Technology as Experience

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User Experience

User experience is now becoming central to our understanding of the usability of technology. Today many interactive technology companies describe on their Web sites their commitment to experience-based design. There is also a trend in HCI communities to foreground experience-centered approaches to technology, a movement reflected in several recent articles offering theoretical statements about the sensual and emotional conditions of interaction with technology.

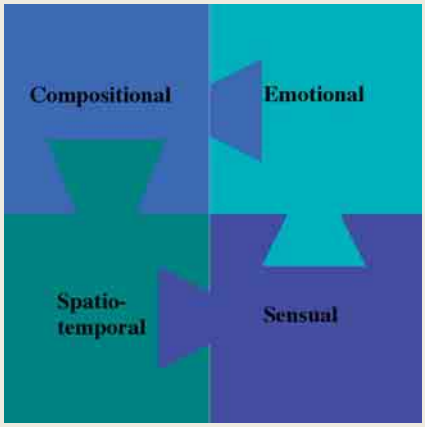
Thinking about Technology *as* Experience

In a recent study we presented a basis for thinking about and evaluating technology as experience. We show how technology can be seen in terms of experience with technological artifacts. This approach orients us toward the felt-life of technology-toward engagement, enchantment, irritation, and fulfillment. But we also recognize that the feeling-life does not begin and end with the immediate quality of an experience, rather it extends across space and time to the *sense* we make of experience in terms of our selves, our culture, and our lives. To make these concepts usable, we have developed a framework for analyzing experience with technology [2].

The Framework

Even though the framework is presented as a set of components, perhaps giving the impression of separable elements, each of these parts should be seen as intrinsically connected with each other, and, collectively constitutive of an integrated framework. The framework consists of four intertwined threads of experience and six sense-making processes.

The Four Threads of Experience



COMPOSITIONAL: *How do the elements of an experience fit together to form a coherent whole?*

This refers to the narrative structure, action possibility, plausibility, consequences and explanations of actions. When we ask questions like, "What is this all about?", "What will happen next?" and "How do I tackle this problem?" the composition of the experience is not clear to us.

SENSUAL: *What does the design and texture and the overall atmosphere make us feel?*

This orients us to the concrete, palpable, and visceral character of experience that is grasped pre-reflectively in the immediate sense of a situation; for example, the look and feel of a mobile phone and the sense of warmth in a social space.

EMOTIONAL: *What emotions color the experience for us?*

This refers to value judgments (e.g., frustration and satisfaction) that ascribe importance to other people and things with respect to our needs and desires. The emotional quality of an experience tends to summarize the experience for us; for example, as fun, exciting, or frustrating. This is how we tend to remember an experience.

SPATIO-TEMPORAL: *What effects do place and time have on our experience?*

This draws attention to the quality and sense of space-time that pervades experience. Time may speed up or slow down; pace may increase or decrease; spaces may open up or close down, affecting our willingness to linger or to re-visit such places.

The Six Sense-making Processes

People actively construct or make sense of experience—reflexively and recursively—in a way that seems to fold back into the experience itself. To reflect this in our framework we specify six inter-related, non-linear, sense-making processes.

ANTICIPATING: *We never come to technology unprejudiced.*

This refers to the expectations, possibilities, and ways of making sense that we associate with relevant prior experience; for example, the expectations we bring from a "bricks and mortar" shop to an e-commerce store run by the same company.

CONNECTING: *We make a judgment in an instant and without much thought.*

This refers to the immediate, pre-conceptual, and pre-linguistic sense of a situation encountered. This includes assess-

ment of place, such as a Web site being loud and the subsequent stressful feelings, or the sense of a social space being welcoming and the warm feelings that go with it.

INTERPRETING: *We work out what's going on and how we feel about it.*

This involves discerning the narrative structure, the agents and action possibilities, what has happened and what is likely to happen. For example, a design may excessively limit what we can do and leave us feeling trapped and frustrated.

REFLECTING: *We examine and evaluate what is happening in an interaction.*

As the experience unfolds we might reflect on why it was not possible to carry out a very similar action in two related applications or we might reflect with satisfaction on having solved a particularly difficult problem. We also reflect on the feelings of frustration or pleasure that are part of the experience.

APPROPRIATING: *We work out how a new experience fits with other experiences we have had and with our sense of self.*

This involves making an experience our own by relating it to our sense of self, our personal history, and our anticipated future. We may decide against buying over the Internet because we feel strongly about supporting local shops. Or we may modify the strength of our feelings about local shops because of the satisfaction of shopping on the Internet.

RECOUNTING: *We enjoy storytelling and make sense of experience in stories.*

This is a fundamentally dialogical process that involves telling others and ourselves about the experience. Recounting can change the meaning of an experience for us and it can open up new possibilities for experience. The importance of recounting in our culture is recognized in our attachment to "word-of-mouth."

In this short article, we have described the emergence of an orientation toward experience in HCI, suggested that conceptualizing technology as experience might provide appropriate foundations for this new orientation, and outlined the bones of a framework for working with technology as experience that is described more fully elsewhere. In doing so, we hope to have contributed to a turn that may in time provide a radical reconceptualization of technology as experience.

REFERENCES

1. McCarthy, J. & Wright, P.C., (2004). *Technology as experience*. Cambridge, MA: MIT Press.
2. Wright, P.C., McCarthy, J.C., & Meekison, L. (2003). Making sense of experience. In M. Blythe, A. Monk, C. Overbeeke & P.C. Wright (Eds.), *Funology: From usability to user enjoyment* (pp. 43-53). Dordrecht: Kluwer.

Interview with Don Norman

By Mark Blythe and Mark Hassenzahl

MB: Most of our readers will be aware that your new book marks a change in direction for you. Why the turnaround? Are you hoping to inspire more designs like the Incredible Tea Juicer?

DN: The Incredible Tea Juicer? But of course!

I am trying to influence designers, so let me transform your question into asking what the "design field" knows and understands. Now, I put "design field" in quotation marks because it isn't quite clear what this phrase refers to. What I mean is an as-yet hypothetical discipline of research, theory, and practice that is concerned with design issues. This will encompass a wide range of existing fields. Thus, usability and HCI in general is one important facet, and perhaps the