
The Art Of Software Security Assessment

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Security Assessment*

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The Art of Software Security Assessment *Pearson Education*

The Definitive Insider's Guide to Auditing Software Security This is one of the most detailed, sophisticated, and useful guides to software security auditing ever written. The authors are leading security consultants and researchers who have personally uncovered vulnerabilities in applications ranging from sendmail to Microsoft Exchange, Check Point VPN to Internet Explorer. Drawing on their extraordinary experience, they introduce a start-to-finish methodology for "ripping apart" applications to reveal even the most subtle and well-hidden security flaws. The Art of Software Security Assessment covers the full spectrum of software vulnerabilities in both UNIX/Linux and Windows environments. It demonstrates how to audit security in applications of all sizes and functions, including network and Web software. Moreover, it teaches using extensive examples of real code drawn from past flaws in many of the industry's highest-profile applications. Coverage includes • Code auditing: theory, practice, proven methodologies, and secrets of the trade • Bridging the gap between secure software design and post-implementation review • Performing architectural assessment: design review, threat modeling, and operational review • Identifying vulnerabilities related to memory management, data types, and

malformed data • UNIX/Linux assessment: privileges, files, and processes • Windows-specific issues, including objects and the filesystem • Auditing interprocess communication, synchronization, and state • Evaluating network software: IP stacks, firewalls, and common application protocols • Auditing Web applications and technologies

The Art of Software Security Testing *Pearson Education*

State-of-the-Art Software Security Testing: Expert, Up to Date, and Comprehensive The Art of Software Security Testing delivers in-depth, up-to-date, battle-tested techniques for anticipating and identifying software security problems before the "bad guys" do. Drawing on decades of experience in application and penetration testing, this book's authors can help you transform your approach from mere "verification" to proactive "attack." The authors begin by systematically reviewing the design and coding vulnerabilities that can arise in software, and offering realistic guidance in avoiding them. Next, they show you ways to customize software debugging tools to test the unique aspects of any program and then analyze the results to identify exploitable vulnerabilities. Coverage includes Tips on how to think the way software attackers think to strengthen your defense strategy Cost-effectively integrating security testing into your development lifecycle Using threat modeling to prioritize testing based on your top areas of risk Building testing labs for performing white-, grey-, and black-box software testing Choosing and using the right tools for each testing project Executing today's leading attacks, from fault injection to buffer

overflows Determining which flaws are most likely to be exploited by real-world attackers

Software Security *Addison-Wesley Professional*

Describes how to put software security into practice, covering such topics as risk management frameworks, architectural risk analysis, security testing, and penetration testing.

A Bug Hunter's Diary *No Starch Press*

Klein tracks down and exploits bugs in some of the world's most popular programs. Whether by browsing source code, poring over disassembly, or fuzzing live programs, readers get an over-the-shoulder glimpse into the world of a bug hunter as Klein unearths security flaws and uses them to take control of affected systems.

Fuzzing for Software Security Testing and Quality Assurance *Artech House*

Learn the code cracker's malicious mindset, so you can find worn-size holes in the software you are designing, testing, and building. Fuzzing for Software Security Testing and Quality Assurance takes a weapon from the black-hat arsenal to give you a powerful new tool to build secure, high-quality software. This practical resource helps you add extra protection without adding expense or time to already tight schedules and budgets. The book shows you how to make fuzzing a standard practice that integrates seamlessly with all development activities. This comprehensive reference goes through each phase of software development and points out where testing and auditing can tighten security. It surveys all popular commercial fuzzing tools and

explains how to select the right one for a software development project. The book also identifies those cases where commercial tools fall short and when there is a need for building your own fuzzing tools.

Software System Reliability and Security *IOS Press*

"Information security covers the protection of information against unauthorized disclosure, transfer, modification, and destruction, whether accidentally or intentionally. Quality of life in general and of individual citizens, and the effectiveness of the economy critically depends on our ability to build software in a transparent and efficient way. Furthermore, we must be able to enhance the software development process systematically in order to ensure software's safety and security. This, in turn, requires very high software reliability, i.e., an extremely high confidence in the ability of the software to perform flawlessly. Foundations of software technology provide models that enable us to capture application domains and their requirements, but also to understand the structure and working of software systems and software architectures. Based on these foundations tools allow to prove and ensure the correctness of software's functioning. New developments must pay due diligence to the importance of security-related aspects, and align current methods and techniques to information security, integrity, and system reliability. The articles in this book describe the state-of-the-art ideas on how to meet these challenges in software engineering."

