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It AI'n't Nuttin' New – Interaction Design Practice After the AI Hype

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Abstract. The year 2018 was the moment of increasing awareness of artificial intelligence (AI) in every imaginable domain. This article examines the question have AI technologies and their related hype already affects interaction design practice in the Western industry. It looks at the potential impact in tools, processes and products of interaction design. It highlights three potentially significant themes which stand out of the hype: 1) AI utilization as a technology push 2) generative AI, and 3) the ethics of AI. Each theme is analyzed to derive the claim that for now, AI has little specific impact on interaction design. On a closer observation, generative AI is one the themes that promises the biggest change in the longer run but is simultaneously an elusive hope, which may never lead to anything but AI-augmented creativity support tools, some of which already exist. The article describes the AI hype is partially positive, partially problematic for the advancement of design goals. The hype contributes positively by helping to surface healthy ethical debates that give more credence to designers' long-term attempts to be user-centered and ethical. This ethical discussion tends to neglect the fact that the ethical burden bestowed upon algorithms is not a new one but was going on long before the big data fuzzi. It is evidently now more critical than ever. This articles' intention is to inform the academic researchers working on human-computer interaction and interaction design about the need to continue developing human-centered AI for both general audiences and specifically for interaction designers. There are already promising examples of HCI research that show potential to affect design practice. Common to all is that they do not attempt to roll out a full generative AI solution but rather support human designers in iterative and somewhat well-constrained tasks. Overall it seems that by 2020, interaction designers will be increasingly working on technology that involves AI elements, but those elements itself will not yet be core of how their work is carried out. Awareness of the ethical challenges and technical affordances related to AI technology and its utilization will become more important than the integration of AI into the interaction design process in the short term. By the end of 2020's, we maybe yet looking into a very different reality from now.

Keywords: Artificial Intelligence, Interaction Design, Technology Push.

1 Background

The year 2018 was the moment of increasing awareness of artificial intelligence. One clear sign of that is found from Gartner's hype cycle [1]. Hype cycle is a tool that describes the lifecycle of technology phenomena from inception to deployment. In the past two years, tens of technological ideas related to *artificial intelligence* (called AI tech from now on) have quickly moved from expectation level towards production. These include machine learning, deep learning, autonomous vehicles, cognitive computing, natural language questions answering, and a few others. As the present generation of AI technology is quickly maturing towards commercial use, it feels warranted to ask does this already or in the immediate future show at large in professional interaction design practice?

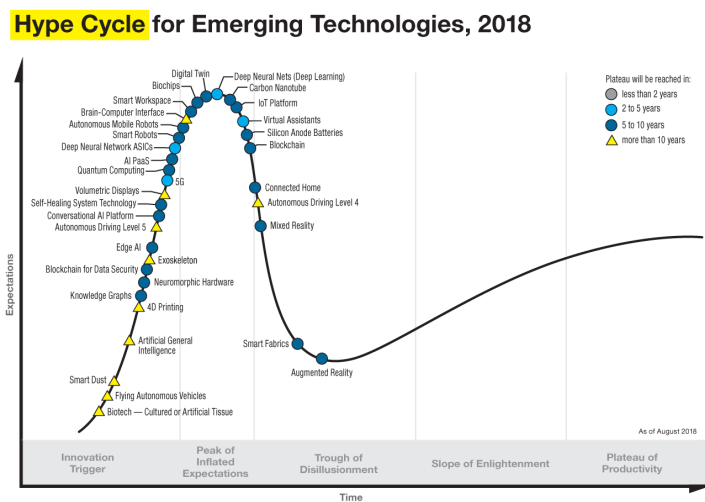


Fig. 1. Spot 10 directly AI related terms on Gartner's hype cycle. © Gartner, Inc. [1]

2 Expectations and Observations in Early 2019

As we want to examine the impact of AI tech on interaction design practice, we can lean on existing research on design practices [2] and set three questions that guide the exploration. These are: *What you design, how you design, and why you design?*

2.1 The subject of design work

Observations concerning the subject of design, i.e. what you design, show little change. With few exceptions, AI tech is incorporated into existing products as new "AI features." The bulk of work goes around conventional systems and processes turning digital and "smart" with AI. As AI features are plugged into an existing technology stack, some changes will be visible and some invisible on the user interface.

