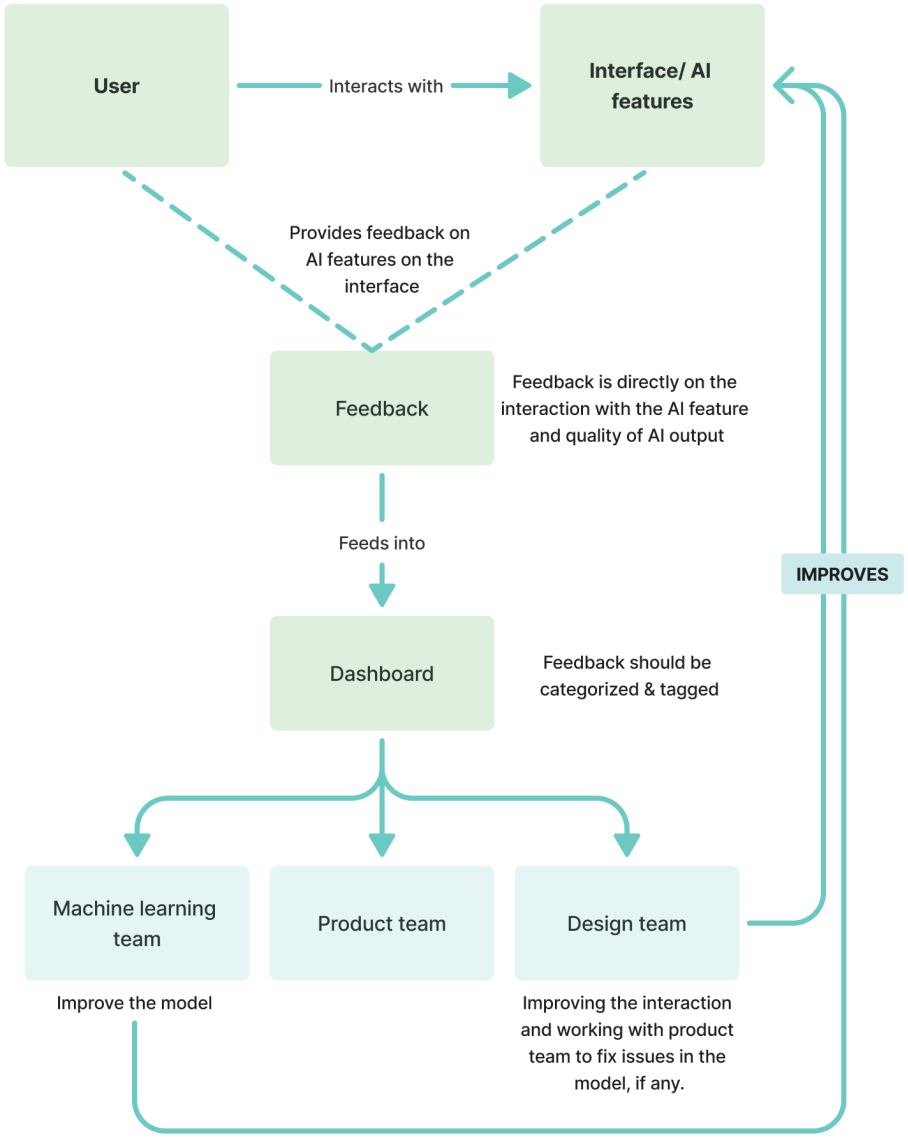


Figure 6. A feedback driven loop where user input on AI features is captured via the interface, categorized in a dashboard, and routed to machine learning, product, and design teams, ultimately improving both the model and user experience.

