How Digital Product Designers Can Adapt to a Changing Future to Create both Meaningful, Humanitarian Work and Stay Competitive in the Market

Stella Sun^{1,a,*}

¹Interaction Design, California College of the Arts, 1111 8th Street, San Francisco, CA 94107,

United States

a. stellasun.ixd@gmail.com

*corresponding author

Abstract: In an ever-evolving digital landscape, digital product designers must navigate the tension between staying competitive in the market and creating meaningful, humanitarian work. Through a comparison between literature by leading academic voices and online accounts from current practitioners, insights into past and present patterns are gained to inform potential future trajectories of the budding and evolving profession of digital product design. The results show that digital product designers can adapt to short-term future (defined as roughly 5 years into the future) challenges by investing in skill specialization while preparing for the long-term future (defined as roughly 20 years into the future) by enlarging the scope of their services to take on a more advisory role. Analysis of the gathered data also shows that these designers' greatest long-term value is their ability to be humanitarian voices and advisors for social good. By integrating both short-term skill specializations and long-term investment into social responsibility, digital product designers can remain relevant and contribute to ethical and sustainable practices in the digital age.

Keywords: digital product design, humanitarian design, future of design, ethical design practices, human-computer interaction (HCI).

1. Introduction

Insights made into the future should begin with an understanding of the past. While the field of digital product design is relatively nascent compared to other design and technology professions, it nonetheless has a dynamic and ever-evolving history. Beginning in the 1980s as a digitally-adapted offshoot of industrial design, digital product design (DPD) evolved over the next four decades into its current distinct and unique identity [1]. Its early form was concerned with patching usability issues in software engineering and digital interface improvements [2]. As precedent for this novel and surprisingly effective design was set, those practicing the field—known as UX and UI designers—began learning about, researching, and solving larger usability issues. Thus, the field evolved to encompass greater responsibilities such as product positioning and creative strategy, until it became what is known today as digital product design [1]. Present-day digital product designers are found in most technology companies, whose services are integral to the worldwide manufacturing of apps, websites, and other common digital touchpoints. Yet for all of the digital product designer's ability

to be a usability problem solver and a user advocate, there are seemingly endless pain points that constantly arise. For example, e-cigarette company Juul's somewhat innocuous ideology that "smokers deserve an alternative to combustible cigarettes" [3] was originally aimed at helping smokers quit smoking. However, its supposedly ingenious design unintentionally created the perfect gateway drug for teenagers. According to a Wall Street Journal article, "nearly 28% of high school students this year said they had used an e-cigarette at least once in the past 30 days" [4]. The water buckets of design expertise appear to only delay the discovery of yet another, larger fire in the imperfectible social system.

Furthermore, the current development trajectory of technology—from worries around AI, business automation cutting off jobs, and the constant need for designers to fight for recognition within the technology industry—has created a new pain point perhaps not previously analyzed: How might digital product designers adapt to a changing future such that they can both create meaningful, humanitarian work as well as stay competitive in the market?

1.1. Literature Review

This review compares multiple perspectives to discover potential gaps and insights in the future for digital product design. Within academic studies of this discussion, two major schools of thought emerge: one argues that digital product design should enlarge its scope to become a top-down, consultation field concerned with only systemic issues [5], while another asserts that digital product design, alongside its umbrella field—human-computer interaction—should undergo a complete redefinition and direction change and ultimately separate into multiple small and hyper-specialized technical trades [6].

In the argument to enlarge the scope, many theorists rely on applying speculative design methods, which "[imagines] alternate sociotechnical configurations of the world as a way to interrogate questions about values and politics through design" [7] to solve problems in digital product design. These alternate sociotechnical configurations often use "science fiction, modern art, [or] fantastical scenarios" [8] to perform experimental analyses of hypothetical scenarios to assess viability. If present-day digital product designers move down this path, they may be able to anticipate potential pain points and friction caused by future decisions and thus navigate the products they build around the previously invisible landmines. Some digital product companies, such as Facebook, have already begun experimenting with this new type of designer and have reported preliminary success in building clearer and more humanitarian roadmaps [8]. However, since its 2021 report, Facebook has still been steeped in a class action lawsuit among many privacy and online safety concerns [9].

