

Foreword

As Information Technology (IT) is permeating more and more functions of society, and digital information is becoming a key asset of every organization; software systems security is growing in importance and urgency. The massive amount of security flaws that keep emerging in various software systems indicate that security has not been given sufficient attention in software engineering education and research.

But security is also difficult. A secure software system needs to withstand all attacks, while an attacker only needs to beat the system's security once, possibly out of thousands of tries. In large complex software systems, it is unlikely that there will not be a single vulnerability. Hence, security needs to be addressed in a holistic way, at multiple levels to provide defence in depth, and from multiple angles to avoid bias to one particular type of threat.

This book delivers such a needed multiplicity, having interesting contributions from a number of excellent researchers within the area of software systems security. With parts about security patterns, development methods and frameworks, privacy and trust, and code analysis, it covers a large part of the lifecycle, from high level threats and early user requirements to intricate technical details; and it covers both process (e.g., development methods) and product (e.g., patterns, architecture).

All in all, this anthology provides a very important view of where the research front stands today on various issues related to software engineering for security and privacy. The reader who has little knowledge about the topic will find good introductions to the various challenges, as well as a wealth of references pointing to further readings. The expert will find detailed contributions by top researchers in the field, which will inspire further research and hopefully provide a crucial and needed input for industrial practice, aiming to provide the foundations for better software systems security and privacy in the years to come.

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Guttorm Sindre (b.1964) holds a Ph.D. in Computer from the Norwegian Institute of Technology (NTH), 1990 and is currently professor in information systems at the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway. He has published around 100 peer-reviewed papers in journals, books, and conferences since 1987, and has been involved in several national and international research projects. He has been on the program committee of several international conferences and was program co-chair of CAiSE '07, posters & demos chair of RE '08, and organizational co-chair of REFSQ '09. In recent years his research has focussed on conceptual modelling and early stage requirements techniques, especially related to security and safety, and he is currently project manager of REQSEC, a funded by the Norwegian Research Council to investigate techniques for security requirements.