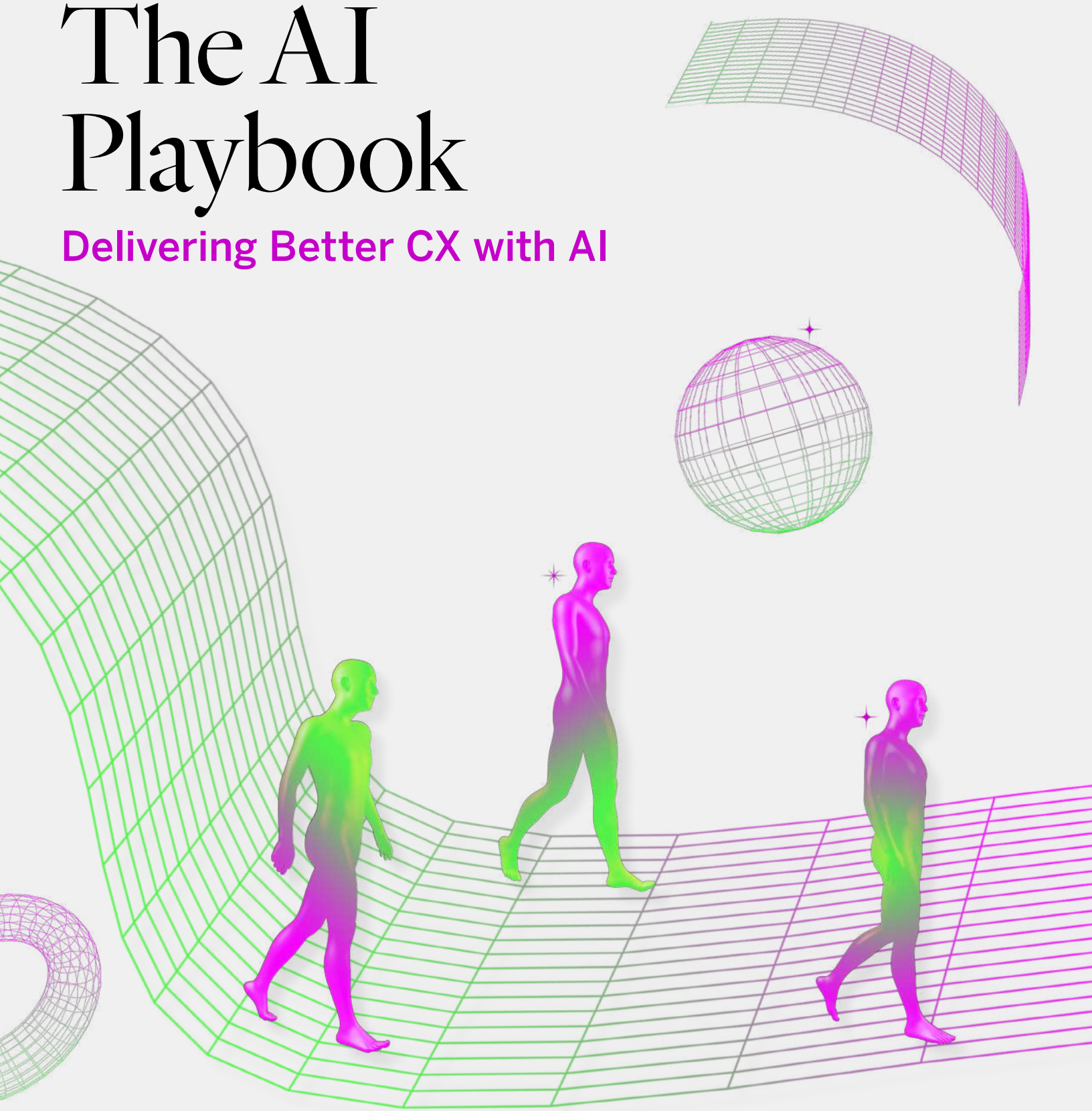
The AI Playbook

Delivering Better CX with AI



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