19 Deadly Sins of Software Security *McGraw-Hill Osborne Media*

A guide to computer software security covers such topics as format string problems, command injection, cross-site scripting, SSL, information leakage, and key exchange.

Secure Programming with Static Analysis *Pearson Education*

The First Expert Guide to Static Analysis for Software Security! Creating secure code requires more than just good intentions. Programmers need to know that their code will be safe in an almost infinite number of scenarios and configurations. Static source code analysis gives users the ability to review their work with a fine-toothed comb and uncover the kinds of errors that lead directly to security vulnerabilities. Now, there's a complete guide to static analysis: how it works, how to integrate it into the software development processes, and how to make the most of it during security code review. Static analysis experts Brian Chess and Jacob West look at the most common types of security defects that occur today. They illustrate main points using Java and C code examples taken from real-world security incidents, showing how coding errors are exploited, how they could have been prevented, and how static analysis can rapidly uncover similar mistakes. This book is for everyone concerned with building more secure software: developers, security engineers, analysts, and testers.

Computer Security *Addison-Wesley Professional*

The Comprehensive Guide to Computer Security, Extensively Revised with Newer Technologies, Methods, Ideas, and Examples In this updated guide, University of California at Davis Computer Security Laboratory co-

director Matt Bishop offers clear, rigorous, and thorough coverage of modern computer security. Reflecting dramatic growth in the quantity, complexity, and consequences of security incidents, *Computer Security, Second Edition*, links core principles with technologies, methodologies, and ideas that have emerged since the first edition's publication. Writing for advanced undergraduates, graduate students, and IT professionals, Bishop covers foundational issues, policies, cryptography, systems design, assurance, and much more. He thoroughly addresses malware, vulnerability analysis, auditing, intrusion detection, and best-practice responses to attacks. In addition to new examples throughout, Bishop presents entirely new chapters on availability policy models and attack analysis. Understand computer security goals, problems, and challenges, and the deep links between theory and practice Learn how computer scientists seek to prove whether systems are secure Define security policies for confidentiality, integrity, availability, and more Analyze policies to reflect core questions of trust, and use them to constrain operations and change Implement cryptography as one component of a wider computer and network security strategy Use system-oriented techniques to establish effective security mechanisms, defining who can act and what they can do Set appropriate security goals for a system or product, and ascertain how well it meets them Recognize program flaws and malicious logic, and detect attackers seeking to exploit them This is both a comprehensive text, explaining the most fundamental and pervasive aspects of the field, and a detailed reference. It will help you align security concepts with

realistic policies, successfully implement your policies, and thoughtfully manage the trade-offs that inevitably arise. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Network Security Assessment "O'Reilly Media, Inc."

A practical handbook for network administrators who need to develop and implement security assessment programs, exploring a variety of offensive technologies, explaining how to design and deploy networks that are immune to offensive tools and scripts, and detailing an efficient testing model. Original. (Intermediate)

The Art of Software Testing John Wiley & Sons

This long-awaited revision of a bestseller provides a practical discussion of the nature and aims of software testing. You'll find the latest methodologies for the design of effective test cases, including information on psychological and economic principles, managerial aspects, test tools, high-order testing, code inspections, and debugging. Accessible, comprehensive, and always practical, this edition provides the key information you need to test successfully, whether a novice or a working programmer. Buy your copy today and end up with fewer bugs tomorrow.

Agile Application Security "O'Reilly Media, Inc."

