Abstract
A challenge for participatory design is to develop products and systems that answer users’ existing, future and latent needs, as users (and designers) limit what is designed by their understandings of what is possible. I have found that critical artefacts (the outputs of critical design and related practices) offer a way to challenge users’ and designers’ assumptions and broaden the space of possibilities for exploration in participatory design activities.

Keywords
Design artefacts, critical design, participatory design, innovation.

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Participatory Design and Innovation
Participatory design [6, 9] methods are suited to the development of products and systems that account for the existing needs of their likely users. Participation enables users and designers to share and explore their combined understanding of the context for the design work (users, primarily) and technological and creative possibilities (designers, primarily). However a challenge
for participatory design is the development of significantly new designs that are relevant to users’ existing, future and latent needs (i.e. needs that users are unaware of, but recognise as being relevant to them once satisfied, cf. [8]). How can users and designers develop radical, paradigm-changing innovations that lay outside their combined understanding and expertise? A quotation, attributed to Henry Ford, characterises the problem:

“If I’d asked people what they wanted, they would have asked for a better horse.”

How can designers and users explore novel design ideas if their understanding of possibilities is limited? One strategy is to use critical design to challenge users’ (and designers’) assumptions about what is possible.

**Critical Artefacts**

Critical design [4, 5] and related practices (e.g. [1, 7]) offer themselves as alternatives to ‘traditional’ or ‘mainstream’ design by producing artefacts that are not practical solutions to obvious user needs and not explicitly intended for sale, but rather are provocative and prompt reflection in their audiences (often being encountered in exhibitions and publications, e.g. [10]). Critical design is a form of ‘design for debate’, questioning the role and products of design rather than conforming to popular expectations:

“Critical Design uses speculative design proposals to challenge narrow assumptions, preconceptions and given about the role products play in everyday life.” [11]

I have found such speculative and provocative design proposals, ‘critical artefacts’ (as I term them), useful in opening up the space of possibilities explored in participatory design activities. For example in a design project where I aimed to develop novel product ideas for the display, storage and organisation of digital photographs [3], the initial participatory activities with users did not yield useful results. In co-creation activities, users tended to re-create what they already knew, such as a ‘traditional’ album with a keypad to enter the year of the photographs displayed. To broaden the space of possibilities for exploration, I produced a series of critical artefacts.

![Figure 1. Forget Me Not Frame](image)

The *Forget Me Not Frame* (Figure 1) is one of the six critical artefacts that I presented to groups of stakeholders for discussion. I communicated the concept via a series of photographs to present a usage scenario – a ‘photo essay’. In the concept, the frame has a lever on its side that fades out the photograph.
The lever also slowly descends over time and needs continually pulling up to prevent the photograph disappearing. The frame also communicates with other digital photograph devices. For example, in the photo essay: my mother is on the phone to me; we have an argument and she slams the phone down; then walks over to the Forget Me Not Frame and pushes the lever down; this ‘disappears’ the picture in the frame; but also any other photos of me displayed on other digital devices in her home.

The presentation of this critical artefact prompted illuminating discussions from the users. It appeared that, although participants could not imagine wanting the product, they did engage with the ideas and concepts expressed through it. Forget Me Not Frame prompted the comment that “the whole concept of wiping someone out [is] horrible”, but users went on to discuss the effects of changing family relationships and how being able to ‘edit out’ particular photographs could be beneficial – i.e. with an increasing number of relationships ending in separation and divorce, it could be socially tactful to remove certain photographs on display during family visits.

The critical artefacts were not presented to users with the explicit aim of resolving them into final products. Rather they opened up a conversation about alternative functions for technology and users’ needs in relation to them, which could then inform the design of further concepts. The users did not want Forget Me Not Frame as a product, but the discussion it provoked showed that another device that enabled selection of photographs to avoid awkward social situations was a relevant need. So, in this application, critical artefacts express a (provocative, challenging) vision of what could be to enable designers and stakeholders to explore a broader area for what should be.

Subsequently, I have continued to use critical artefacts in this manner and, through my research, have developed a “critical artefact methodology” [2] to support such applications as a form of participatory innovation.

**Critical Design and Critical Theory**

Dunne [4] has related critical design to Critical Theory and I have discussed [2] how other “critical design practices” share features with Critical Theory. In short, Critical Theory and critical design practices suggest that:

- There are contextual factors that affect and situate understanding – i.e. designers’ and users’ understanding of how design operates and the role of designed artefacts;
- The unthinking acceptance of these factors propagates ‘oppression’ – e.g. maintaining a society of passive consumers; and
- Critiques offer a way of challenging understanding, and therefore afford change.

In Critical Theory, critiques are alternative views (theories) of society that aim to change society. In critical design practices, artefacts-as-critiques (critical artefacts) embody alternative possibilities (social practices, applications of technology etc.) that aim to change the role of design and its products. In both cases critiques operate via their readers’ intellectual engagement with the ideas presented within them. This relates to Critical Theory’s notion of theory as both
explaining and constituting the social world – to change the world, think about it differently.

The notion of artefacts as critiques then offers an explanation for my use of critical artefacts within participatory design activities: presenting users with artefacts that challenge their assumptions of what is possible will enable them to reflect on their unwitting limitation of possibilities and consequently enable users and designers to explore a broader space for design ideas relevant to users’ existing, future and latent needs.

References