

Glimpses of the Future: Designing Fictions for Mixed-Reality Performances

Mixed Reality Performances straddle technological and performative innovation, providing a site for collaboration between artists, performers, HCI scholars and designers. While interdisciplinarity provides opportunities for innovation, it also poses challenges for the underlying creative processes and their outcomes. To explore the role Design Fiction can play in addressing these challenges we organized a workshop at CHI 2017 [1], to use Design Fiction to generate visions of future Mixed Reality Performances (MRP).

The main motivation to use Design Fiction was to push the ideas generated for MRPs beyond the range of producer-consumer roles usually associated with this type of socio-technical production. This was also a way to situate MRPs in the existing broader socio-cultural context, and to address the ethical challenges that might emerge from introducing new technologies to these contexts.

Twenty artists, performers, designers, and researchers came together in three groups to discuss futures in which MRPs were the focus of our design work. The groups adopted three different processes of imagining the future and developing artefacts to highlight the social, performative, and ethical aspects of the performances they discussed. In this feature, we introduce the outcome of each group as a way to discuss the broader challenges and open issues connected to adopting Design Fiction as a method to explore MRPs.

Performing Public Fictions: “No, Officer, It’s just a Design Fiction”

The first fiction was designed as a 360° video, which was an opportunity to explore how the characteristics that a short performance recorded in this medium could lend to a Design Fiction. Performing a fiction in 360° allowed an exploration of how different actors and actions could be distributed around the scene, different ways the viewer could be addressed and directed, and how we could develop simultaneous narratives that interacted as the fiction unfolded.

The ideas were initially practical and functional: employing digital micropayments for tips in a cashless society, finding busy locations to perform based on pedestrian traffic data, and matching performers with particular musical styles to the preferences of users passing by. The main technology envisioned was Buskr, a local government-commissioned app that would help street performers play just the right music, in just the right places, at just the right times. The Design Fiction did not seek to develop a detailed design of the technological service, but rather to consider how these ideas would influence and be influenced by the future world in which they would be situated.

To get at these deeper issues, the focus of the discussion was on how such services would reveal tensions between the different stakeholders. For example, a council’s well-meaning attempt to shield buskers from the risks of working with cash would prevent performers without bank accounts being paid; and a less well-meaning, young, tech-savvy would use their greater familiarity with an app to steal an established, older busker’s spot. The recorded performance in 360° video incorporated these stakeholders and drew

attention to problematic consequences that might arise from to applying technology to the complex ecosystem of a city's street performance scene.

This fictional performance starred an unreflective council bureaucrat, a young busker enthusiastic to embrace technology, another busker who was not willing or capable of doing so, and audience members with differing views on the app. Through multiple trials performing this fiction, a plot was developed based around a confrontation between two buskers using the app, which occurred alongside a television interview with a council leader about its benefits.

As noted by Blythe and Wright [2], the characters in this fiction offered a powerful mechanism to represent the different perspectives from which a technology would be received, understood, and valued. Performing the fiction in 360° facilitated the simultaneous role-playing of the tensions and conflicts between the different stakeholders, rather than a means to envision novel MRPs.

Finally, the choice to perform the fiction underneath a prominent landmark (The Denver Blue Bear) caused a curious crowd to gather around the performance space, mostly because of the confrontation evident in the plot. This raised subsequent reflections on the consequences of bringing an unwitting public audience into a design fiction performance [3]. *Would the audience's reactions to the representation of the design concept and its envisioned consequences provide further insight and fuel for discourse?* One audience member, for example, was an officer who required assurance that the altercation he witnessed was not going to continue inside the conference venue before the team were allowed to return to the workshop.

Products, Problems, and Puns

The second fiction was particularly focused on the physicality of MRP and how they can capitalise on sensation and movement in future scenarios. Internal Data Tracking, Data as a Material, Dance Performance and Ethics were chosen as starting points and constraints to envision a performance event that would involve digital technologies in a highly physical encounter.