Agile continues to be the most adopted software development methodology among organizations worldwide, but it generally hasn't integrated well with traditional security management

techniques. And most security professionals aren't up to speed in their understanding and experience of agile development. To help bridge the divide between these two worlds, this practical guide introduces several security tools and techniques adapted specifically to integrate with agile development. Written by security experts and agile veterans, this book begins by introducing security principles to agile practitioners, and agile principles to security practitioners. The authors also reveal problems they encountered in their own experiences with agile security, and how they worked to solve them. You'll learn how to: Add security practices to each stage of your existing development lifecycle Integrate security with planning, requirements, design, and at the code level Include security testing as part of your team's effort to deliver working software in each release Implement regulatory compliance in an agile or DevOps environment Build an effective security program through a culture of empathy, openness, transparency, and collaboration

Threat Modeling John Wiley & Sons

The only security book to be chosen as a Dr. Dobbs Jolt Award Finalist since Bruce Schneier's *Secrets and Lies* and *Applied Cryptography*! Adam Shostack is responsible for security development lifecycle threat modeling at Microsoft and is one of a handful of threat modeling experts in the world. Now, he is sharing his considerable expertise into this unique book. With pages of specific actionable advice, he details how to build better security into the design of systems, software, or services from the outset. You'll explore various threat modeling approaches, find out how to test your designs against threats, and

learn effective ways to address threats that have been validated at Microsoft and other top companies. Systems security managers, you'll find tools and a framework for structured thinking about what can go wrong. Software developers, you'll appreciate the jargon-free and accessible introduction to this essential skill. Security professionals, you'll learn to discern changing threats and discover the easiest ways to adopt a structured approach to threat modeling. Provides a unique how-to for security and software developers who need to design secure products and systems and test their designs Explains how to threat model and explores various threat modeling approaches, such as asset-centric, attacker-centric and software-centric Provides effective approaches and techniques that have been proven at Microsoft and elsewhere Offers actionable how-to advice not tied to any specific software, operating system, or programming language Authored by a Microsoft professional who is one of the most prominent threat modeling experts in the world As more software is delivered on the Internet or operates on Internet-connected devices, the design of secure software is absolutely critical. Make sure you're ready with Threat Modeling: Designing for Security.

Embedded Systems Security *Elsevier*
Front Cover; Dedication; Embedded Systems Security: Practical Methods for Safe and Secure Software and Systems Development; Copyright; Contents; Foreword; Preface; About this Book; Audience; Organization; Approach; Acknowledgements; Chapter 1 -- Introduction to Embedded Systems Security; 1.1What is Security?; 1.2What is an Embedded System?; 1.3Embedded Security Trends; 1.4Security Policies;

1.5Security Threats; 1.6Wrap-up; 1.7Key Points; 1.8 Bibliography and Notes; Chapter 2 -- Systems Software Considerations; 2.1The Role of the Operating System; 2.2Multiple Independent Levels of Security.

Software Security Engineering *Addison-Wesley Professional*

Software Security Engineering draws extensively on the systematic approach developed for the Build Security In (BSI) Web site. Sponsored by the Department of Homeland Security Software Assurance Program, the BSI site offers a host of tools, guidelines, rules, principles, and other resources to help project managers address security issues in every phase of the software development life cycle (SDLC). The book's expert authors, themselves frequent contributors to the BSI site, represent two well-known resources in the security world: the CERT Program at the Software Engineering Institute (SEI) and Cigital, Inc., a consulting firm specializing in software security. This book will help you understand why Software security is about more than just eliminating vulnerabilities and conducting penetration tests Network security mechanisms and IT infrastructure security services do not sufficiently protect application software from security risks Software security initiatives should follow a risk-management approach to identify priorities and to define what is "good enough"-understanding that software security risks will change throughout the SDLC Project managers and software engineers need to learn to think like an attacker in order to address the range of functions that software should not do, and how software can better resist, tolerate, and recover when under attack

Writing Secure Code *Pearson Education*

Covers topics such as the importance of secure systems, threat modeling, canonical representation issues, solving database input, denial-of-service attacks, and security code reviews and checklists.

