

## Abstract

As technology pervades our everyday life and material culture, new possibilities and problematics are raised for design. Attention in contemporary design discourse is shifting 'beyond the object', to the qualities of processes and experiences. The boxes and screens typically the 'object' of interaction and interface design are miniaturizing, even disappearing, as computation is integrated into familiar materials and ordinary objects. This opens possibilities – for example, as computer and materials science converge with fashion and architecture in smart textiles and intelligent environments – even as it turns us back, in new ways, to traditional design disciplines and practices.

In this context, design is not only about the spatial or physical form of objects, but the form of interactions that take place – and occupy time – in people's relations with and through computational and interactive objects. As argued in this thesis, a central, and particular, concern of interaction design must therefore be the 'temporal form' of such objects and the 'form of interaction' as they are used over time. Furthermore, increasingly pervasive technology means that the temporality of form and interaction is implicated in more widespread changes to the material conditions of design and of society. Challenging conventions – of 'formalism' and 'functionalism', 'good' and 'total' design – temporal concerns and implications require new ways of thinking about and working with the materiality, users, and effects of design.

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**Occupying Time**

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Abstract

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Located at an intersection between emerging technologies and design traditions, interaction design is approached in *Occupying Time* through diverse disciplinary frames and scales of consideration. If focus in interaction design is typically on proximate 'Use', here, a discussion of 'Materials' scales down to reconsider the more basic spatial and temporal composition of form, and 'Change' scales up to examine large-scale and long-term effects. To anchor these themes in established discourse and practice, architecture is a primary frame of reference throughout. Accounts of 'event', 'vernacular', and 'non-design', and concepts of 'becoming', 'in the making', and 'futuraity', as treated in architecture, extend a theoretical and practical basis for approaching time in (interaction) design discourse.

Implications for practice also emerge and are discussed. Basic to the materiality of interaction design, technology puts time central to 'Material practice'. 'Participatory practice' moves beyond user involvement in design processes to active participation in ongoing formation. Since temporal form extends design more deeply and further into future use, 'Critical practice' queries accountability. More specific reflections are situated in relation to my experience in the design research programs 'IT+Textiles', 'Public Play Spaces', and 'Static! Energy Awareness'. Drawing from architecture and from my own practice, this thesis maps out and builds up a territory of ideas, relations, and examples as an inquiry into issues of time in interaction design.