Special issue on science fiction and ubiquitous computing

Jofish Kaye · Paul Dourish

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This Special Issue of *Personal and Ubiquitous Computing* has been in gestation for even longer than normal journal production cycles would suggest. The original call for papers came out 6 years ago. If most special issues of PUC went to press 6 years after they started, they would be irrelevant and outdated. And yet there is something here with real staying power. Ironically enough, the focus on the future that science fiction suggests makes the passage of time less problematic. As we hope you will agree in reading this volume, there are two reasons that this work remains current: relevant and exciting.

The first is that within these papers, we are identifying or discussing, broadly, topics of technology and imagination. While the specificities of technologies change, and the latest, fanciest products change, the ethos of what lies behind the design and analysis remains the same. Technologies come and go, but technological imagination shifts much more slowly—and what we are talking about here is the technological imagination. (Next time you hear someone talk about how quickly technology changes, you might want to consider the question not of technology but the imagination that spurred it, and whether it has the same temporal dynamics.)

The second is the topic of study. Because we chose to use literature and fiction as our tool—and in particular fiction that takes place in alternative time periods—it remains more stable. *The Lord of the Rings* captures the

imagination as much now as it did when Tolkien wrote it because it is unlike the real world, and it is as unlike the real world now as it was then. Science fiction exists outside our reality; we are using it as a lens to look at the fundamental activity of scientific practice. The movie *2001* still has power even though we are in 2014, as does *1984*.

The question then becomes why science fiction, and what is the relationship between science fiction and ubiquitous computing? There is a long relationship between scientific research and speculative fiction, as evidenced by the fact that fan-restored prop of the original Star Trek shuttle (after which the space shuttle was named) is now on permanent display at NASA's Houston space flight center. In Constance Penley's book *NASA/Trek* [1], she explores the ways in which NASA engineers have been influenced by Star Trek, and in particular the cultural imagination of progress, not the technology or science itself. Closer to our roots in ubiquitous computing, Eric Paulos organized a workshop on Urban Computing at which Peter Lunenfeld from ArtCenter (and latterly UCLA) complaining how little scientists and engineers felt there was to be learned from literature as a touchstone, and suggested that those works were much more interesting than your average user study. More recent interests in what have been labeled "design fictions"—as highlighted in the work of Tony Dunne and Fiona Raby, Julian Bleecker, and others—have shown the power to taking Lunenfeld's insight to heart.

Those two came together and combined with the way in which research in ubicomp is in some senses fictive: we imagine worlds, we imagine users. It is not really participatory design—it cannot be participatory design, because we are always imagining future users, since by very definition they do not exist yet. As such, this body of work collected in this issue starts to question some of the assumptions that we have around what makes up science fiction.

J. Kaye (✉)
Yahoo Labs, Sunnyvale, CA, USA
e-mail: jofish@yahoo-inc.com

P. Dourish
Donald Bren School of Information and Computer Sciences,
University of California, Irvine, CA 92697-3440, USA
e-mail: jpd@ics.uci.edu

The issue is introduced by an essay from science fiction writer Bruce Sterling. He discusses the role of ubicomp in science fiction and perhaps more usefully the role of science fiction in ubicomp. Sterling has a history of staging provocative engagements between design practice and his own analytic and creative sensibilities; his introduction draws attention to the way that we might want to think not so much about the divides between fact and fiction but the relationships between fictive practices and scientific practices, from which we can usefully learn.

In Dourish & Bell's paper "Resistance is Futile": Reading Science Fiction and Ubiquitous Computing, the authors read a set of research on ubiquitous computing against a body of science fiction. They draw a set of themes about mundane and everyday assumptions from five television shows—images of bureaucracy, technological breakdown, frontier and empire—and use those themes to interrogate some of the unstated assumptions of ubiquitous computing—regimes of surveillance, the role of government, questions of diversity and equality.

Bardzell & Bardzell focus in particular on Weiser's "The Computer for the twenty-first century" and explicitly differentiation between his *vision agenda*—a future in which ubiquitous computing becomes mundane and commonplace—and his *technology agenda*, focused on "the development of effective computing systems which form the technological dimension of the ubicomp agenda." They frame this paper within a postpositivist framework that turns our attention to the social imaginaries that are conjured up by scientific work and argues for a more cultural reading of the work of technological design and especially technological writing.

Mark Blythe uses three parallel approaches to read one scenario from Weiser's paper—the classic "Sal scenario." He does this in order to highlight the multiple readings possible when we approach scientific descriptions as

literary objects. He then rewrites the same story in two manners: in the style of Douglas Adams' *Hitchhiker's Guide to the Galaxy* and Philip K. Dick's *Ubik*. In the first, the technology is broken, the design is poor, and the users are flawed, fallible, and vulnerable. The latter brings to the forefront an issue often elided from ubicomp: the role of money. In so doing, he not only questions and frames a foundational paper of the field, but also demonstrates the utility and power of alternate ways of reading that may be novel to many in the field.

We close the issues with a pair of papers from futurist Brian David Johnson. The first, *Violence, Death and Robots: Going to Extremes with Science Fiction Prototypes* frames and introduces our closing paper, an honest-to-god science fiction tale, *Brain Machines*, telling the story of a scientist, Simon Egerton and his robot Jimmy. Writing science fiction is not seen as a core part of the ubicomp intellectual enterprise, but Johnson shows that we can highlight and address questions, ideas, and concepts that serve to question and explore the issues we deal with every day.

We (well, mainly Paul) owe the authors represented here a sincere apology for the long, drawn-out process of putting this issue together. However, we are heartened that the topics remain deeply relevant and cannot help wondering whether this very ongoing relevance does not reveal something about the ways that we think about temporality, currency, and progress in our field.

Reference

1. Penley C (1997) *NASA/Trek: popular science and sex in America*. Verso, London