Preface

Many textbooks arise from a perceived need—in our case, the lack of a research methods book specifically focusing on Human-Computer Interaction (HCI). When we first began writing the first edition of this book in 2007, we remembered our own experiences as doctoral students, primarily using research methods books in other fields, trying to determine how to properly apply the methods in HCI. As doctoral students, we took courses on research methods—from education, sociology, or psychology departments—or asked mentors. As professors, we found ourselves repeatedly returning to sources from outside our field to learn about unfamiliar research techniques. This gap in the literature led us to believe that the time was ripe for a research methods book specifically on HCI.

In the 10 years since we initially began writing the first edition of the book, academic offerings in HCI have grown immensely. Many universities now offer degrees with the name "Human-Computer Interaction" or "Human-Centered Computing." We are thrilled with this increased focus, and are honored to have played a role, however small, in that growth. We have also witnessed an evolution in the scope of HCI research. Although basic challenges—which research questions to ask, how to go about designing studies that would lead to answers, and how to interpret the results of those studies—remain the same, the range of available methods and techniques has grown. Crowdsourcing, social media, ubiquitous computing, and big data approaches have led to new uses of computing and new opportunities for research. Social networking sites offer billions of pieces of text and multimedia, suitable for analyzing patterns and describing conversations and information flows between users. Ubiquitous devices enable tracking of literally "every step we take," allowing detailed understanding of physical activity. Increased use of information tools in vital areas such as healthcare provides new challenges in understanding computing use in context, as doctors and patients routinely include electronic health records as key elements in medical care. Eye-tracking tools have dropped in price, allowing more researchers to afford them and integrate these tools into their research. More research now takes place outside of the laboratory to better understand usage of portable technology such as tablet computers and smart phones.

We have tried to present the various research methods in this text from the perspective of their use in HCI. Thus our description of experimental design (Chapter 4) discusses experiments with as few as 16 participants—a sample size much smaller than those often found in psychology experiments. Similarly, Chapter 5 (on surveys) discusses how nonrandom sample surveys are acceptable in HCI research—a sharp contrast with the strict sampling methodologies often found in social sciences.

We hope that you use this textbook on a daily basis, as you are faced with the challenges involved in doing data collection. We hope that this book helps inspire you, the reader, to do groundbreaking research, to change the way we all think about HCI, to do something different, something noteworthy, and something important.

Jonathan Lazar
Jinjuan Heidi Feng
Harry Hochheiser