

The Hard Work Lies Ahead (If You Want It)

It's high time to leverage this style of hierarchy to challenge the types of user experiences we're enabling with the stuff we're making.



Abraham Maslow's "Hierarchy of Needs" from 1943 is a well-known psychological framework that has been applied (directly, or through derivative versions) to thousands of diverse problems. Our work often brings us back to his hierarchy as we consider addressing a richer set of needs through the stuff we're making. And while I like to look at and

think about people more than stuff, I feel as though we've come to a point where we aren't thinking hard enough about the "stuff." It's high time to leverage this style of hierarchy to challenge the types of user experiences we're enabling with the stuff we're making.

I challenge all of us in design, marketing, and research (and

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beyond) to consider these questions as instrumental to new product development:

- Can it be used without physical distress?
- Can it be used easily (i.e., without frustration or other immediate emotional distress?)
- Does it bring new experiences and capabilities into people's lives?
- Does it improve society?

Can It Be Used Without Physical Distress?

While ergonomists will continue to advocate for greater awareness of the physical risks from our various devices, it seems like we're doing pretty well. We can sit in front of computers, stare at displays of all sizes, type and text, and plug things into our ears without most of us abrading, bleeding, or aching too badly. Most readers of this publication live in a geographic setting where government regulations offer some expectation of injury-free product usage. There

will always be quality-control issues (such as the occasional spate of exploding laptop or iPod batteries), but we enjoy a fairly high standard of safety as primary users of devices.

The point where physical distress crosses into emotional distress is with difficult-to-open packaging. As retail demands solutions that reduce "shrinkage" (the less-threatening version of "theft"), we find products like OpenX—a specialized blade/knife doodad that is designed to open the commonly impossible-to-open blister pack. The need for a special product to open other products is at best comical and indicates that we haven't achieved distress-free design.

While we don't have space here to pursue an Edward Tenner-esque "Why Things Bite Back" analysis, one illustrative case is the secondary and tertiary users who encounter our technologies. Those who receive our e-waste end up exposed to a horrific stew of toxins. The answer to

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this question of physical distress, then, depends on what part of the lifecycle we consider.

Can It Be Used Easily?

The other day, I was flying Virgin America. As we were preparing to take off, the flight attendants told us about their “award winning” in-flight entertainment system. Meanwhile, I was watching a man in the row in front of me trying to use it. He had his credit card out and couldn't master the swipe gesture. He pushed soft keys and hard keys, and he took his card in and out of his wallet. He was utterly lost—even if he had swiped properly, he was not even at a place in the transaction flow where the system was looking for a swiped card. I was tempted to page the flight attendant for him, because he was never ever going to be able to complete even the most basic task like paying for a movie.

We in the UX community are always gathering those stories, and we have some belief that with our usability testing and our agile-waterfall-scrum-hoosits that this

sort of thing happens only when the culture is bad, or the process is bad, or the leadership is bad, or the company doesn't care or whatever. But really, it's far worse than that.

The truth we don't want to face is that most of the technology that we create results in the same sort of confused, lost experience. In our work we constantly see people who can't find a menu item they've found before, are uncomfortable exploring configuration, or don't know how to select multiple items. What should be easy is daunting, complex, misunderstood, frustrating, sometimes feared, and often ignored.

In our producer-consumer society, the users don't have the mental model that the makers have. While we like to point to the viral video of infants using iPads or tell the joke about our children having to show us how to install a piece of software, we have to ask ourselves if we believe that the youngest generation doesn't—and won't—have the same set of fundamental

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disconnects between how they understand technology interactions and how designers create those interactions. Even if that's true, do we want to wait (in a manner of speaking) until today's video star is 80 and we're all long gone before we have a society that is enabled by, instead of frustrated by, technology?

Does It Bring New Experiences and Capabilities Into People's Lives?

In our communities of practice, we think about this a lot: discussions of meaning, storytelling, and delighters are ever present in our conferences, mailing lists, and design-planning sessions. Thanks to digital technology, new and meaningful experiences are everywhere we look. We can share photographs immediately from just about anywhere, we can get real-time advice about where to eat, we can build an iPhone app to propose marriage, we can produce movies in our bedroom with special effects that rival what Hollywood was doing just a few years ago,

we can remix and mash up music with capabilities that are asymptotic to what the Beatles used to create "Sgt. Pepper." And it's not just that we can, it's that we do. More people are connecting with each other and creating in powerful new ways. We're pretty damn good at doing this.

