EIGHT DESIGN TENETS FOR EMERGING TECHNOLOGIES

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1. Identify the Problems Correctly

The gap between the problems we face as a species and the seemingly unlimited potential of technologies ripe for implementation begs for considered but agile design thinking and practice. Designers should be problem identifiers, not just problem solvers searching for a solution to a pre-established set of parameters. We must seek to guide our technology, rather than just allow it to guide us

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2. Learn Constantly

Designers will need to understand the implications of science and technology for people. To do this effectively, we must be able to immerse ourselves in new technical domains and learn them quickly. Just as our understanding of and empathy for people allows us to successfully design with a user's viewpoint in mind, understanding our materials, whether they be pixels or proteins, sensors or servos, enables us to bring a design into the world. To achieve this, designers need to be early adopters of technology, learning constantly

3. Think Systemically

Increasingly, designers will also need to be system thinkers. As we consider the fields of advanced robotics, synthetic biology, or wearable technology, the design of the ecosystem will be just as important as the design of the product or service itself.

4. Work at a Variety of Scales

Designers should be able work at a variety of scales, from the aforementioned overall system view, to the nitty-gritty details. Moving between these levels will be important, too, as each one informs the other—the macro view informs the micro, and vice versa.

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5. Connect People and Technology

Design should provide the connective tissue between people and technology. The seamless integration of a technology into our lives is almost always an act of great design, coupled with smart engineering; it's the "why" that makes the "what" meaningful. It is through this humane expression of technology that the designer ensures a product or service is not just a functional experience, but one that is also worthwhile. We must consider the outputs of these technologies—what people need and want.

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6. Provoke and Facilitate Change

It is not only the designer's responsibility to smooth transitions and find the best way to work things out between people and the technology in their lives; it is also the designer's duty to recognize when things are not working, and, rather than smooth over problems, to provoke wholesale change.

7. Work Effectively on Cross-Disciplinary Teams

The challenges inherent in much of emerging technology are far too great for an individual to encompass the requisite cross-domain knowledge. For this kind of work, then, the team becomes paramount. It is a multidisciplinary mix of scientists, engineers, and designers who are best positioned to understand and take advantage of these technologies.

8. Take Risks, Responsibly

To find our way forward as designers, we must be willing to take risks—relying upon a combination of our education, experience, and intuition—which can be crucial to innovation. We must always keep in mind both the benefits and consequences for people using these new technologies, and be prepared for mixed results.