Essential Cybersecurity Science *"O'Reilly Media, Inc."*

If you're involved in cybersecurity as a software developer, forensic investigator, or network administrator, this practical guide shows you how to apply the scientific method when assessing techniques for protecting your information systems. You'll learn how to conduct scientific experiments on everyday tools and procedures, whether you're evaluating corporate security systems, testing your own security product, or looking for bugs in a mobile game. Once author Josiah Dykstra gets you up to speed on the scientific method, he helps you focus on standalone, domain-specific topics, such as cryptography, malware analysis, and system security engineering. The latter chapters include practical case studies that demonstrate how to use available tools to conduct domain-specific scientific experiments. Learn the steps necessary to conduct scientific experiments in cybersecurity Explore fuzzing to test how your software handles various inputs Measure the performance of the Snort intrusion detection system Locate malicious "needles in a haystack" in your network and IT environment Evaluate cryptography design and application in IoT products Conduct an experiment to identify relationships between similar malware binaries Understand system-level security requirements for

enterprise networks and web services

Exploiting Software: How To Break Code *Pearson Education India*

Surreptitious Software *Pearson Education*

"This book gives thorough, scholarly coverage of an area of growing importance in computer security and is a 'must have' for every researcher, student, and practicing professional in software protection." —Mikhail Atallah, Distinguished Professor of Computer Science at Purdue University Theory, Techniques, and Tools for Fighting Software Piracy, Tampering, and Malicious Reverse Engineering The last decade has seen significant progress in the development of techniques for resisting software piracy and tampering. These techniques are indispensable for software developers seeking to protect vital intellectual property. *Surreptitious Software* is the first authoritative, comprehensive resource for researchers, developers, and students who want to understand these approaches, the level of security they afford, and the performance penalty they incur. Christian Collberg and Jasvir Nagra bring together techniques drawn from related areas of computer science, including cryptography, steganography, watermarking, software metrics, reverse engineering, and compiler optimization. Using extensive sample code, they show readers how to implement protection schemes ranging from code obfuscation and software fingerprinting to tamperproofing and birthmarking, and discuss the theoretical and practical limitations of these techniques. Coverage includes Mastering techniques that both attackers and defenders use to analyze programs Using code

obfuscation to make software harder to analyze and understand Fingerprinting software to identify its author and to trace software pirates Tamperproofing software using guards that detect and respond to illegal modifications of code and data Strengthening content protection through dynamic watermarking and dynamic obfuscation Detecting code theft via software similarity analysis and birthmarking algorithms Using hardware techniques to defend software and media against piracy and tampering Detecting software tampering in distributed system Understanding the theoretical limits of code obfuscation

How to Break Software Security

Addison-Wesley

Learn how to destroy security bugs in your software from a tester's point-of-view. It focuses your security test on the common vulnerabilities--the user interface, software dependencies, design, process and memory. (Midwest)

24 Deadly Sins of Software Security: Programming Flaws and How to Fix Them

McGraw Hill Professional

"What makes this book so important is that it reflects the experiences of two of the industry's most experienced hands at getting real-world engineers to understand just what they're being asked for when they're asked to write secure code. The book reflects Michael Howard's and David LeBlanc's experience in the trenches working with developers years after code was long since shipped, informing them of problems." --From the Foreword by Dan Kaminsky, Director of Penetration Testing, IOActive Eradicate the Most Notorious Insecure Designs and Coding Vulnerabilities Fully updated to cover the

latest security issues, 24 Deadly Sins of Software Security reveals the most common design and coding errors and explains how to fix each one-or better yet, avoid them from the start. Michael Howard and David LeBlanc, who teach Microsoft employees and the world how to secure code, have partnered again with John Viega, who uncovered the original 19 deadly programming sins. They have completely revised the book to address the most recent vulnerabilities and have added five brand-new sins. This practical guide covers all platforms, languages, and types of applications. Eliminate these security flaws from your code: SQL injection Web server- and client-related vulnerabilities Use of magic URLs, predictable cookies, and hidden form fields Buffer overruns Format string problems Integer overflows C++ catastrophes Insecure exception handling Command injection Failure to handle errors Information leakage Race conditions Poor usability Not updating easily Executing code with too much privilege Failure to protect stored data Insecure mobile code Use of weak password-based systems Weak random numbers Using cryptography incorrectly Failing to protect network traffic Improper use of PKI Trusting network name resolution

Empirical Research for Software Security

CRC Press

Developing secure software requires the integration of numerous methods and tools into the development process, and software design is based on shared expert knowledge, claims, and opinions. Empirical methods, including data analytics, allow extracting knowledge and insights from the data that organizations collect from their

processes and tools, and from the opinions of the experts who practice these processes and methods. This book introduces the reader to the fundamentals of empirical research methods, and demonstrates how these methods can be used to hone a secure software development lifecycle based on empirical data and published best practices.