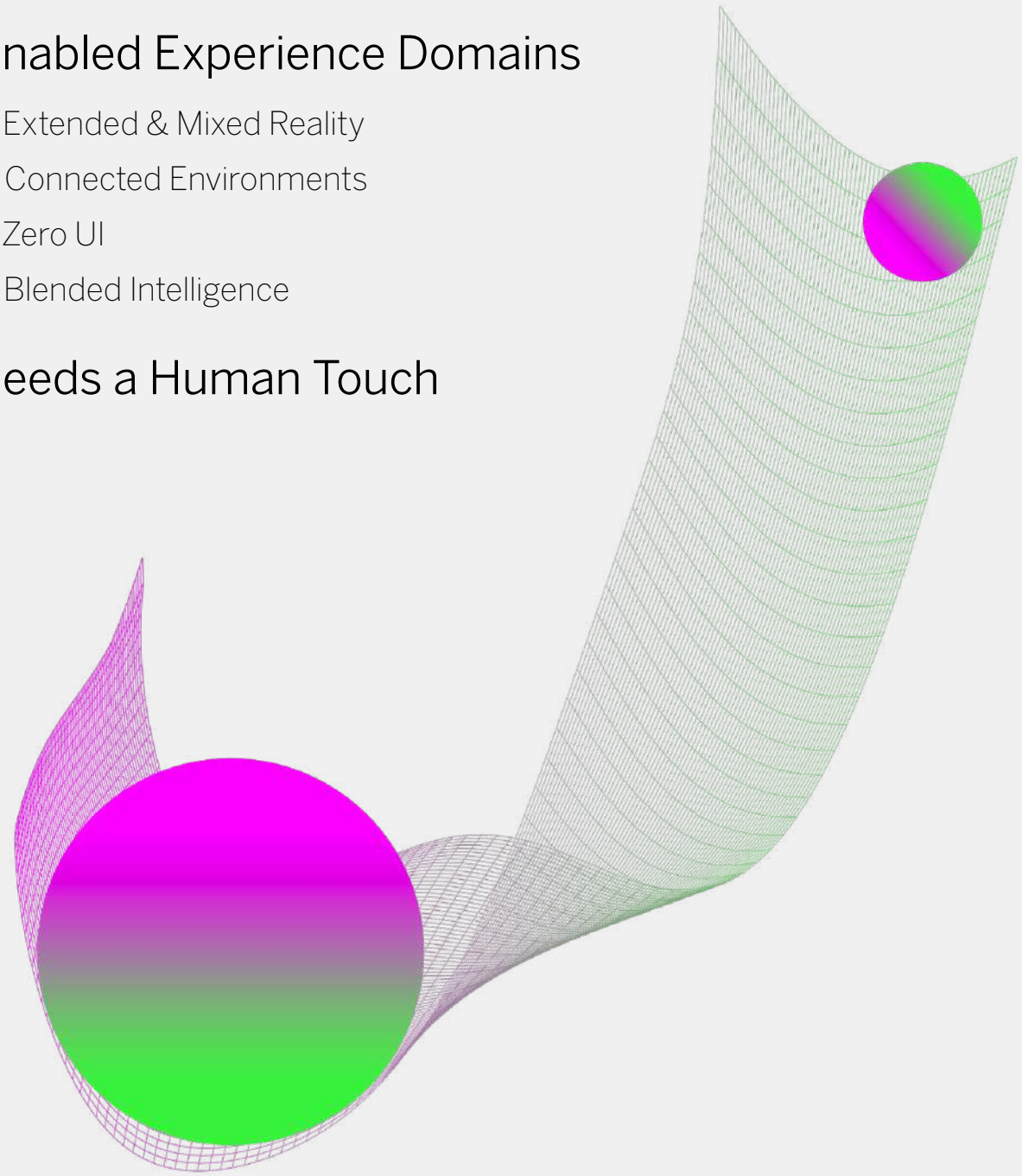
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Why Human-Centered AI?

