

Review

Tabletops - horizontal interactive displays

Müller-Tomfelde C., Springer Publishing Company, Incorporated, New York, NY, 2010. 484 pp.
Type: Book

Date Reviewed: 10/06/10

Apple's new mobile devices are definitely not the only ones that respond to people's general demand to work with a computer that is oriented horizontally, that is, with the display being integrated in a table, lying on one's lap, or being held in hand.

Müller-Tomfelde's book explores the research world around tabletop displays. The book is structured in three parts: "under," "on and above," and "around and beyond" tabletops, which correspond to three different research disciplines: hardware/software, human-computer interaction, and computer-supported cooperative work. However, the author points out that "all of the 18 book chapters reflect and underline the interdisciplinary character of tabletop research" and, as such, the structure and division into disciplines is not to be interpreted as strict. Müller-Tomfelde invited authors from different fields to write chapters on these three areas, addressing fellow researchers interested in the domain.

The hardware part addresses the building of multi-touch interfaces, the integration of different technologies, optical design, mechanisms to achieve high resolution, and hand and object recognition methods on liquid crystal displays (LCDs). The second part deals with the human-computer interaction methods for control of the displays--for example, how to deal with imprecise and inaccurate input and how to avoid user frustration if the recognition software is not yet perfect. One chapter in this part is devoted to three-dimensional (3D) tabletops. The last part concerns the productivity part of tabletops: How can tabletops support the interaction of groups? How can one access a filesystem efficiently in a tabletop graphical user interface (GUI) environment?

The book achieves its goal. Fellow researchers will be able to get an introduction to the field of tabletop research. This is also an interesting book for software engineers, GUI designers, technical managers, and other practitioners who work with horizontal displays.

My main critique of the book is the strict focus on tabletops. It seems that tabletops are a rather small niche, given the ubiquity of pen- and gesture-driven cell phones, electronic whiteboards (even though vertical), script pads, tablet PCs, and, last but not least, Apple's iPad. Many of the problems and solutions presented in this book are applicable to these devices as well. Therefore, although the book achieves its goal as an introduction to the field, by limiting itself to presenting research conducted with tabletops, it misses some of the important innovations and research areas based on other types of horizontal displays that might also be applicable to tabletops. Due to this fact, I cannot consider the book a comprehensive overview of the field of horizontal displays.

Reviewer: Gerald Friedland

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