Focusing on the instructions to create ephemera resulting from the performance rather than a detailed plan for the performance itself helped us to stop fixating on the specific technologies to be used in the performance, and instead to think more clearly about the nature of the desired performative interaction. The decision to include 'ethics' as a key focus for discussion helped enormously. While creating the fiction, attention was drawn to the possible conflicts between performers and audiences resulting from a violation of ethics though the use and abuse of data during or after a performance. This resulted in a shift of the discussion towards imagining a more complex and interwoven relationship between audiences and performers outside of the bounds of traditional performance settings. What unlocked the imaginations was, thus, a shift in focus away from the mechanics of the MRP – technical, organisational, or ethical – and toward the Design Fiction that created the world in which the performance would be situated.

This vaguely imagined, ethically contested performance was set as a future service, productising art and performance without the constraints of current technology or market forces. Because the technologies for the performance did not need to be operative today – much less practical or affordable – *potential* fictions could be developed.

The group dynamic, which had already been good-natured, became what one would imagine the writer's room of a top comedy to be. The group shifted focus between satirising

the app-economy and the perceived value of artists and performers, and designing a somaesthetic dance-based wellness service, and the laughter bellowed across the room as the group excitedly built on each other's ideas. The design fiction orientation provided a freedom to go over the top in terms of what would be permissible in everyday contexts, and allowed us to explore the performance, and the resulting ethical complications, with a great deal of clarity and hilarity. Setting the idea of this fictional performance and its ramifications over the course of decades made it possible to scaffold the performance and explore its consequences.

The final concept was of a future service in which people could sign up to have their wellbeing tracked and have a specially trained dancer sent to dance with them when they reached a personal low point. Particular dance techniques would assist with different types of distress, leveraging the skill of the performers and the insights mined from the data. However, the fiction also had a more critical stance as it imagined the class-action lawsuit that would arise over a decade later, when the dancers realised that their new profession prevented them from maintaining or managing their own wellbeing. As such, it addressed how the current social issues of disruption in the labour market due to technology could become a practical concern for future MRPs (specifically the increase in on-demand labour applications with little or no protection for the workforce characterised by many such service companies, such as Uber or TaskRabbit, as independent contractors rather than employees).

Fictional Ethics and Ethical Fictions

The third fiction was inspired by one participant's recent forays into the performance of magic and illusion. This fiction was designed and presented as a poster for deceptive performances (magic and fortune telling), focusing on the ethical implications of embedding technology in the wide, varied, and complex social backgrounds of these practices.

The group was intrigued by the challenges of learning and perfecting the skills of stage magic, as well as an interest in the practice of fortune-telling. The fortune-teller begins with broad statements, carefully observing the nuances of a client's response, and progressively narrowing and specifying his or her reading in response to the client's reactions. Indications of a client's agreement, nervousness, or rejection of an avenue of discussion can be interpreted by a skilled fortune-teller as 'cold tells' that reveal information useful in crafting a compelling reading. In contrast, in the practice of 'hot reading', practitioners discover information about the client in advance in order to flesh out their reading with specific details that reinforce the client's faith in their apparent psychic abilities.

Our focus on the more culturally and ethically charged practice of fortune-telling raised several discussions around the incorporation of technology into these performances. The first discussion was around how biofeedback could be incorporated into a cold reading, enabling the practitioner to gauge the client's physical arousal (nervousness, enthusiasm, fear, etc.) in response to the unfolding discussion. This design was followed by the exploration of the possible uses of social media data mining for conducting 'hot readings' in which personal information about the client could already be known to the practitioner. The design of this part of the fiction could be made possible, for instance, by the client's purchase of a digital ticket which would make different sorts of digital footprints available for the fortune-telling.

At this point the discussion shifted towards the ethical considerations of designing for these practices. Cold reading relies on impressive skills of observation and social awareness, and it was easy to imagine technology integrating quite well into this practice. However, the group's perception of 'hot reading' associated it more closely with trickery and manipulation, rather than with a set of skilful practices developed over time. Moreover, the prospect of

augmenting readings with data mined from social media seemed somewhat unsavoury in its dishonesty. The design work in creating a poster that would embody the main ideas of these two sides of fictional augmented fortune telling opened a broader debate about the ethics of deception and the narrative and meanings the poster would convey. This provided an opportunity to discuss the ethics of staged magic (in which trickery and illusion are used to enhance the performative qualities of participant experience) and its relationship to the beliefs and customs practiced by fortune-tellers, practitioners who authenticate their credibility through generations of ancestry and tradition. While integrating digital technology into staged magic could (and perhaps does) result in innovative performative practices, our group became uncomfortable with the possible ethical implications that a fictive digital intervention could convey about the practice of fortune-telling: *Would this imaginary use of digital technology for augmentation of staged magical performances unfairly associate traditional practices with dishonesty? Was the idea misappropriating a traditional culture, or dismissing its authenticity in an unintended way? What type of representations of our intended users of technology were we creating?*