Designing Secure Software *No Starch Press*

What every software professional should know about security. *Designing Secure Software* consolidates Loren Kohnfelder's more than twenty years of experience into a concise, elegant guide to improving the security of technology products. Written for a wide range of software professionals, it emphasizes building security into software design early and involving the entire team in the process. The book begins with a discussion of core concepts like trust, threats, mitigation, secure design patterns, and cryptography. The second part, perhaps this book's most unique and important contribution to the field, covers the process of designing and reviewing a software design with security considerations in mind. The final section details the most common coding flaws that create vulnerabilities, making copious use of code snippets written in C and Python to illustrate implementation vulnerabilities. You'll learn how to:

- Identify important assets, the attack surface, and the trust boundaries in a system
- Evaluate the effectiveness of various threat mitigation candidates
- Work with well-known secure coding patterns and libraries
- Understand and prevent vulnerabilities like XSS and CSRF, memory flaws, and more
- Use security testing to proactively identify

vulnerabilities introduced into code

- Review a software design for security flaws effectively and without judgment

Kohnfelder's career, spanning decades at Microsoft and Google, introduced numerous software security initiatives, including the co-creation of the STRIDE threat modeling framework used widely today. This book is a modern, pragmatic consolidation of his best practices, insights, and ideas about the future of software.

Secure Programming Cookbook for C and C++ *O'Reilly Media, Inc.*

Password sniffing, spoofing, buffer overflows, and denial of service: these are only a few of the attacks on today's computer systems and networks. At the root of this epidemic is poorly written, poorly tested, and insecure code that puts everyone at risk. Clearly, today's developers need help figuring out how to write code that attackers won't be able to exploit. But writing such code is surprisingly difficult. *Secure Programming Cookbook for C and C++* is an important new resource for developers serious about writing secure code. It contains a wealth of solutions to problems faced by those who care about the security of their applications. It covers a wide range of topics, including safe initialization, access control, input validation, symmetric and public key cryptography, cryptographic hashes and MACs, authentication and key exchange, PKI, random numbers, and anti-tampering. The rich set of code samples provided in the book's more than 200 recipes will help programmers secure the C and C++ programs they write for both Unix® (including Linux®) and Windows® environments. Readers will learn: How to avoid common programming errors, such as buffer

overflows, race conditions, and format string problems How to properly SSL-enable applications How to create secure channels for client-server communication without SSL How to integrate Public Key Infrastructure (PKI) into applications Best practices for using cryptography properly Techniques and strategies for properly validating input to programs How to launch programs securely How to use file access mechanisms properly Techniques for protecting applications from reverse engineering The book's web site supplements the book by providing a place to post new recipes, including those written in additional languages like Perl, Java, and Python. Monthly prizes will reward the best recipes submitted by readers. *Secure Programming Cookbook for C and C++* is destined to become an essential part of any developer's library, a code companion developers will turn to again and again as they seek to protect their systems from attackers and reduce the risks they face in today's dangerous world.

ART OF SOFTWARE SECURITY ASSESSMENT.

Web Security Testing Cookbook *"O'Reilly Media, Inc."*

Offering developers an inexpensive way to include testing as part of the development cycle, this cookbook features scores of recipes for testing Web applications, from relatively simple solutions to complex ones that combine several solutions.

Building in Security at Agile Speed *CRC Press*

Today's high-speed and rapidly changing development environments demand equally high-speed security practices.