With 40 percent of CIOs[1] currently citing Artificial Intelligence as the most disruptive new technology, it's no surprise that AI is riding high on the hype-cycle. But it's also one of the most misunderstood and misapplied emerging technologies. How do we fill the current gulf between investment and returns? The missing key is a human-centered approach to AI.

When you think about AI, maybe you picture a glowing orb in an empty room, silently and efficiently processing billions of queries and decisions every second. Maybe you imagine a holographic AI assistant floating in the air in front of you, projected from a sleek device in your hand. Such sci-fi AI tropes may exist one day, but their prevalence obscures many other AI possibilities already available.

Instead of the old cliches, imagine AI analyzing a patient's existing medical history, imaging and genomics to help doctors identify risks and design personalized care protocols; imagine AI making individualized in-store product recommendations by simply looking at a customer; imagine AI managing 25 percent of a business's operational and administrative routines, freeing human workers to focus on strategic and added-value tasks; imagine AI providing up-to-the-minute investment advice via a wealth management app. Now realize that AI is already doing all of these things for companies and customers, today. But what else could AI do?

That is one of the most powerful and important technological questions of our era, for which speculative sci-fi answers abound. But at frog, we think this is the wrong place to start. The better question is: How can AI improve the human experience? Developing or implementing technology for technology's sake most often misses the mark and fails to deliver on larger opportunities. Rather, we believe investments in emerging technology, including AI, should always serve to improve experiences. That means you must first understand your customer and the experience you want to deliver to them, and then decide where and how AI fits in.

There is a wide spectrum of possible AI solutions. On the simpler end, autonomously managed AI processes can free up human time and energy for more strategic endeavors, while on the more complex and emerging end, AI data pattern recognition can generate insights and deliver experiences that were previously too complex or resource-intensive. But AI alone will never be the solution. Data intelligence cannot fulfill your brand promises or deliver meaningful experiences to your customers by itself—strategy, culture, design and technology must all work in concert to create winning customer and employee experiences.

