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Human Aspects of Visualization

Second IFIP WG 13.7 Workshop
on Human-Computer Interaction and Visualization
HCIV (INTERACT) 2009
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Revised Selected Papers

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The original version of the book frontmatter was revised:
The copyright line was incorrect. The Erratum
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Preface

The data available to us all is increasing because of the myriad sensors that now surround us and the networks and the Web, which links previously disparate data together. At the same time displays have changed, as well as the ubiquitous desktop or laptop screen we now also have tiny mobile phone displays as vast giga-pixel display walls creating new challenges and opportunities for visualizing this data at both ends of the scale. In numerous areas including business, healthcare, security, and environmental management the effective visualization and analysis of data is essential to understand the world around and the impact of potential actions. However, these visualizations will be impaired if not useless unless they are based on a sound understanding of the way we as humans are able to comprehend and interact.

This book is intended to give an overview of important issues concerning human–computer interaction and information visualization. It is based on an IFIP workshop that took place during the Interact 2009 conference in Uppsala. This workshop, co-organized by IFIP WG TC13.7 on "HCI and Visualization" and the European VisMaster Coordinated Action, surveyed and expanded our understanding of the cognitive and perceptual issues of interactive visualization and visual analytics and brought together researchers interested in these issues. It highlighted the research required to understand what aspects of analysis match human capabilities most closely, and how interactive visual support should be designed and adapted to make optimal use of human capabilities in terms of information perception and processing.

Throughout the discussions during the Human Aspects of Visualization Workshop, various common topics emerged among the participants and these common topics are reflected in the papers in this volume. The papers indicate that there are still many open research questions even when one considers topics that have been studied for a considerable time such as fisheye interfaces. Furthermore, they remind us that visualization is no longer confined to expert users but may be used by everyone. The book can only outline some of the most prominent problems and some potential solutions to the effective application of human–computer interaction in information visualization. It does not provide a final answer to these issues, but offers a glimpse into an exciting area of growing importance to us all.

December 2010

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