CAMBRIDGE SERIES ON HUMAN–COMPUTER INTERACTION

FORMAL METHODS IN HUMAN–COMPUTER INTERACTION

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Formal Methods in Human–Computer Interaction

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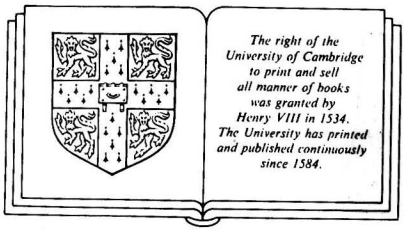

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Formal Methods in
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PREFACE

This is the first book specifically to relate modern, formal, ideas in Software Engineering to Human Computer Interaction. The book is intended to be read by software engineers, HCI researchers, and post-graduate students working in or with HCI and Software Engineering.

By collecting and representing the state of the art in relevant HCI research, this book addresses the question of how software systems can be designed and built that incorporate a full consideration of the user. Formal design methods should capture the perspective of the user within a software engineering framework.

Our aim is to contribute to both HCI and formal methods by applying one to the other, in particular, by showing how formal methods may be used to model and implement prototypes of interactive systems. The material, then, is of advantage to people working in conventional HCI—we expose them to the power and relevance of formal methods—and conversely, to people working in formal methods—we expose them to the applications and potential in HCI.

Chapters 2 and 3 illustrate the gulf between software engineering and HCI. Subsequent chapters first show how formal modelling techniques may be used to describe interactive behaviour, and discuss how these models may be used to assist the design process (chapters 4, 5 and 6) and then discuss the relationship between models and implementations:

rapidly developed prototypes on the one hand; and system architectures on the other (chapters 7, 8 and 9).

A note on producing this book

This book was produced using LaTeX, a system that enabled us to collate and edit the contributions and work at two distant sites in the UK, exchanging manuscripts and corresponding by email. LaTeX produces very good results when it works; for our purposes, it was better than alternatives—but it would have been *much* better for want of a formal model!

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