Reading Reflection #1 - Designing for Emerging Technologies
CART 360 - Tangible Media
Matthew Halpenny (26871771)

Designing for emerging technologies outlines key strategies for adapting to the changing technological landscape. With technologies sprouting up in fields that would normally be worlds apart, such as biotechnology robotics, and 3D printing, now all fall under a single design umbrella where collaboration and critical thought is key. Jonathan Follett outlines eight main tenets to follow when designing for emerging technologies.

(1) **Identify the problems correctly**. This tenet is a good example of the aforementioned need for collaboration. One cannot rely on a single specialist to identify a problem with a technology that has impact beyond a single domain. Follett reminds us of the importance of politicians and the public in helping identify problems outside the products production bubble.

(2) **Learn constantly.** Our world is changing fast, and this isn't news to many people. Growth generally follows an exponential trend and we seem to be at a technological knee. In order to keep up with technology we must learn constantly and more importantly we must learn to be adaptive.

(3) **Think systemically.** Scientists have learned over and over again that nature runs off a delicate ecosystem that in controlled by feedback. With the IoT becoming closer to a reality, and technologies begin to communicate with each other we must think systemically. How can devices work with each other to create a better user experience or surpass their individual limitations.

(4) **Work at a variety of scales.** This tenet can also be boiled down to increasing collaboration. The designer should include as many scales of interaction as possible. For the example of medical apps, scientists, bioethicists, politicians, and users should all get input into regulating the technology to ensure its safe, accurate, and accessible.

(5) **Connect people and technology.** Follett suggests for every what to be meaningful we need a why. Why should humans be interested in advanced robotics if they threaten to topple an economic industry they rely on and pass savings onto wealthy companies? Technology must be thoughtfully designed to coexist with human interaction and extend human capabilities.

(6) **Provoke and facilitate change.** Designers shouldn't rely on smoothing pre-existing problems but should train to have the insight to change nonfunctional systems entirely, or produce disruptive designs. This can be achieved through community wide discussions and an attitude that focuses on forward thinking, people-centric approaches.

(7) **Work effectively on cross-disciplinary teams.** Many emerging technologies are too sophisticated for designers to learn their functioning from the bottom up, so they must rely on collaboration with engineers and scientists. Scientists and engineers alone should not be given the task of user interaction because they too do not have all the tools necessary to correctly identify what the client base wants and needs. Disciplines such as politics and law also play a role in keeping emerging technologies safe for users, but often do not have the broad knowledge of other disciplines (and the public) to create effective laws alone. Cross discipline collaboration is one of the most critical tenets for successful use of emerging technologies.

(8) **Take risks, responsibly.** Innovation cannot exist without risk. To take design to places never seen in the past designers must use their intuition and prior systems knowledge to take an educated leap into the unknown. That being said, a process of safety evaluation and cross discipline collaboration is encouraged to avoid potential harm to users (or nature).