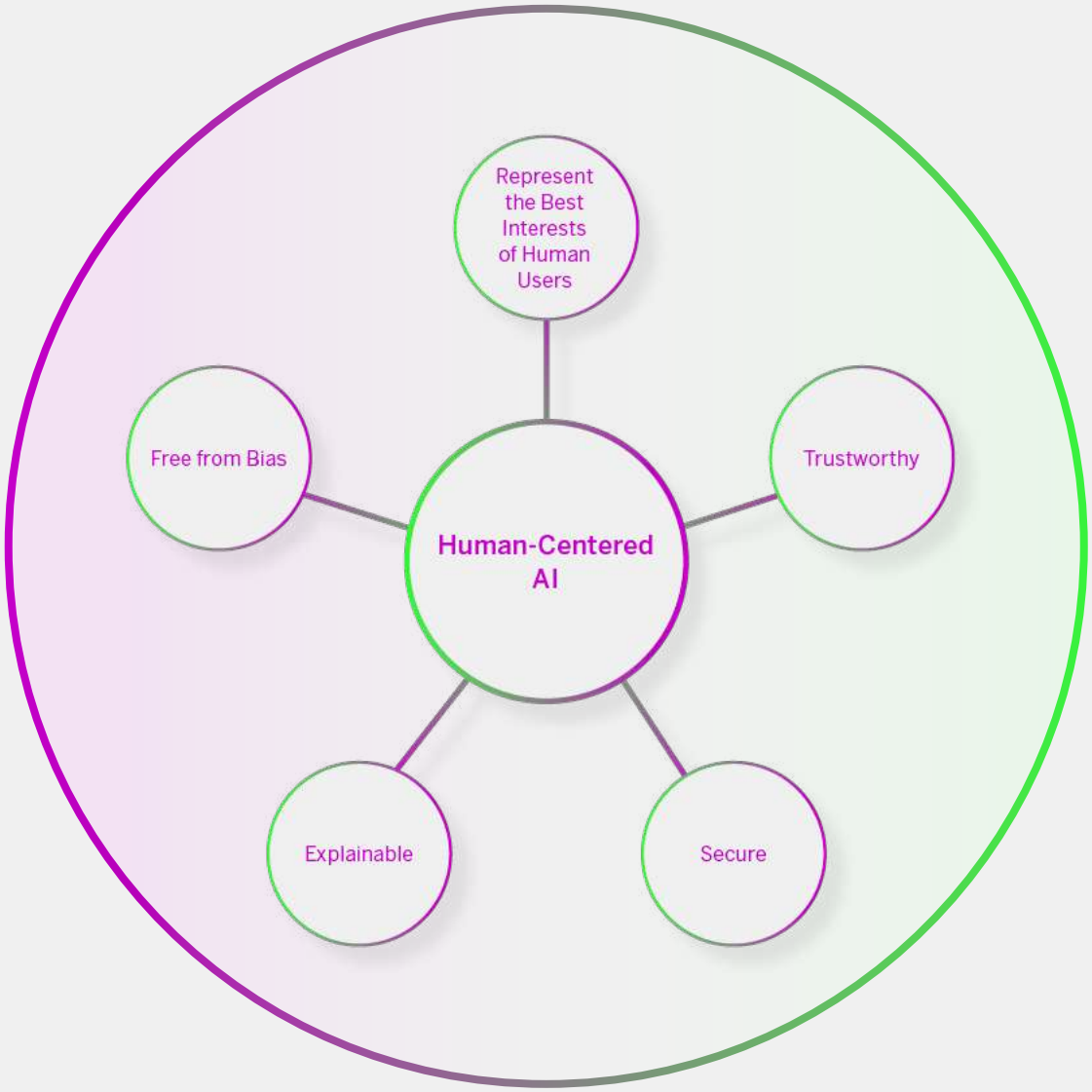
90%
of companies deploy AI to boost customer experience[2]

Taking a human-centered approach to AI means evaluating each of your customer touchpoints to identify where and how data and intelligence may enable new products and services that improve customer experience by fulfilling previously unmet needs. Ultimately, it's the value created by the AI in the experience that customers will respond to—not the AI tool itself.

1. Gartner - Gartner *2019 CIO Agenda*.
2. MIT/Genesys - *MIT Technology Review Insights* (November, 2018)

Ensuring Trust Through Human-Centered AI

There are many concerns about personal data security and privacy when it comes to new AI tools or services. In order to ensure we're creating AI solutions that are truly human-centered, we have come up with five characteristics that all AI systems should encompass. Human-centered AI systems are trustworthy, secure, explainable, free from bias and represent the best interests of human users.



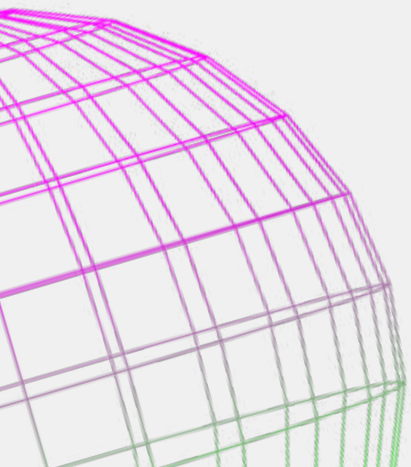
AI-Enabled Experience Domains

AI-enabled experiences begin with a human-centered vision of what the future will be. frog leverages AI to help clients move into new UX domains for their products and services through state of the art design and implementation of emerging technologies. Our multidisciplinary approach starts with rapid design and technological experimentation to identify valid use cases for AI and leads into an accelerated product development lifecycle. Our expertise in cognitive services, biometrics and biomechanics, IoT and applied data science provides the various toolkits we use to explore, prototype and define the cutting edge of valuable products and services for businesses in which AI is a core enabler.

