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Alternate Endings: Using Fiction to Explore Design Futures

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Abstract
Design research and practice within HCI is inherently oriented toward the future. However, the vision of the future described by HCI researchers and practitioners is typically utility-driven and focuses on the short term. It rarely acknowledges the potentially complex social and psychological long-term consequences of the technology artefacts produced. Thus, it has the potential to unintentionally cause real harm. Drawing on scholarship that investigates the link between fiction and design, this workshop will explore "alternate endings" to contemporary HCI papers. Attendees will use fictional narratives to envision long-term consequences of contemporary HCI projects, as a means for engaging the CHI community in a consideration of the values and implications of interactive technology.

Author Keywords
Values Centered Design; Science Fiction; Design Fiction; Ethics.

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
Inherent in the design of all technology is a speculative story told by the designer about the future in which

that technology exists and operates. In some rare cases (i.e., [24]), designers describe in some detail the fictional world for which they are designing, in order to explain and justify the long-term goals of their work. More commonly, evidence of a designer's envisioning must be sought through close reading of their papers (see [1][7]). Either way, the striking feature of the future imagined by HCI researchers and practitioners is that it is often simplistic, short term, and focused on utility. It rarely acknowledges the potential for complex, long-term, social and psychological consequences of technology development. We propose using fiction as a means for engaging designers in considerations of the complexities for their work. Thus, this workshop will explore questions such as:

- Can fiction engage designers in more critical examination of their own practices?
- How can we enable designers to draw on fiction as a resource?
- Are there identifiable benefits to the prevailing utilitarian HCI approach to envisioning the future?

Background

There has long been a productive relationship between fiction and the design of new technologies. For example, in the 1960s, the television show *Star Trek* envisioned personal communicators that flipped open, which provided inspiration for one of the most successful early mobile phone designs: the Motorola StarTAC [19]. A more recent example is the treatment of gestural and embodied interaction in the science fiction film *Minority Report*, which drew on contemporary HCI research into multi-touch interfaces and re-presented it in a way that catalyzed the imagination of the general public [10][2]. There has been much interest recently in understanding fiction in design, focusing particularly on "design fictions."

The term was coined by Sterling in his 2005 book Shaping Things [20], where he described it as something similar to science fiction, but different because it "made more sense". Recently he offered a formal definition, as "the deliberate use of diegetic prototypes to suspend disbelief about change." [21] A recent special issue of the journal Digital Creativity [6] sought to provide a taxonomy of design fiction. This included work like Sterling's that draws directly on science fiction, but also work which draws on near future fictions such as that of William Gibson. This work, like critical design [8], is often provocative and its intent is subversive. But there are also corporate design fictions by companies like Google and Microsoft, which portray comfortable futures in reassuring short films [15][16].

Within HCI there has been much discussion of how science fiction, and other types of speculative fiction, influences the work of technology designers [1][2]. There is also a very large body of work in HCI on the use of fictional narrative in the form of personas and scenarios. Short fictional vignettes have long been used to summarise findings from user studies and to illustrate potential technologies (e.g.[4]). Often users in such scenarios were little more than names, and Cooper [5] argued for more developed personas where minimally age, gender and occupation were specified. Nielsen [14] critiqued such personas as two-dimensional stereotypes and proposed character based approaches drawing on traditions of European film making. Pastiche has also been used as a technique to develop richer scenarios by incorporating fictional

worlds and characters drawn from literature and popular culture [3][12]. Techniques from improvisational theatre have also been used to develop more nuanced personae and scenarios [13]. Design Fiction, then, is not new in HCI, but the increasing use of more complex narrative forms make it a much more powerful approach. While early user scenarios focused on utility, more developed design fictions can also consider the social, psychological and ethical dimensions of technology development.

Interestingly, design fictions can help not only designers but also a broader population to reflect on the implications of technology. For example, participants in the Steampunk subculture use a retro-futurist perspective on Victorian society to inform a complex set of material values and aesthetics [22]. Design fictions are also often taken as a starting point for projects in the green do-it-yourself community [23].

Fiction as a Resource for Exploring Values in Design
It has been noted that HCI researchers do not typically engage in critical evaluation of the potential consequences of their work [12][11][17]. There seems to be little questioning of the assumption that technology will make our lives more enjoyable, easier, better informed, healthier and more sustainable; or of our role as researchers in that process. The envisioning of HCI researchers is typically simplistic, short term and unconvincing from a sociological or psychological perspective. Indeed, considerable concern has been raised over this lack of consideration for human values in technology design [17]. However, in recent years, critical approaches such as *reflective design* [18], *value centered design* [9], and *critical design* [8] have been developed as methods for eliciting more critical reflection and envisioning regarding the implications of interactive technology.