Does It Improve Society?

In many of our consumer-research engagements, we hear people describing their "addiction" to Facebook, their mobile device, being connected, the Internet, etc. They have a low-level anxiety that they can't control their own behavior. We can't seem to align on whether or not this addiction is ultimately bad for us or not. Nicholas Carr (see Alex Wright's "Q and A With Nicholas Carr" in interactions XVII.4) is warning that reliance on tools like Google changes the way our brains work and impacts our ability to concentrate and problem-solve. A recent New York Times series, "Your Brain on Computers," explored similar terrain, with alarmist and alarming quotes like "The technology

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is rewiring our brains,” from the director of the National Institute of Drug Abuse¹.

While Carr and others decry the distracted, unfocused skimming behavior that has supplanted deep reading, Stephen Johnson has taken issue with Carr's thesis². In 2005 Johnson explained how the increasing plot density of popular television was changing our brains for the better,³ so he does seem to be somewhat of an optimist about the impact of technology.

Earlier this year, the Pew Research Center's Internet and American Life Project and Elon University's Imagining the Internet Center conducted a survey of “technology stakeholders and critics,” leading

1 Richtel, M. “Attached to Technology and Paying a Price.” New York Times, June 6, 2010. <http://www.nytimes.com/2010/06/07/technology/07brain.html/>

2 Johnson, S. “Yes, People Still Read, but Now It's Social.” New York Times, June 19, 2010. <http://www.nytimes.com/2010/06/20/business/20unbox.html/>

3 Johnson, S. “Watching TV Makes You Smarter.” New York Times, April 24, 2005. <http://www.nytimes.com/2005/04/24/magazine/24TV.html/>

them to conclude that “the social benefits of internet use will far outweigh the negatives.” But an aggregate of expert opinions is not discourse or reasoned argument and reveals only where we sit on the optimism-pessimism continuum.

Meanwhile, technology adoption is a global problem. The demand for gadgets means we've got to consider conflict mining for tantalum in the Congo, a spate of suicides at Foxconn (a Taiwanese company that manufactures iPhones in China), e-waste piling up in poorer countries (where, as mentioned earlier, the poorest people risk their health to extract whatever resalable bits they can), and the environmental impact created by the power demand for Google's servers⁴.

Technology users are going global. We have a lot of success

4 Leake, J. and Woods, R. “Revealed: The Environmental Impact of Google Searches.” The Sunday Times (London), January 11, 2009. http://technology.timesonline.co.uk/tol/news/tech_and_web/article5489134.ece/

Are we just as addicted to creating stuff—meaning-enhancers or waste-generators—as the people who are consuming it? If you follow the money, the answer is pretty clear.

stories about how mobile phones in emerging markets are enabling people to bootstrap out of poverty. But it's not clear if One Laptop Per Child was a good idea or not. Should the developed nations be designing software and hardware to enable emerging markets to use this same technology? While strong opinions persist, no consensus prevails.

Looking Ahead

This armchair analysis directly illustrates where the soft spots are. But where is our passion? Do we want to step way back from our trajectory and figure out how to sand down the irritatingly rough edges of every interaction? Or are we just as addicted to creating stuff—meaning-enhancers or waste-generators—as the people who are consuming it? If you follow the money, the answer is pretty clear.

If we're willing to drive a Human Genome Project/man-on-the-moon-scale initiative, there's potential to solve the frustration problem. The issue of societal

good is merely the updated (and perhaps highly accelerated) version of the “is progress good for us?” question that has dogged us since, presumably, the dawn of fire or other caveman-type innovations. While we remain skeptical about our ability to find answers—and to act on those answers—at least we're asking ourselves the questions.

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Steve Portigal is the founder of Portigal Consulting, a bite-sized firm that helps clients to discover and act on new insights about themselves and their customers. In the past 15 years, Portigal has interviewed hundreds of people, including families eating breakfast, hotel maintenance staff, architects, rock musicians, home-automation enthusiasts, credit-default swap traders, and radiologists. His work has informed the development of mobile devices, medical information systems, music gear, wine packaging, financial services, corporate intranets, videoconferencing systems, and iPod accessories. He writes regularly on topics from interaction design to pop culture for interactions, Core77, Ambidextrous, Johnny Holland and the Portigal Consulting blog, All This ChittahChattah. He is an avid photographer who has a Museum of Foreign Groceries in his home.

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