Preface

This book is written for university students interested in human–computer interaction (HCI). It distills the main principles and findings of the field into an accessible format. In particular, this book covers the theories of interaction in greater breadth than previous textbooks. Although the book is structured for sequential reading, it can also be adapted for HCI classes in different departmental contexts through a mix-and-match approach. It can also serve as self-study material. The accompanying web page offers additional resources for both teachers and students.

For teachers

Teachers can use the book in different ways. A general introductory course can adapt the introductory chapters of the book's parts and cover 1–2 chapters as in-depth lectures.

A first course on HCI in a computer science context may start with the introduction (Part I) followed by course-relevant basics of human behavior (Part II). After introducing design processes (Chapter 33), we recommend introducing user research (Chapter 10) and trialing one of the methods presented in that part of the book. We then recommend covering two evaluation methods: analytic methods (Chapter 41) and experiments (Chapter 43). This can be followed by basic theories of interaction (Chapter 17, Chapter 18), user interfaces (Part V), and user interface software (Chapter 38). An advanced course on HCI may complement this material with more in-depth content on understanding interaction from Part IV.

This book is also suitable for specialized courses. A course on user research methods may focus on Chapters 10–15 in Part III, which explain interviews, field research, survey design, and unobtrusive research methods, as well as methods for analyzing outcomes. Depending on the scope of the course, this may be complemented with material on evaluation from Part VIII, which covers analytic methods, think-aloud studies, experiments, and deployment studies.

For teaching design students, we recommend starting with user-centered processes (Chapter 33) and then selectively reading material on understanding people (Part II), user research (Chapter 33), user interfaces (Part V), evaluation (Part VIII), and design (Part VI). A course on prototyping may focus on Part VI and Part VII, which explain design cognition, design processes, design engineering, input sensing, user interface software, and safety and risk. An interactive systems course should also consider Part V.

For teaching engineering students, we recommend starting with two chapters: the book's introduction and a chapter that matches the character of the course. The rest of the course could focus on user interfaces (Part V) and engineering (Part VII). We believe

it is particularly important to learn about safety and risk (Chapter 37) and automation (Chapter 20).

For teaching students with a background in social sciences, we recommend choosing one chapter from each part of the book and, depending on the characteristics of the course, putting more emphasis on understanding people (Part II), user research (Part III), theories of interaction (Part IV), or systems thinking (Chapter 35).

For students with a background in psychology, it is important to master methods that are rooted in psychology. We recommend focusing on understanding people (Part II), interaction (Part IV), and evaluation (Part VIII).

Artificial intelligence is a cross-cutting topic in the book. Teachers may include chapters on automation (Chapter 20), systems thinking (Chapter 35), safety and risk (Chapter 37), rationality (Chapter 21), and dialogue (Chapter 18).

For students

There are several ways to read this book. The most straightforward approach is to read it cover-to-cover. The parts of this book are arranged so that key concepts are introduced before they are discussed in later parts. Another way is to first read the introductions to each part and then read the remaining chapters in each part.

If you want to use the book to prepare for a career involving HCI, this book covers most methods that HCI professionals use in their daily work. Our recommendation is to start with an overview of design processes and then learn the following: (1) usability as a construct, (2) the interview method, (3) the survey method, (4) sketching, (5) heuristic evaluation, (6) experimental evaluation, (7) field evaluation, (8) requirements analysis, (9) a selection of engineering methods, and (10) a selection of software engineering methods.

As a student, it is valuable to think about and relate the content in the book to the systems, products, and services you know and have experienced. Does the content in the book help you understand these? Can you see ways of improving them? How would you do that? In addition, we encourage you to do the exercises included in the book, as HCI is both easier and more fun to learn by doing. Some exercises are easy; others require you to think hard or try out specific activities. We encourage you to try all types of exercises. If any concept or topic piques your interest, explore it further online—many useful resources are readily available on the web.

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