Designers need to adjust to the new technology choices, but can't affect them fundamentally as the adoption is technology driven. The biggest changes in design will be a result of new modalities such as voice interaction being incorporated into products.

At present the answer to the question of changing subject of design seems to be “not really.” AI tech has hardly removed any particular domain of applications from the field and there are no *AI product designers* compete with UX designers' jobs.

2.2 Design methods

Second question is that does AI tech change how design-related tasks are carried out? A radical change in working practices could result from application of **generative design**. Algorithmic or generative design refers to a development in which AI tech is utilized to generate “creative” content traditionally considered to be a hallmark of human creativity. This can be music, imagery, text, or user interfaces (see, .e.g. [3-5]).

One would first think that generative design implies a design-specific disruption, but that is not the only source of impact. Design practice is affected by all multi-purpose digital tools that come available, such as digital photo auto-tagging.

As of now, algorithmic design development has not yet brought into fruition any tool that could replace human designers. Tools that professional designers use daily, such as *Sketch*, *Adobe XD*, *InVision*, *Axure* and so forth have mostly developed towards management of complexity and collaboration, not AI. Sketch for one includes powerful automation, but that is nothing you could label AI tech.

There are specific and narrow tasks, such as advertising banner design [6, 7] in which generative approaches already provide a competitive advantage for machine. Robot journalists also do reporting on sports [8], but this is largely outside interaction designer's home turf, being content creation within a well-structured design space.

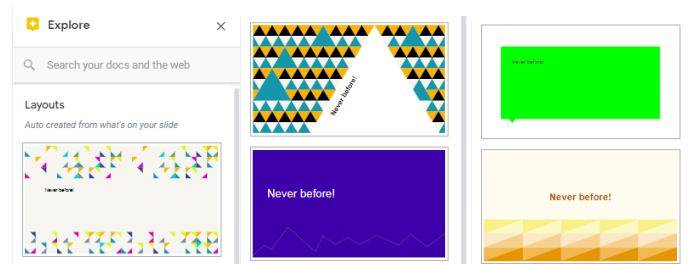


Fig. 2. Screenshot of Google Slides in Feb 2019 (vertical image has been split into two horizontal parts for layout reasons). This service has been one of first commercial services to deploy assistive, generative design functions for users, later followed by Microsoft Office. Their current usefulness is debatable, but their subtle integration subtly suggests a support tool.

But design methods and tools change even without a strong, all-encompassing AI. With “narrow” AI [9] and in cooperative creativity, tedious and slow operations for a human will be handled by a machine, as well to a degree tasks of exploring the design space. This is the most promising development at the moment [10, 11]. It predicts a change in both what and how design practice operates: certain design tasks fall out of

designer's table as they find better algorithmic solutions inside intelligent tools. But it will still take time to discover them and currently designers are still mostly automating research with the tools of data-driven design [12]. The current development is gradual and results in what could be called intelligent/smart creativity support tools which by themselves don't design, but will improve as their own design matures [13].

2.3 Reasons for design

A third, fundamental question regarding design practice is that will new technology somehow affect why we design and the ultimate motivations of the profession? Given the polarized treatment of AI in media, it seems warranted to ask if a new wave of ethical awareness is possibly arising among designers.

As we have learned from the recent past, ethical or societal issues generated by new technology are difficult to predict. For example, we are now observing that steadily increasing smartphone use, social media use, or mobile gaming can be akin to addictive substance abuse causing social, health, and economic issues. Several books have been published in just a few years to highlight these troubles. This is where we have ended up as an outcome of mostly continuous improvements to technology. Thus we should expect that the threat of AI should motivate the designers to further defend the humans, or particularly under-privileged users at risk, from being mistreated by biased AI algorithms or by any inherently non-user centered technology.

