

Material Speculation: Actual Artifacts for Critical Inquiry

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ABSTRACT

Speculative and fictional approaches have long been implemented in human-computer interaction and design techniques through scenarios, prototypes, forecasting, and envisionments. Recently, speculative and critical design approaches have reflectively explored and questioned possible, and preferable futures in HCI research. We propose a complementary concept – material speculation – that utilizes actual and situated design artifacts in the everyday as a site of critical inquiry. We see the literary theory of possible worlds and the related concept of the counterfactual as informative to this work. We present five examples of interaction design artifacts that can be viewed as material speculations. We conclude with a discussion of characteristics of material speculations and their implications for future design-oriented research.

Author Keywords

Material Speculation, Speculative Design; Design Fiction. Critical Inquiry

ACM Classification Keywords

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

INTRODUCTION

Interaction design and human-computer interaction (HCI) have long borrowed from fiction in design techniques like scenarios, personas, enactments, and even prototyping. Speculative inquiries in design like futuring, forecasting, and envisionments have also deeply incorporated practices of fiction. Recently, design fiction has emerged as a uniquely productive approach to speculative inquiries. Most importantly, design fiction has extended the speculative aim of design—its future orientation—into more reflective realms that critically challenges assumptions we hold about design and technology. This is a valuable step in interaction design research toward offering approaches to more critical speculative inquiries.

In considering the productive pairing of design and fiction to advance critical speculation, there is an opportunity to explore other forms of fiction informed practices that might nurture and expand interaction design research efforts. To date, fictional thinking in design has focused on science fiction and scenarios, and on conceptual artifacts like non-functioning prototypes, storytelling props, and fictional objects. The HCI community has paid less attention to other theories of fiction in addition to science fiction. Relatedly, HCI researchers have largely overlooked the role that actual and situated artifacts in the everyday can offer for speculative and critical inquiries in design. This shift in attention to actual and situated artifacts would reveal design artifacts and everyday settings to be sites for speculative and critical inquiry.

This paper introduces a complementary concept to design fiction that we call *material speculation*. This concept draws on the literary theory of possible worlds [cf. 48]. Material speculation emphasizes the material or mediating experience of specially designed artifacts in our everyday world by creating or reading what we refer to as *counterfactual artifacts*. Material speculation utilizes physical design artifacts to generate possibilities to reason upon. We offer material speculation as an approach to critical inquiries in design research. In plain fashion, for this paper we consider speculative inquiries that aim to generate progressive alternatives to be critical inquiries.

Our work builds on speculative and critical design, which can be seen as broad yet established approaches to design aimed at exploring and questioning possible, plausible, probable, and preferable futures [18, 19, 24]. Notions of speculative and critical approaches to design have a long history that extends across several disciplines and continue to be the subject of ongoing theorization and debate [4, 18, 41, 30, 1, 50, 27]. A primary goal of this paper is to contribute to the growing relevance and interest in a speculative and critical position on design in the HCI community. We do this through proposing material speculation as a conceptual framing for reading and creating design artifacts for critical inquiry. It is important to note that we do not propose material speculation as a means of classification or definition of artifact types or design approaches. In this sense, aspects of material speculation may well overlap with design fiction, or related notions like speculative design or critical design. Our aim is

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