Another perspective on the uncertain future of digital product design is the push to redefine and reorganize the field in a different direction altogether. This argument holds that voices who "argue that [digital product design] lacks a mainstream topic and school of thought" [6] and that its larger family of human-computer interaction "lacks a basis for deep philosophical reflection" [6] are warning signs of the need to reestablish the field. Newly created fields that are more specialized and technical would be able to tackle different angles of computing, engineering, and design with more expertise than a designer of a broad "digital product" [6]. Although this approach can help future digital product designers become more competitive in the market, it doesn't necessarily help them create meaningful and humanitarian work.

Perhaps then the near future for the field can benefit from a scope change similar to the experimental study on speculative designers by Facebook, while the distant future benefits from a directional pivot in addition to the expansion in scope.

2. Methodology

The primary method of research is the reviewing of literature by prominent voices in the industry. An analysis of patterns and overarching ideas is made to better understand the history and present discussions of the topic.

In addition to literature reviews, qualitative data points from news articles and LinkedIn posts are collected and synthesized to gauge current professionals' and practitioners' understandings, perspectives, and emotions toward the future of digital product design. Finally, the two sets of analyses are compared and discussed to assess the validity of past patterns, current viewpoints, and future trajectories.

To assess the most wide-ranging perspectives within the limitations of the projects, the phrase "future of digital product design" was entered in an incognito Google news search and the first five relevant results were used. Additionally, the same phrase was entered in the author's LinkedIn account, which has 1175 connections composed mostly of practicing digital product designers. Similarly, the first five relevant posts were used. The following rubric was followed for each content:

- 1. Does this content indicate a mindset towards digital product designers hyper-specializing in certain skills, enlarging the scope of their work, or other perspectives?
- 2. Does this content address digital product designers' ability to create meaningful, humanitarian work in the near or far future?
- 3. Does this content address digital product designers' ability to stay competitive in the market?
- 4. Finally, a representative quote was selected from each piece of content.

3. Results

The collected content pieces were organized into a chart (figure 1) to illustrate the patterns that the online accounts create.

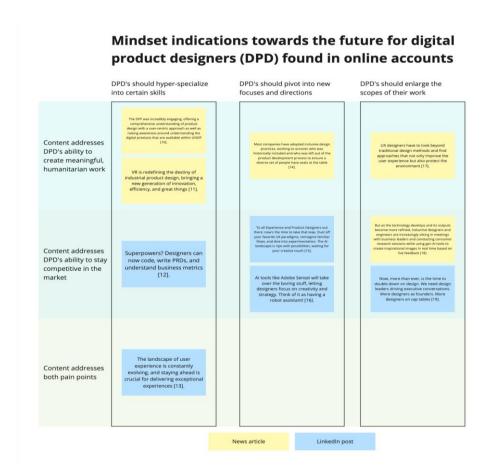


Figure 1: Mindset indications towards the future for digital product designers (DPD) found in online accounts

The chart shows that out of the accounts used, news articles focus primarily on discussing the humanitarian impacts that digital product design can offer, while LinkedIn posts focus more on how these designers can stay competitive in the market. Additionally, there seems to be a somewhat even split between whether DPDs should hyper-specialize in certain skills or enlarge their scope of work. Interestingly, content pieces that did not fall in either category could be combined to form their own category: DPDs should pivot into new focuses and directions.

4. Discussion

Results from synthesizing the online accounts and professional literature reveal new insights and further questions on the future of this relatively nascent profession. Findings from the LinkedIn accounts, news articles, and professional literature are evaluated based on the guiding question: **How might digital product designers adapt to a changing future such that they can both create meaningful, humanitarian work as well as stay competitive in the market?** A synthesis of the three types of accounts is also explored to shed light on potential future patterns and further questions to be investigated. Based on the 40-year history of digital product design as well as insights from literature and online accounts, the near future for purposes of this discussion is defined as roughly 5 years into the future, and the distant future is defined as roughly 20 years.