Designing Fictions for Mixed-Reality Performance

Design Fiction is becoming a popular methodology within HCI, so it is important that we consider the impact fictions might have on the type of knowledge they create and the discourse they foster. Design Fiction is a means to think about the future, and for MRPs, Design Fiction can help us move beyond the usual concerns of enabling audience participations or exploring novel technologies. The fictional framing encouraged playfulness, experimentation and challenging, strange and otherwise unorthodox uses of technology.

The different fictions also compelled us to consider experiences in a holistic and longitudinal fashion for different audiences, performers, and other cohorts (such as service providers, shareholders, or law firms). In doing so, the varied knowledge and experience of our participants was invaluable. The production of the 360° video allowed each participant, through a *'clashing through dialogue'*, to express themselves in character and from a perspective that they understood without the excessive onus on mutual understanding and shared vocabulary that can stall interdisciplinary design work. In the other groups, splitting and expanding the stakeholders also allowed the need for mutual understanding of a position to be lowered and to be replaced by assurances that this group or viewpoint was understood by the person making the stand. Employing satire also allowed insider knowledge of the social, cultural, and political lives of different groups to be shared, often leveraging misunderstandings for comedic effect and in turn moving the group closer to a shared understanding.

During the design of the fictions, the more artistic qualities of performances (choreography, acting, directing, etc.) were not explored or reported in as much detail as we expected at the outset. The framing of Design Fiction shifted the focus to the world around the performances and the artefacts from that world that would best demonstrate what each group found exciting about their performance's place in that world. The time pressures of a one-day workshop influenced the fidelity of the performance envisaged, the world it inhabited, and the artefact created around it – exploring in detail any one of the three parts of the Design Fiction would be difficult in a single day for a newly minted team of people, let alone all three. Scaffolding the activity further could have allowed for more time and focus on the performative aspects. Having every team produce a page of a newspaper culture insert or setting all performances in Manhattan in 2025 with a description borrowed from a short story were options discussed for the workshop, and in hindsight such constraints on the creativity of the teams may have produced more focused – if perhaps less socially aware – fictions.

The topic of MRP had a palpable influence on how the Design Fictions were undertaken. Focusing on technology in performance in the design process forces the fiction to take into

account the role of art in wider society and the influence that technology will have on this, rather than the direct societal impact of the technology. This extra layer of complexity provides both an opportunity, and to some extent an obligation, to incorporate the role of art into the process of designing fictions. In doing so, Design Fictions for MRPs can contribute to a critical discourse on the use of Design Fictions more broadly within HCI and on the *imaginative* future they create [4].

Ultimately, as the cases discussed indicate, using Design Fiction to explore possible MRPs raises a number of open questions concerning the the role of Design Fictions, their intended audiences, the type of future they generate, and more importantly for whom.

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[1] A. Rostami *et al.*, “Design Fiction for Mixed-Reality Performances,” in *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*, New York, NY, USA, 2017, pp. 498–505.

[2] M. A. Blythe and P. C. Wright, “Pastiche Scenarios: Fiction As a Resource for User Centred Design,” *Interact. Comput.*, vol. 18, no. 5, pp. 1139–1164, Sep. 2006.

[3] A. Waern, “The Ethics of Unaware Participation in Public Interventions,” in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, New York, NY, USA, 2016, pp. 803–814.

[4] M. A. Blythe (2014). The hitchhiker’s guide to ubicomp: Using techniques from literary and critical theory to reframe scientific agendas. *Personal and Ubiquitous Computing*, 18(4), 795–808.