

Gerhard Buurman, Editor

Total Interaction: Theory and Practice of a New Paradigm for the Design Disciplines

Book Review

—Reviewed by
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Index Terms—*Design, history, interaction, programming, sociology.*

Gerhard Buurman pulls together 19 separate interaction design articles into a surprisingly coherent whole. The articles all came out of research at the Interaction Design Program of the University of Applied Sciences and Arts, Zurich (HGKZ). Buurman's editorial talents provide a seemingly organic reading experience. The book begins with articles on the history of information and interaction design, proceeds to articles on interaction design theory, and then ambles into the bulk of its contents: current research. Finally, Caroline Schubinger provides a nice conclusion to this disparate material.

Faced with such a variety of foci, the authors provide a complex system of "Content Graphics," which further simplify and amplify the various articles and their connections to each other. While the graphics are absolutely beautiful and engaging, they require a bit more than the four pages allotted to their explanation at the beginning of the book. As such, I found myself spending the first hour and a half of reading time just staring at the pictures, trying to formulate a few ideas about their possible meanings.

The history section begins with Michael Friedewald's short history of human-computer interaction (HCI), reaching from Vannevar Bush's visionary Memex, to Microsoft Bob and the current stagnation of HCI models. Relying heavily upon linguistics and semiotics, the article serves to situate the book nicely in a historical context. Norbert M. Schmitz follows Friedewald's fairly straightforward

history of interaction design with a materialist one. Schmitz begins his history in the Renaissance and reaches the present through a certain equivalence: "Interaction design is in this sense nothing really new" (p. 50). However, our present situation adds a newness as current interaction design focuses on post-industrial society. Buurman combines these two histories, describing a symbiotic relationship between society and technology. This chapter serves as a kind of second introduction predicated on the first two chapters. He provides general overviews of the topics with which the rest of the book will be concerned.

The next three articles focus upon theory. Lev Manovich, always an innovator, provides one of the most outstanding essays in the book. He describes a new movement—"Generation Flash"—which cares little for the distinction between art and design, between form and content. This new generation is a reaction against all things postmodern, a return to "soft modernism." Rather than mere sampling (the MO of PoMo), Generation Flash creates new art in a constant battle against (contra and para) mimesis. The article is a blend of social critique and technological wizardry. Regine Halter follows Manovich's complication by positing memory and forgetting as the two poles of communication. Besides being more delicate than traditional linear sender-receiver models, her model allows for the fundamental differences between humans and computers. Finally, turning her critical eye to 2001's HAL 9000, Halter calls for more adaptability on the part of computers everywhere. Jürgen Fritz then focuses on the human side of HCI by looking at how we are affected by the virtual. Fritz sets up a complex system of schemata (fact, script, print, metaphorical, and dynamic levels) within which information is transferred (and necessarily transformed as well). His attention to detail (like the transfer/transform distinction) is astounding and occasionally numbing, but he says little that

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is new. However, like the preceding essays, his theory provides a foundation for the research that comprises the rest of the book.

The third section of the book is fairly hit or miss. Steffen Waltz has an intriguing article on augmented reality (games played in both real and virtual life simultaneously). The first half recounts the theoretical groundwork of augmented reality. The second half consists of an experiment performed at HGKZ playing out the theories of the first. While both are engaging, there is little application between the two halves—the essay would be much benefited by a lengthier conclusion explaining what was learned through the experiment.

This is followed by two articles on visual design: Jürgen Späth's "Questions on the Method of Visual Design" and Bernd Kersten's "Visual Perception and Virtual Worlds." Späth's short article is a brief overview of visual design experiments done at HGKZ, consisting primarily of pictures of various students' work. Kersten deals with issues of appearance in contemporary life.

Immediately after these two is possibly the strongest essay of the book: Nadia Gisler and Adrian Müller's "Being Invisible." Gisler and Müller engage in a brilliant discussion of nonlinear design and potentiality, punctuated with bizarre HTML-like sentences and self-parodying footnotes. In the abstract we get a description of crickets chirping in the background (while we're reading?) followed by a short note on the definition of a cricket. It's truly an engaging article from start to finish.

Daniel Hug follows with a nice introduction to aurality. Then we are into the heart of the research portion. Following are a few chapters that have little to do with interactive design (more art installation

than research): Christian Weber and Gerhard Buurman describe wearable computing, failing to take into account the inevitable "creep-out" factor of such experiments; Raphael Perret has his participants design their own clothing by walking around a room covered in sensors; Max Rheiner and Felix Eggman discuss the struggles of teaching new programming languages to their students and the possibility of "Generative Design." However, none of these articles introduces new material into the ongoing discussion of interaction design.

The final few articles do serve this need to a certain degree. Philip Ackermann attempts to shift design from programmers to users. Daniel Bisig produces a lifelike simulated organism that responds to vocal commands. Benedikt M. Voegtli et al. discuss a new tangible interface for learning chemistry, only to switch to the future tense when describing the experiment itself. Evidently the study was in progress at the time, and any conclusions in the article may be null and void by now. Peter Troxler's robotics study introduces an innovative "multi-agent system," where robots teach and learn simple processes, although their equipment is hopelessly out of date. Using a LEGO robotics kit purchasable at any toy store, they find ways to stretch the capabilities of inferior equipment. Finally, Caroline Schubiger's "Interaction Design: Definition and Tasks" ties together the loose ends and points toward new areas of research.

Overall, *Total Interaction* provides an accessible starting point for those new to the field while offering challenges to current researchers and theorists. Its diversity is at once its greatest asset and its greatest failing. *Total Interaction* demands a reader willing to allow these articles to interact on their own terms.