Firstly, online accounts found on LinkedIn tend to focus on the near future of digital product design. As found in the research results, these accounts, posted mostly by practicing digital product designers, speak mostly about how to stay competitive in the market. The posts explore potential new career directions such—as product management and art direction—and how practitioners can incorporate

emerging technology and new skills—such as AI—into their practices. One user argues that "designers can now code, write PRDs, and understand business metrics" [12], and similar to this claim, many posts indeed focus on short-term, actionable ways in which DPDs can gain skills and find opportunities. Interestingly, discussions on whether designers should or can create meaningful, humanitarian work were not found in any of the LinkedIn posts.

In contrast, news articles, mostly written in collaboration with private companies, seem to focus more on the long-term outlooks of the profession, and many speak on humanitarian goals such as sustainability practices and inclusive product development. One recent article states that "UX designers have to look beyond traditional design methods and find approaches that not only improve the user experience but also protect the environment" [14]. Many similar articles urge designers to collectively shoulder the responsibility of fostering humanitarian and altruistic approaches in their profession.

However, while many companies strive toward a sustainable and ethical future, digital product designers and other independent contributors appear to be more focused on how to find and keep their jobs, strengthen their careers, and incorporate emerging technology into their practice. Their minds seem to focus more on improving themselves than the greater good of the companies that they contribute to. When this dichotomy is compared with the findings from the literature review, an interesting overlap is observed. The two main findings from the literature—one argues that digital product design should enlarge its scope to become a top-down, consultation field concerned with only systemic issues [5], while another asserts that digital product design, alongside its umbrella fieldhuman-computer interaction—should undergo a complete redefinition and direction change and ultimately separate into multiple small and hyper-specialized technical trades [6]—seem aligned with the outlooks of the long-term focused news articles and short-term focused LinkedIn posts respectively. The short-term future of digital product design seems to place high value in "reimagine familiar flows, and dive into experimentation" [15] to learn hyper-specialized skills, while the longterm future of the profession seems to give its attention to turning DPD into a high-level consultation field, where "designers [...] are increasingly sitting in meetings with business leaders" [18]. As such, perhaps a new question arises: How might the short-term skill-specialization mindset of DPD fit into the long-term trajectory toward a consultation-focused field? It seems that perhaps designers can grow from skilled workers to senior consultants, or that the profession may divide into two fields entirely one focused on craft while the other focused on strategy—or go down another yet unknown future path.

In whichever future comes to pass, the argument for a humanitarian-forward digital product design profession is crucial to produce meaningful and reliable products as well as an effective and trustworthy business.

5. Conclusion

The 40-year-old field of digital product design is still ever-changing and its future is still relatively uncertain. However, it's undoubtedly that current practitioners must grapple with the day-to-day realities of the career and its skill-based requirements. Similarly, decision-makers who offer digital products face the long-term need for future-proofing and innovating their business, and thus increasingly look for high-level consultants to improve ethical practices and sustainability goals. This dichotomy points towards a need to align the goals of DPDs and the companies that they contribute to, and in turn, tackle both short-term and long-term trajectories together.

References

[1] B. Goldense, "A history of product design," Machine Design, Mar. 29, 2019. [Online]. Available: https://www.machinedesign.com/automation-iiot/article/21837666/a-history-of-product-design.