Still, achieving security remains a human endeavor, a core part of designing, generating and verifying software. Dr. James Ransome and Brook S.E. Schoenfield have built upon their previous works to explain that security starts with people; ultimately, humans generate software security. People collectively act through a particular and distinct set of methodologies, processes, and technologies that the authors have brought together into a newly designed, holistic, generic software development lifecycle facilitating software security at Agile, DevOps speed. —Eric. S. Yuan, Founder and CEO, Zoom Video Communications, Inc. It is essential that we embrace a mantra that ensures security is baked in throughout any development process. Ransome and Schoenfield leverage their abundance of experience and knowledge to clearly define why and how we need to build this new model around an understanding that the human element is the ultimate key to success. —Jennifer Sunshine Steffens, CEO of IOActive Both practical and strategic, *Building in Security at Agile Speed* is an invaluable resource for change leaders committed to building secure software solutions in a world characterized by increasing threats and uncertainty. Ransome and Schoenfield brilliantly demonstrate why creating robust software is a result of not only technical, but deeply human elements of agile ways of working. —Jorgen Hesselberg, author of *Unlocking Agility* and Co-founder of Comparative Agility The proliferation of open source components and distributed software services makes the principles detailed in *Building in Security at Agile Speed* more relevant than ever. Incorporating the principles and detailed guidance in this book into your SDLC is a must for all

software developers and IT organizations. —George K Tsantes, CEO of Cyberphos, former partner at Accenture and Principal at EY Detailing the people, processes, and technical aspects of software security, *Building in Security at Agile Speed* emphasizes that the people element remains critical because software is developed, managed, and exploited by humans. This book presents a step-by-step process for software security that is relevant to today's technical, operational, business, and development environments with a focus on what humans can do to control and manage the process in the form of best practices and metrics.

The Security Development Lifecycle

Describes how to put software security into practice, covering such topics as risk analysis, coding policies, Agile Methods, cryptographic standards, and threat tree patterns.

Security Patterns in Practice *John Wiley & Sons*

Learn to combine security theory and code to produce secure systems Security is clearly a crucial issue to consider during the design and implementation of any distributed software architecture. Security patterns are increasingly being used by developers who take security into serious consideration from the creation of their work. Written by the authority on security patterns, this unique book examines the structure and purpose of security patterns, illustrating their use with the help of detailed implementation advice, numerous code samples, and descriptions in UML. Provides an extensive, up-to-date catalog of security patterns Shares real-world case studies so you can see when and how to use security patterns in

practice Details how to incorporate security from the conceptual stage Highlights tips on authentication, authorization, role-based access control, firewalls, wireless networks, middleware, VoIP, web services security, and more Author is well known and highly respected in the field of security and an expert on security patterns Security Patterns in Practice shows you how to confidently develop a secure system step by step.

Game Theory and Machine Learning for Cyber Security *John Wiley & Sons*

Move beyond the foundations of machine learning and game theory in cyber security to the latest research in this cutting-edge field In *Game Theory and Machine Learning for Cyber Security*, a team of expert security researchers delivers a collection of central research contributions from both machine learning and game theory applicable to cybersecurity. The distinguished editors have included resources that address open research questions in game theory and machine learning applied to cyber security systems and examine the strengths and limitations of current game theoretic models for cyber security. Readers will explore the vulnerabilities of traditional machine learning algorithms and how they can be mitigated in an adversarial machine learning approach. The book offers a comprehensive suite of solutions to a broad range of technical issues in applying game theory and machine learning to solve cyber security challenges. Beginning with an introduction to foundational concepts in game theory, machine learning, cyber security, and cyber deception, the editors provide readers with resources that discuss the latest in hypergames,

behavioral game theory, adversarial machine learning, generative adversarial networks, and multi-agent reinforcement learning. Readers will also enjoy: A thorough introduction to game theory for cyber deception, including scalable algorithms for identifying stealthy attackers in a game theoretic framework, honeypot allocation over attack graphs, and behavioral games for cyber deception An exploration of game theory for cyber security, including actionable game-theoretic adversarial intervention detection against persistent and advanced threats Practical discussions of adversarial machine learning for cyber security, including adversarial machine learning in 5G security and machine learning-driven fault injection in cyber-physical systems In-depth examinations of generative models for cyber security Perfect for researchers, students, and experts in the fields of computer science and engineering, *Game Theory and Machine Learning for Cyber Security* is also an indispensable resource for industry professionals, military personnel, researchers, faculty, and students with an interest in cyber security.