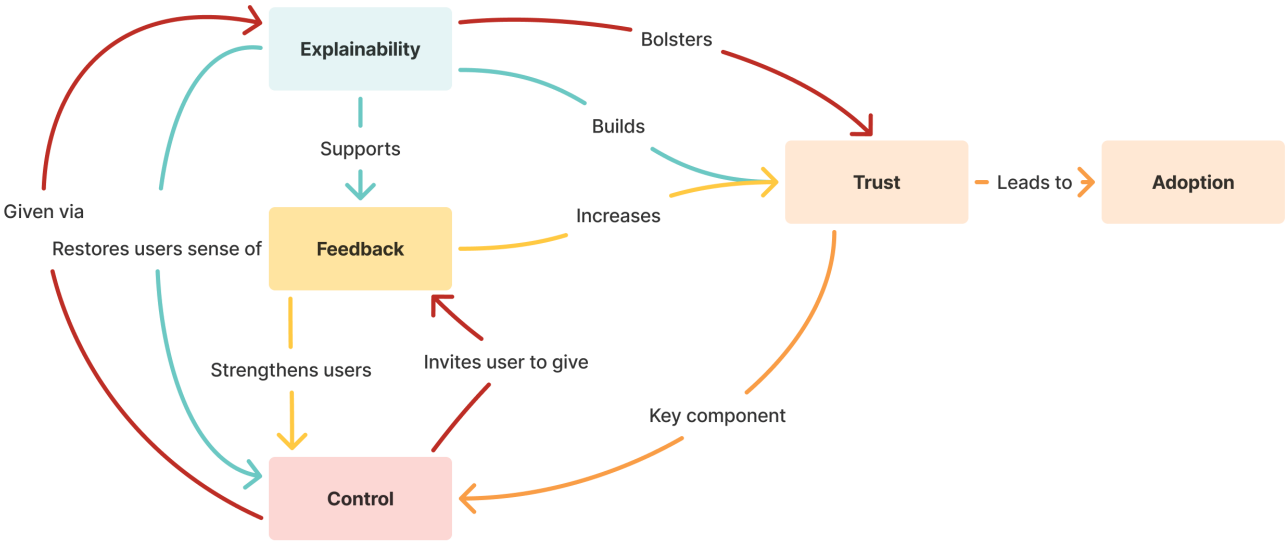


Figure 7. A concept map of the tightly coupled relationship between feedback, user control, explainability, and trust in the human-AI interaction space.

2.7. Raising Data Literacy: Essential for a Seat at the Table

One cannot truly design for something (like AI) until they understand it, at least conversationally. Designers need data fluency to move beyond just skinning the interface of an AI feature and shape how it behaves. It is not about becoming an ML engineer or creating own models; it is about asking the right questions, challenging assumptions, and collaborating as a peer with engineering and data science partners. In my experience, this is fundamental to moving from being a service provider to a strategist.

To collaborate effectively, designers must increase their data fluency in these key areas:

- **Understanding the machine's mindset:** designers do not need to build the models themselves, but understanding the fundamentals of *their training and performance evaluation* is crucial. What kind of data went in? What metrics define "success" or "failure" for the model? Knowing this helps anticipate where the AI might struggle and why it behaves in unexpected ways, as well as design interactions that gracefully handle uncertainty or errors. It takes the AI from a magic black box to something one can reason about. Additionally, I have encountered situations where models cannot be questioned because they are third-party. Even in such cases, it is still valid to ask engineers how they are developing over these models to deliver value to users and what the potentially worst-case scenario is, and then design backward for failing gracefully.
- **Decoding the AI lexicon:** Understand terms like bias, hallucination, fine-tuning, prompt engineering, data preprocessing, feature engineering, and model evaluation (e.g., Sponheim, 2024). Knowing these terms will enable designers

to have more informed discussions with data scientists and engineers, fostering effective collaboration.

- **Using Design tools to your advantage:** Tools like vibe coding or Figma Dev Mode can speed up prototyping, developer handoff, and user testing concepts, which would have been harder before just by using visual sketches. A plugged-in interaction or prototype helps designers while designing, or helps stakeholders understand the depth of user interactions and resolve edge cases faster by simulating actual system behavior.
- **Making sense of multimodal inputs and outputs:** AI is not about text boxes and clicks anymore. It is speaking, seeing, moving, and even feeling. From voice and gesture to augmented reality, mixed reality, and robotics, AI is stepping into the physical world. The more fluent designers are in multimodal interactions, the more ways they can pick up on what users actually want and need. Multimodal design can dramatically improve accessibility and lead to more intuitive, inclusive experiences.
- **Navigating legal and ethical tracks:** Design systems must be informed by AI accessibility standards and legal frameworks like the General Data Protection Regulation (GDPR), the AI Act (in the EU), or Section 508 compliance (in the US). These regulations directly impact multiple aspects of design, such as designing for an AI notice — how much of the AI notice should be shown, how many times it should be shown, and whether a user can remove the notice. Resources are available for designers to remain informed, such as Adobe's Content Authenticity Initiative (2024) and Grammarly's (n.d.) Authorship — including when writing an article like this.