In preparation to deal with the emerging questions around AI, a public debate on AI ethics is emerging [14]. The discussion is once more neither specific nor driven by designers, but designers should also pay attention and also contribute actively to. Companies around the world are just figuring out how to demonstrate their social responsibility in this domain and should also lend an ear to what designers think.

3 Conclusion: Designer be aware

To wrap up these themes I make three claims of the current industry position on AI and design: AI technology is being implemented primarily through a technology push. Generative tools do not play a significant role in interaction design practice at the moment and they do not threaten the profession. Designers are curious about AI ethics and generative design, but don't see urgency to act upon in it.

The fact that designer profession is being most affected by AI tech features integrated into general purpose software does not mean that designers can just ignore what goes in the tech world. The quickly developing technology capabilities force designers to re-asses what can and what should be left to AI decision making. I strongly encourage designers to take an active role in choosing which AI tech to implement and utilize, or whether this technical feature takes place as all the other ones via technology push. I perceive that academic researchers working on HCI and interaction design maintain great opportunities and a need to discover ways how AI can be made an effective companion in professional interaction design practice. Acceptance can be good if ideas are compatible with existing processes and tools.

4 References

1. Panetta, K.: 5 Trends Emerge in the Gartner Hype Cycle for Emerging Technologies, 2018. Gartner Inc. (2019). <https://www.gartner.com/smarterwithgartner/5-trends-emerge-in-gartner-hype-cycle-for-emerging-technologies-2018/> accessed 4 Feb 2019
2. Liikkanen, L.A., Laakso, M., Björklund, T.: Foundations for studying creative design practices. In: Proceedings of the Second Conference on Creativity and Innovation in Design, pp. 309-315. ACM Press, New York, NY (2011)
3. Todi, K., Weir, D., Oulasvirta, A.: Sketchplore: Sketch and Explore with a Layout Optimiser. 2016 ACM Conference on Designing Interactive Systems (DIS'16), pp. 543-555. ACM Press, Brisbane, QLD, Australia (2016)
4. Lomas, J.D., Forlizzi, J., Poonwala, N., Patel, N., Shodhan, S., Patel, K., Koedinger, K., Brunskill, E.: Interface Design Optimization as a Multi-Armed Bandit Problem. Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems, pp. 4142-4153. ACM, Santa Clara, California, USA (2016)
5. O'Donovan, P., Agarwala, A., Hertzmann, A.: DesignScape: Design with Interactive Layout Suggestions. 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI'15), pp. 1221-1224. ACM Press, Seoul, Republic of Korea (2015)
6. Xu, R.: AI visual design is already here—and it won't hesitate to take over your petty design job. Medium, (2017). <https://medium.com/@rexrothX/ai-visual-design-is-already-here-and-it-wont-hesitate-to-take-over-your-petty-design-job-934d756db82e> accessed 4 Feb 2019
7. Low, A.: Alibaba's new AI can generate 20,000 lines of copy in a second. CNET (2018). <https://www.cnet.com/news/alibabas-new-ai-can-generated-20000-lines-of-copy-in-a-second/> accessed Feb 4 2019
8. Moses, L.: The Washington Post's robot reporter has published 850 articles in the past year. Digiday UK. Digiday (2017). <https://digiday.com/media/washington-posts-robot-reporter-published-500-articles-last-year/> accessed Feb 4 2019
9. Noessel, C.: Designing Agentive Technology. AI That Works for People. Rosenfeld, New York (2017)
10. Koch, J., Lucero, A., Hegemann, L., Oulasvirta, A.: May AI? Design Ideation with Cooperative Contextual Bandits. In: CHI 2019. ACM Press, New York (2019)
11. <https://algorithms.design/>
12. Liikkanen, L.A.: Era of Data-Driven Design in Professional Web Design. Interactions 24, (2017)
13. Oulasvirta, A.: User Interface Design with Combinatorial Optimization. IEEE Computer, 50 (1), January (2017).
14. European Commission: The Ethics Guidelines for Trustworthy Artificial Intelligence (AI). AI HLEG. (2019) <https://ec.europa.eu/futurium/en/ai-alliance-consultation/guidelines> accessed 3 Jun 2019.