The Tangled Web *No Starch Press*

Modern web applications are built on a tangle of technologies that have been developed over time and then haphazardly pieced together. Every piece of the web application stack, from HTTP requests to browser-side scripts, comes with important yet subtle security consequences. To keep users safe, it is essential for developers to confidently navigate this landscape. In *The Tangled Web*, Michal Zalewski, one of the world's top browser security experts, offers a compelling narrative that explains exactly how browsers work and why

they're fundamentally insecure. Rather than dispense simplistic advice on vulnerabilities, Zalewski examines the entire browser security model, revealing weak points and providing crucial information for shoring up web application security. You'll learn how to:

- Perform common but surprisingly complex tasks such as URL parsing and HTML sanitization
- Use modern security features like Strict Transport Security, Content Security Policy, and Cross-Origin Resource Sharing
- Leverage many variants of the same-origin policy to safely compartmentalize complex web applications and protect user credentials in case of XSS bugs
- Build mashups and embed gadgets without getting stung by the tricky frame navigation policy
- Embed or host user-supplied content without running into the trap of content sniffing

For quick reference, "Security Engineering Cheat Sheets" at the end of each chapter offer ready solutions to problems you're most likely to encounter. With coverage extending as far as planned HTML5 features, *The Tangled Web* will help you create secure web applications that stand the test of time.

Nanoelectronic Devices for Hardware and Software Security *Security, Privacy, and Trust in Mobile Communications*

This book has comprehensive coverage of the principles, basic concepts, structure, modelling, practices, and circuit applications of nanoelectronics in hardware/software security. It will also cover the future research directions in this domain. In this evolving era nanotechnology is converting semiconductor devices dimensions from micron technology to nanotechnology. Nanoelectronics would be the key

enabler for innovation in nanoscale devices, circuits and systems. The motive of this research book is to provide relevant theoretical frameworks that include device physics, modeling, circuit design and the latest developments in the experimental fabrication in the field of nanotechnology for hardware/software security. There are numerous challenges in development of models for nanoscale devices (e.g. FinFET, Gate-All-around devices, TFET etc.), Short Channel Effects, Fringing Effects, High leakage current and power dissipation, etc. This book will help in identifying areas where we are facing many challenges and applying many nano devices and circuits techniques to address hardware/software security aspects.

Information Security Management Systems *CRC Press*

This new volume, Information Security Management Systems: A Novel Framework and Software as a Tool for Compliance with Information Security Standard, looks at information security management system standards, risk management associated with information security, and information security awareness within an organization. The authors aim to improve the overall ability of organizations to participate, forecast, and actively assess their information security circumstances. It is important to note that securing and keeping information from parties who do not have authorization to access such information is an extremely important issue. To address this issue, it is essential for an organization to implement an ISMS standard such as ISO 27001 to address the issue comprehensively. The authors of this

new volume have constructed a novel security framework (ISF) and subsequently used this framework to develop software called Integrated Solution Modeling (ISM), a semi-automated system that will greatly help organizations comply with ISO 27001 faster and cheaper than other existing methods. In addition, ISM does not only help organizations to assess their information security compliance with ISO 27001, but it can also be used as a monitoring tool, helping organizations monitor the security statuses of their information resources as well as monitor potential threats. ISM is developed to provide solutions to solve obstacles, difficulties, and expected challenges associated with literacy and governance of ISO 27001. It also functions to assess the RISC level of organizations towards compliance with ISO 27001. The information provide here will act as blueprints for managing information security within business organizations. It will allow users to compare and benchmark their own processes and practices against these results shown and come up with new, critical insights to aid them in information security standard (ISO 27001) adoption.

Political Decision-Making and Security Intelligence: Recent Techniques and Technological Developments *IGI Global*

The enormous spread of devices gives access to virtual networks and to cyberspace areas where continuous flows of data and information are exchanged, increasing the risk of information warfare, cyber-espionage, cybercrime, and identity hacking. The number of individuals and companies that suffer data breaches has increased vertically with serious reputational and

economic damage internationally. Thus, the protection of personal data and intellectual property has become a priority for many governments. *Political Decision-Making and Security Intelligence: Recent Techniques and Technological Developments* is an essential scholarly publication that aims to explore perspectives and approaches to intelligence analysis and performance and combines theoretical underpinnings with practical relevance in order to sensitize insights into training activities to manage uncertainty and risks in the decision-making process. Featuring a range of topics such as crisis management, policy making, and risk analysis, this book is ideal for managers, analysts, politicians, IT specialists, data scientists, policymakers, government officials, researchers, academicians, professionals, and security experts.

