Preface

As we began to plan this book, we worried that it would become lost in the hundreds—no, thousands—of volumes that have been written on "Web design," HTML, Java, XML, or any of the myriad technologies that must be understood to build successful Web-based systems and applications (WebApps). To our surprise, we found that one crucial topic—the *process* through which each of the other technologies is applied—has received relatively little coverage. We call the process *Web engineering,* and we believe people who apply it have a higher likelihood of building WebApps that satisfy users' needs and provide real benefit to their clients' businesses or organizations.

It has become a cliché to state that WebApps can be pivotal to the success of virtually all businesses and organizations. And yet, many WebApps continue to be built in an ad hoc manner with little regard to the fundamental principles of problem analysis, effective design, solid testing, and change management. As a consequence, many WebApps fail to meet the needs of their users and the objectives of the business that has commissioned them.

Today, we're making the transition from an old-school approach to Web engineering in order to meet the challenges posed by the next generation of Web-based systems and applications. The industry is moving toward a more pragmatic Web engineering process—one that exhibits agility and adaptability. At the same time, the process must deliver the integrity of a disciplined approach.

Web Engineering: A Practitioner's Approach has been written to provide you with a solid understanding of a pragmatic process for engineering Web-based systems and applications. The content is presented in an informal, conversational style, using a question-and-answer format to mentor the reader in this new engineering discipline.

Throughout the book, we emphasize an agile process and simple, practical methods that have been proven in industry application. At the same time, we have purposely deemphasized our treatment of specific Web-based tools and technologies. This is not because we think they are unimportant, but because there are literally thousands of books, papers, and Web-based resources that address them and surprisingly few that consider Web engineering issues in a cohesive manner. For that reason, our focus is unapologetically on Web engineering. Our intent is to provide a book that can be used by industry practitioners and by students at the undergraduate or first-year graduate level.

The Web engineering process emphasizes an agile approach and presents simple, yet effective methods for gathering and analyzing problem requirements, designing an effective solution, and then building and testing a high-quality WebApp.

But the process is not just about technology. We also present proven techniques for project management, change and content management, and quality assurance. Throughout the book, we present a case study designed to provide examples of the methods and techniques we present. A website, **www.SafeHomeAssured.com**, complements the case study with additional in-depth detail, as well as providing extra supporting information.

Our work on this book has been facilitated by many print and Web-based resources that discuss principles and techniques for building high-quality WebApps. Our thanks to the authors of each source referenced within these pages and to hundreds of other colleagues and authors who have shaped our thinking over the years. Special thanks also go to Didar Zowghi, Norazlin Yusop, Xiaoying Kong, and Rachatrin Tongrungrojana.

Throughout this book, we have used text excerpts, selected figures, and the *SafeHome* case study from Roger Pressman's *Software Engineering: A Practitioner's Approach* (sixth edition). In some cases, we have used these materials as is, but in many others, we have adapted them to meet the special needs of Web engineers. In every case, these materials are used with permission.

We each have families of four and want to express special thanks for their support during this endeavor. Our wonderful wives—Barbara and Catherine—have graciously tolerated the many hours of writing, revision, and travel that come with the production of a book. Roger's sons—Mathew and Michael—are grown, have businesses of their own, and use the Internet and Web every day. David's sons—Oliver and Dominic—are young, have their whole future ahead of them, and will surely spend much of their professional lives navigating the Web of tomorrow. We hope that the ideas presented in this book will make their journey easier.

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