As AI tools become more sophisticated, our ability to question them critically must be enhanced. Continuously learning and sharing is the way to remain relevant.

2.8. Creating a Culture of Co-Creation

A culture that values real collaboration between designers, developers, researchers, and product managers is the foundation for successful AI experiences. Some best practices that design teams can advocate for are:

- Integrated standups and sprint reviews that include design and development.
- Co-writing problem statements at the start of the AI feature journey.
- Designers embedded in ML workflows to explore possibilities early.
- Use of design artifacts (like user flows or journey maps) to align stakeholders across disciplines.

Tools like collaborative whiteboarding (e.g., FigJam, Miro), live design-developer environments (e.g., Figma Dev Mode), and shared metrics dashboards can make alignment visible and trackable, as shown in Figure 8.

3. Conclusion: AI Needs Designers Who Think Bigger

Design practice should be redefined as more data-literate, collaborative, user-centered, and strategy-driven. I have outlined this redefinition as follows (reflected in Figure 9).

1. **Designers are strategists:** AI demands early designer involvement to shape behavior, ethics, and system feedback, not just visuals.
2. **Cross-functional collaboration is essential:** Working closely with engineers, legal, and product teams helps define model behavior, edge cases, and accountability.
3. **Build AI with purpose:** Features must solve real user problems, not just showcase tech. Utility should be prioritized over hype.
4. **Balance assistive and autonomous AI:** Designers must define the line between user empowerment and automation, preserving human agency.
5. **Explainability builds trust:** It is crucial for usability and trust that system behavior be made transparent with tooltips, summaries, and confidence indicators.
6. **Retrofitting AI needs vision and modularity:** Avoid bloated, conflicting experiences by designing flexible, pluggable AI systems.
7. **Feedback loops must evolve:** We must move beyond basic ratings to granular, contextual, and actionable feedback that informs future iterations.
8. **Data fluency is critical:** Designers must understand AI terms, model behavior, legal standards, and multimodal interfaces if they are to design responsibly and collaboratively.
9. **Foster a culture of co-creation:** Embed design in ML/AI workflows, use shared artifacts, and prototype early to align teams and shape outcomes.

Designers are no longer simply producers of interfaces and interactions; they are shapers of behavior, authors of strategy, and advocates for ethics. Having a seat at the table with developers is not about status; it is about influence. A seat at the table ensures that AI products resonate, empower, and adapt.

As we continue to explore generative design, adaptive UIs, and artificial general intelligence (AGI)-informed products, one thing is clear: the future of AI will be *designed*. Moreover, the designers shaping it must be fluent in code, culture, and conscience.