AI means different things to different sectors, but we view AI as any machine-based system that helps to deliver outcomes traditionally associated with human reasoning, knowledge or experience. There are four primary user experience domains in which the infusion of AI and machine learning capabilities is driving the creation and implementation of new interaction models and differentiated experiences into the market:

1. Extended and Mixed Reality
2. Connected Environments
3. Zero UI
4. Blended Intelligence

> "For many industries, enabling AI should be about creating more powerful UIs—not killing them off."
>
> — Robert Tuttle,
> Executive Technology Director



EXPERIENCE DOMAINS

1. Extended and Mixed Reality

Extended realities allow users to immerse themselves in a virtual (VR) or augmented (AR) experience for a variety of purposes and effects. Such systems could be used to improve human efficiency and capability in work environments, provide delightful and engaging experiences in consumer environments or otherwise enhance the connection between humans and their surroundings.

frog has already built innovative AI applications for blending physical and virtual spaces with multiple partners. For **SFMoMA**, we developed an immersive AR experience that allows visitors to step directly into the visual puns and paradoxes of the surrealist painter René Magritte. And in 2015, we designed and developed a custom VR headset and accompanying video game to help with pain management for burn victims, who are often unable to move or take traditional pain meds. The resulting open-sourced designs allowed these patients to travel new worlds and distract themselves from the pain without leaving their hospital beds.



Image: SFMoMA gallery view of an immersive AR-based exhibition.

EXPERIENCE DOMAINS

2. Connected Environments

In the era of ubiquitous computing, any environment can be a connected environment—a room, a vehicle, a building, a neighborhood or even an entire city. By designing systems, services and data that integrate both passive and active inputs and outputs, we can create purposeful and responsive environments where physical and digital interplays merge and each touchpoint responds seamlessly to user needs.

With **Alto**, frog aimed to redefine the ride-hailing industry by designing a connected environment that elevates user experience for both the driver and the customer. Through the Alto app, riders can control the lighting and music during their ride, while telematics data works behind the scenes to streamline fleet management and reduce wait times. Alongside LQD, frog designed **Palo**, a free community WiFi hub intended to democratize access to essential information, services and resources. Palo's touch-free kiosks provide not only maps and information about nearby stores, restaurants and attractions, but also community events, emergency alerts and transportation options. Verizon **acquired** LQD WiFi in 2016, and in 2019, the first Verizon Digital Kiosks were installed on city blocks around the country.



Image: Ride hail app screen in use in Alto vehicle.

EXPERIENCE DOMAINS

3. Zero UI

Zero-UI systems de-emphasize or remove traditional graphical user interfaces (GUI) in favor of efficient multi-modal interactions, which can include any combination of voice recognition, gesture detection, haptic feedback and ambient state detection. Empowered by contextual awareness of the user, their intent and their environment, zero-UI systems can provide delightful, accessible and intuitive user experiences.

Financial startup **Charlie** approached frog to design a brand platform that would help consumers better track and manage their spending and saving habits. The team developed a conversational interface that incorporates sentiment analysis and natural language processing to connect emotionally with users and respond to their most sensitive financial questions in a friendly, conversational way.

With **Yibu**, a video game paired with sensor-equipped toy peripherals, children's screen time can become an immersive and educational adventure. The sensing toys gather real-time environmental and location data, allowing the child to discover how temperature, sound, light, direction and rotation influence a digital character.



Image: Screen from Yibu app appears next to child playing with Yibu toy.

EXPERIENCE DOMAINS

4. Blended Intelligence

AI and machine learning can't replace human intuition and experience, but AI-enabled software designed with the principles of transparency and trust can improve productivity, help identify actionable insights, and manage cognitive load by providing greater situational and contextual awareness to human actors working inside complex systems. Instead of segregating the capabilities of human users and AI systems, appropriately blending them creates opportunities to scale the strengths and minimize the weaknesses of both across the spectrum of data, information and insights.