- [2] J. Nielsen, "10 Usability heuristics for user interface design," Nielsen Norman Group, Apr. 24, 1994. [Online]. Available: https://www.nngroup.com/articles/ten-usability-heuristics/.
- [3] Juul Labs, "Designing with empathy," Juul Labs, Jun. 25, 2019. [Online]. Available: https://www.juullabs.com/guest-post-designing-with-empathy/.
- [4] J. Maloney, "Federal prosecutors conducting criminal probe of Juul," The Wall Street Journal, Sep. 23, 2019. [Online]. Available: https://www.wsj.com/articles/federal-prosecutors-conducting-criminal-probe-of-juul-11569268759.
- [5] M. L. Gray, "Your humanity is in your hallways: Unpicking empathy in the contemporary corporation," Ethnographic Praxis in Industry Conference Proceedings, vol. 2014, no. 1, pp. 11–24, 2014. doi: 10.1111/epic. 12068.
- [6] X. Ren, C. Silpasuwanchai, and J. Cahill, "Human-engaged computing: The future of human-computer interaction," CCF Transactions on Pervasive Computing and Interaction, vol. 1, no. 1, pp. 47–68, 2019. doi: 10.1007/s42486-019-00007-0.
- [7] R. Y. Wong and V. Khovanskaya, "Speculative Design in HCI: From Corporate Imaginations to Critical Orientations," in New Directions in Third Wave Human-Computer Interaction: Volume 2 Methodologies, M. Filimowicz and V. Tzankova, Eds. Cham, Switzerland: Springer, 2018, pp. 169–182.
- [8] S. Attari, C. Scull, and M. Harandi, "Leveraging speculative design to re-imagine product roadmaps," Ethnographic Praxis in Industry Conference Proceedings, vol. 2021, no. 1, pp. 190–207, 2021. doi: 10.1111/epic. 12068.
- [9] United States District Court, Northern District of California, "Facebook Privacy Settlement Information," United States District Court, Northern District of California. [Online]. Available: https://www.cand.uscourts.gov/notices/facebook-privacy-settlement-information/.
- [10] United Nations Development Programme, "Future-proofing UNDP's work in the digital age," UNDP, Aug. 7, 2023. [Online]. Available: https://www.undp.org/digital/blog/future-proofing-undps-work-digital-age.
- [11] A. Gupta, "How virtual reality is reshaping the future of industrial product design," YourStory, May 2024. [Online]. Available: https://yourstory.com/2024/05/how-virtual-reality-is-reshaping-the-future-of-industrial-product-design.
- [12] S. Krishna, "Superpowers? Designers can now code, write PRDs, and understand business metrics," LinkedIn, Aug. 10, 2024. [Online]. Available: https://www.linkedin.com/posts/shaiii_superpowers-designers-can-now-code-write-activity-7227677102542610432-oNyk?utm_source=share&utm_medium=member_desktop.
- [13] M. Shideroff, "I had the honor to be a guest of Anton Gruev on Bloomberg TV Bulgaria "Futurism TV Show," LinkedIn, Aug. 6, 2024. [Online]. Available: https://www.linkedin.com/posts/marina-shideroff_digitaltransformation-futurism-ai-activity-7226166913851113472-HsCa/?utm_source=share&utm_medium=member_desktop.
- [14] T. Sainz, "Why product equity has become a business imperative for the future of digital products," TechCrunch, Sep. 29, 2023. [Online]. Available: https://techcrunch.com/2023/09/29/why-product-equity-has-become-a-business-imperative-for-the-future-of-digital-products/.
- [15] K. Venkatesh, "Generative AI: To Prompt or Sprinkle?" LinkedIn, Aug. 10, 2024. [Online]. Available: https://www.linkedin.com/pulse/generative-ai-prompt-sprinkle-koushik-venkatesh-taxcc/?trackingId=79IF6PiEQM% 2B56CFXFAkmaQ%3D%3D.
- [16] S. Raihan, "AI isn't here to replace designers but to supercharge them," LinkedIn, Aug. 9, 2024. [Online]. Available: https://www.linkedin.com/posts/alrayhan_ai-isnt-here-to-replace-designers-but-to-activity-7226883498198941696-bggL?utm_source=share&utm_medium=member_desktop.
- [17] Siemens, "The future under construction: Building tomorrow's infrastructure with digital twins," Siemens, Mar. 5, 2024. [Online]. Available: https://www.siemens.com/global/en/company/stories/research-technologies/digitaltwin/the-future-under-construction.html.
- [18] McKinsey & Company, "Generative AI fuels creative physical product design but is no magic wand," Jul. 10, 2023. [Online]. Available: https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/generative-ai-fuels-creative-physical-product-design-but-is-no-magic-wand.
- [19] T. Tan, "Today's AI isn't just an AI revolution it's a UX one, "LinkedIn, Jul. 23, 2024. [Online]. Available: https://www.linkedin.com/pulse/todays-ai-isnt-just-revolution-its-ux-one-tara-tan-ungtf/?trackingId= PQcnTvHRRE6DUhNMz7Zhdw%3D%3D.