Further, researchers have recently drawn specifically on fiction as a means for facilitating reflection on the implications of design. For example, Nathan et al., [12] propose the use of short speculative narratives, or value scenarios, as a method for inspiring critical reflection. Blythe [3] specifically uses science fiction narrative as pastiches, to criticize assumptions, and question values, inherent in ubicomp literature. Kirman et al., [11] present a speculative vision of an evil robot controlled future, in order to reframe and inspire reflection on long terms consequences of strands of contemporary HCI research.

Workshop goals and themes

The workshop aims to bring together interested academics from HCI, computer science, design and humanities to consider how critical, reflective and literary practices can help designers envision the long-term social and psychological consequences of interactive technology. In a challenging, interactive and playful workshop, participants will collaboratively write alternate endings for well-known HCI scenarios and papers. The intention is to engage not only those already interested in critical approaches to design, but to engage mainstream HCI researchers in more critical considerations of their work.

References

[1] Bell, G., and Dourish, P. Yesterday's tomorrows: notes on ubiquitous computing's dominant vision. *Personal and Ubiquitous Computing, 11* (2007), 133-143.

[2] Bleecker, J. Design fiction: A short essay on design, science, fact and fiction. *Near Future Laboratory, 29*, 2009.

[3] Blythe, M. The hitchhiker's guide to ubicomp: using techniques from literary and critical theory to reframe scientific agendas. *Personal and Ubiquitous Computing*, (2013), 1-14.

[4] Carroll J. M. Scenario-based design. In: Helander M., Landauer T.K., and Prabhu P., Editors, Handbook of Human-Computer Interaction, Elsevier, 1999.

[5] Cooper, A. L. The Inmates Are Running the Asylum: Why High-Tech Products Drive Us Crazy and How to Restore the Sanity. Sams. Indianapolis, 1999.

[6] Design Fictions. *Digital Creativity*, 24. 1.

[7] Dourish, P., and Bell, G. Resistance Is Futile": Reading Science Fiction Alongside Ubiquitous Computing. *Personal and Ubiquitous Computing*, (2013), 1-10.

[8] Dunne, A., and Raby, F. *Design noir: The secret life of electronic objects.* Springer, Berlin, 2001.

[9] Friedman, B., Kahn Jr, P. H., and Borning, A. (2006). Value sensitive design and information systems. *Human-computer interaction in management information systems: Foundations, 5* (2006), 348-372.

[10] Kirby, D. (2010). The Future is Now: Diegetic Prototypes and the Role of Popular Films in Generating Real-world Technological Development. *Social Studies of Science, 40* (2010), 41-70.

[11] Kirman, B., Linehan, C., Lawson, S., & O'Hara, D. CHI and the future robot enslavement of humankind: a retrospective. In Proc Ext. Abstracts CHI 2013, ACM Press (2013), 2199-2208.

[12] Nathan, L. P., Friedman, B., Klasnja, P., Kane, S. K., & Miller, J. K. (2008, February). Envisioning systemic effects on persons and society throughout interactive system design. In Proc DIS 2008, ACM Press (2008), 1-10.

[13] Newell, A., Carmichael, A., Morgan, M., Dickinson, A. The use of theatre in requirements gathering and usability studies. Interacting with Computers, 18 (2006), 996-1011.

[14] Nielsen, L. From user to character: An investigation into userdescriptions in scenarios. In Proc DIS 2002, ACM Press (2002), 99-104.

[15] Reeves, S. Envisioning ubiquitous computing. In Proc CHI 2012, ACM Press (2012), 1573-1582.

[16] Reeves, S. Building the future with envisioning. Interactions, 20 (2013), 26-29.

[17] Sellen, A., Rogers, Y., Harper, R., and Rodden, T., Reflecting human values in the digital age. Commun. ACM 52 (2009), 58-66.

[18] Sengers, P., Boehner, K., David, S., and Kaye, J. J. Reflective design. In Proc Critical Computing 2005, ACM Press (2005), 49-58.

[19] Shedroff, N., and Noessel, C. Make It So: Interaction Design Lessons from Science Fiction. Brooklyn, New York, USA: Rosenfeld Media, 2012.

[20] Sterling B. Shaping Things. MIT Press. Cambridge, MA, 2005.

[21] Sterling B. 2013. Fantasy Prototypes and Real Disruption. Keynote NEXT Berlin 2013. http://www.youtube.com/watch?v=2VIoRYPZk68

[22] Tanenbaum, J., Tanenbaum, K., and Wakkary, R. (2012, May). Steampunk as design fiction. In Proc CHI 2012, ACM Press (2012), 1583-1592.

[23] Wakkary, R., Desjardins, A., Hauser, S., and Maestri, L. (2013). A Sustainable Design Fiction: Green Practices. In ACM TOCHI (To appear).

[24] Weiser, M. The computer for the twenty-first century. Scientific American, (1991), 94-104.