By bringing together multidisciplinary teams of designers, technologists and applied data scientists, frog has helped clients in sectors as diverse as energy, industrial, financial services and healthcare develop AI systems and solutions to achieve this balance. Whether it's building enterprise software that incorporates real-time decision making components or transforming legacy desktop-only products with hard-coded domain intelligence into approachable, intuitive and powerful cloud-based platforms that effectively choreograph interactions between scalable AI automation and human judgement, blending human and machine intelligence creates more efficient workflows and safer, more trusted outcomes.

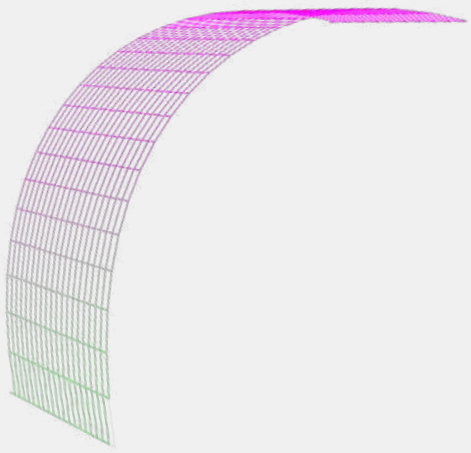


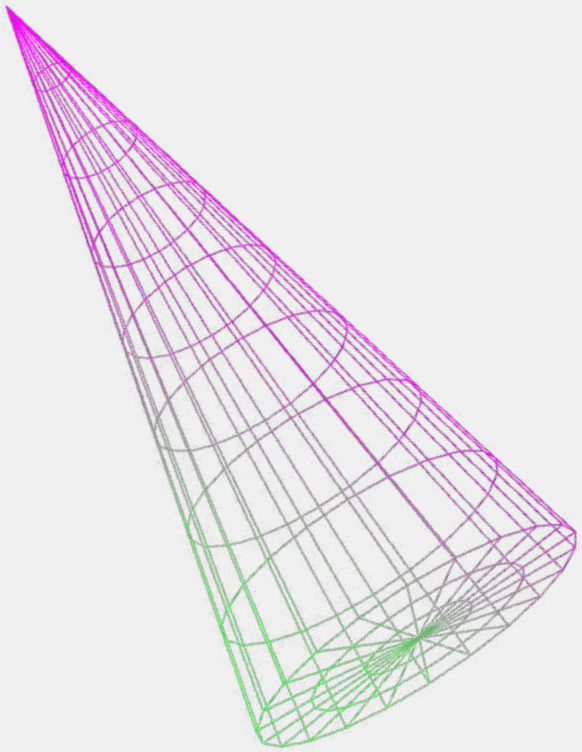
Image: Doctors and technicians gather around a patient in a hospital bed to provide care via digitally connected AI healthcare tools.