The Web Application Hacker's Handbook *John Wiley & Sons*

This book is a practical guide to discovering and exploiting security flaws in web applications. The authors explain each category of vulnerability using real-world examples, screen shots and code extracts. The book is extremely practical in focus, and describes in detail the steps involved in detecting and exploiting each kind of security weakness found within a variety of applications such as online banking, e-commerce and other web applications. The topics covered include bypassing login mechanisms, injecting code, exploiting logic flaws and compromising other users. Because every web application is different, attacking them entails bringing to bear various general principles, techniques and experience in an imaginative way. The most successful hackers go beyond this, and find ways to

automate their bespoke attacks. This handbook describes a proven methodology that combines the virtues of human intelligence and computerized brute force, often with devastating results. The authors are professional penetration testers who have been involved in web application security for nearly a decade. They have presented training courses at the Black Hat security conferences throughout the world. Under the alias "PortSwigger", Dafydd developed the popular Burp Suite of web application hack tools.

Securing Systems *CRC Press*

Internet attack on computer systems is pervasive. It can take from less than a minute to as much as eight hours for an unprotected machine connected to the Internet to be completely compromised. It is the information security architect's job to prevent attacks by securing computer systems. This book describes both the process and the practice of as

Practical Malware Analysis *No Starch Press*

Malware analysis is big business, and attacks can cost a company dearly. When malware breaches your defenses, you need to act quickly to cure current infections and prevent future ones from occurring. For those who want to stay ahead of the latest malware, *Practical Malware Analysis* will teach you the tools and techniques used by professional analysts. With this book as your guide, you'll be able to safely analyze, debug, and disassemble any malicious software that comes your way. You'll learn how to:

- Set up a safe virtual environment to analyze malware
- Quickly extract network signatures and host-based indicators
- Use key analysis tools like IDA Pro, OllyDbg, and WinDbg

-Overcome malware tricks like obfuscation, anti-disassembly, anti-debugging, and anti-virtual machine techniques -Use your newfound knowledge of Windows internals for malware analysis -Develop a methodology for unpacking malware and get practical experience with five of the most popular packers -Analyze special cases of malware with shellcode, C++, and 64-bit code Hands-on labs throughout the book challenge you to practice and synthesize your skills as you dissect real malware samples, and pages of detailed dissections offer an over-the-shoulder look at how the pros do it. You'll learn how to crack open malware to see how it really works, determine what damage it has done, thoroughly clean your network, and ensure that the malware never comes back. Malware analysis is a cat-and-mouse game with rules that are constantly changing, so make sure you have the fundamentals. Whether you're tasked with securing one network or a thousand networks, or you're making a living as a malware analyst, you'll find what you need to succeed in Practical Malware Analysis.

Computers at Risk *National Academies Press*

Computers at Risk presents a comprehensive agenda for developing nationwide policies and practices for computer security. Specific recommendations are provided for industry and for government agencies engaged in computer security activities. The volume also outlines problems and opportunities in computer security

research, recommends ways to improve the research infrastructure, and suggests topics for investigators. The book explores the diversity of the field, the need to engineer countermeasures based on speculation of what experts think computer attackers may do next, why the technology community has failed to respond to the need for enhanced security systems, how innovators could be encouraged to bring more options to the marketplace, and balancing the importance of security against the right of privacy.

Code Auditing *Oreilly & Associates Incorporated*

Using a practical approach and real-life experiences, this book trains developers to root out security vulnerabilities in existing code and to avoid these flaws in new projects.

The Mac Hacker's Handbook *John Wiley & Sons*

As more and more vulnerabilities are found in the Mac OS X (Leopard) operating system, security researchers are realizing the importance of developing proof-of-concept exploits for those vulnerabilities. This unique tome is the first book to uncover the flaws in the Mac OS X operating system—and how to deal with them. Written by two white hat hackers, this book is aimed at making vital information known so that you can find ways to secure your Mac OS X systems, and examines the sorts of attacks that are prevented by Leopard's security defenses, what attacks aren't, and how to best handle those weaknesses.