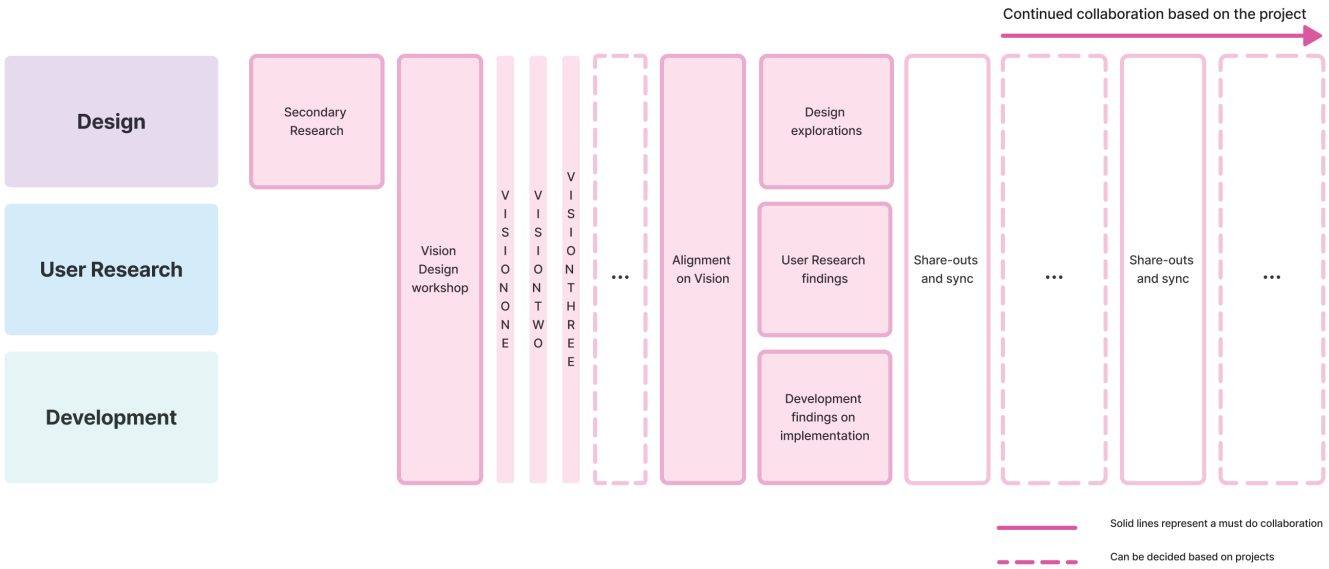


Figure 8. Visualizing a culture of co-creation between designers, user researchers, and development teams. The diagram distinguishes mandatory collaborations (solid lines) from those decided per project (dashed lines), promoting the collaboration between all stakeholders.

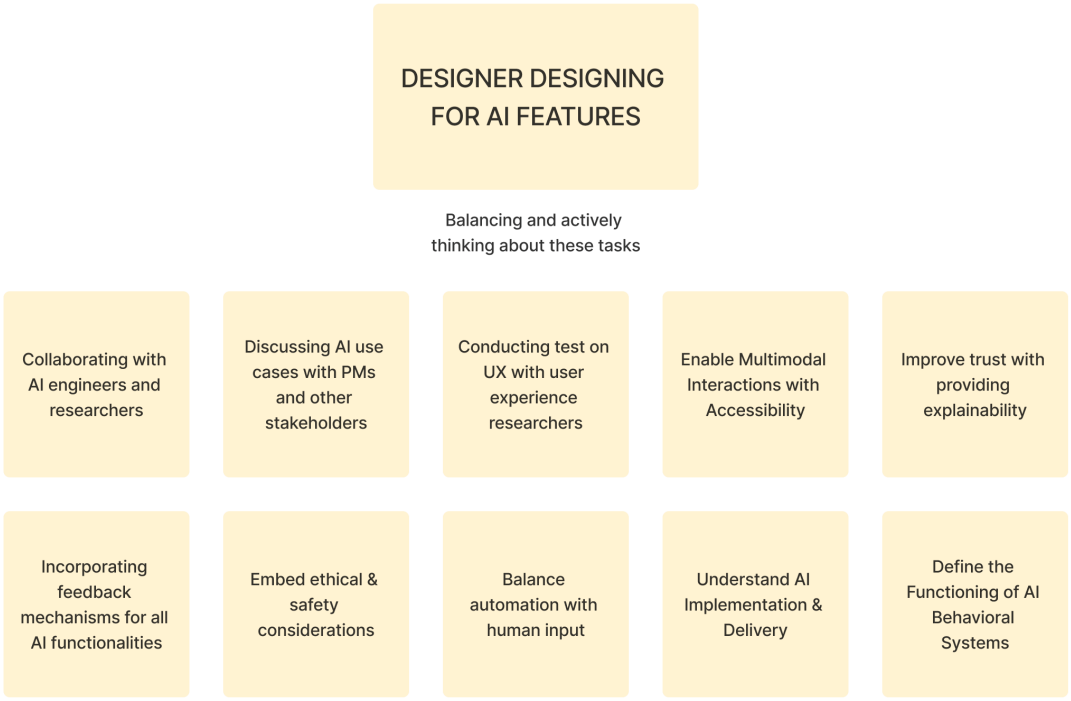


Figure 9. Key tasks and considerations for a designer working on AI features.

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Syashi Gupta is a product designer passionate about AI design systems, responsible generative AI, and creative cross-functional collaboration. With over a decade of experience designing complex tools across the creative and enterprise space, she currently works at SAP, shaping ethical and scalable AI experiences. Previously, she led design for flagship generative features at Adobe, including background generation and AI-powered object removal in Photoshop and Lightroom. Syashi holds degrees in Information and Communication Technology and Graphic Design, and her master's thesis explored agency, trust, and interpretability in generative adversarial networks (GANs). She thrives at the intersection of usability, technical fluency, and ethical design. Syashi is always curious, and is often seen peering through her optimistically-pessimist glasses to judge new AI releases before they (inevitably) try to take her job.

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