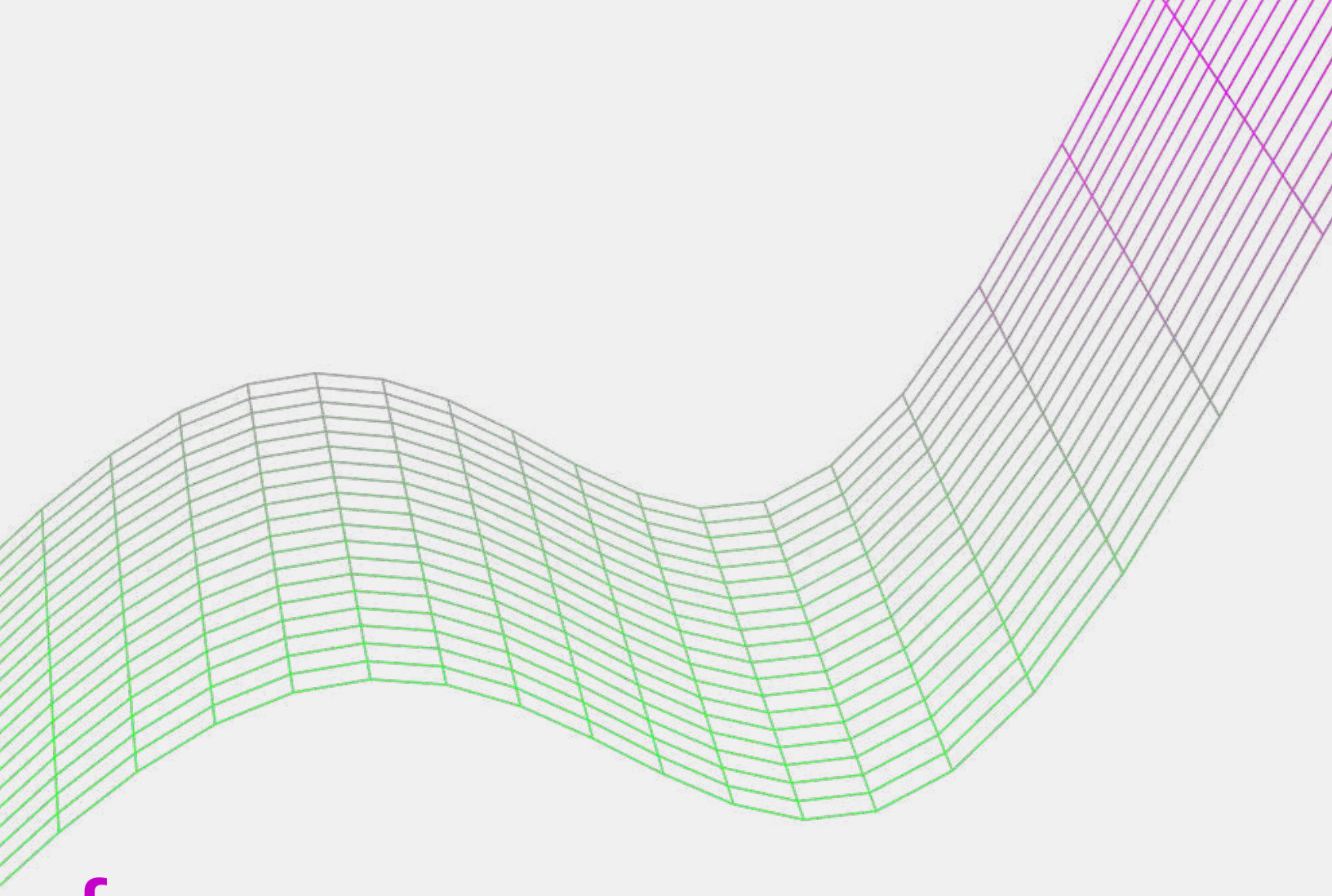
AI Needs a Human Touch

AI is undoubtedly one of the most revolutionary and powerful technologies available today. But like all powerful technologies, it can be easily misapplied and misunderstood. Oftentimes, companies are quick to implement the shiniest new emerging technology or AI solution without conducting the necessary quantitative and qualitative research of their products, services and customer journeys. This results in disjointed experiences where AI tech is not integrated holistically, but added as an afterthought that sits outside of the core experience. In order to truly understand where targeted AI can address business needs and improve user experience, you must lead with a human-centered approach to understand the "why" before trying to solve for the "how."

That's why so many leading brands across industries and sectors have partnered with frog to develop AI-enabled solutions and strategies. frog provides the design experience, technological expertise and human-centered lens businesses need to rapidly develop and scale AI solutions that add value and improve customers' experience.







frog

frog is a global design and strategy firm. We transform businesses at scale by creating systems of brand, product and service that deliver a distinctly better experience. We strive to touch hearts and move markets. Our passion is to transform ideas into realities. We partner with clients to anticipate the future, evolve organizations and advance the human experience.

To start a conversation about strategies for impact, contact frog.marketing@frogdesign.com



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