The Architecture Of Open Source Applications Amy Brown

The Architecture of Open Source Applications The Architecture of Open Source Applications, Volume II _The Performance of Open Source Applications_ 500 Lines Or Less _Introduction to Cryptography with Open-Source Software_ Open Source Technology: Concepts, Methodologies, Tools, and Applications Open Source Geospatial Tools _The Cathedral & the Bazaar_ Producing Open Source Software Making Software Understanding Open Source and Free Software Licensing Open Source Software in Life Science Research Open Sources _Open Source Messaging Application Development_ Open Source Web Applications for Libraries Code Reading Foundations for Architecting Data Solutions Nessus, Snort, and Ethereal Power Tools Information Technology and Open Source: Applications for Education, Innovation, and Sustainability _The Open Schoolhouse_ How Open Source Ate Software _Penetration Tester's Open Source Toolkit_ Digital Forensics with Open Source Tools Embedded Systems and Robotics with Open Source Tools The Linux Development Platform Understanding the Digital World _Working in Public_ Multitool Linux Occupational Outlook Handbook R for Data Science _Code Quality_ An Introduction to Statistical Learning Deep Learning for Coders with fastai and PyTorch Quartz Job Scheduling Framework Automate the Boring Stuff with Python, 2nd Edition _Deep Learning_ Open Source _Innovation Happens Elsewhere_ Data Visualization Sarbanes-Oxley Compliance Using COBIT and Open Source Tools

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Making Software Jan 26 2022 Many claims are made about how certain tools, technologies, and practices improve software development. But which claims are verifiable, and which are merely wishful thinking? In this book, leading thinkers such as Steve McConnell, Barry Boehm, and Barbara Kitchenham offer essays that uncover the truth and unmask myths commonly held among the software development community. Their insights may surprise you. Are some programmers really ten times more productive than others? Does writing tests first help you develop better code faster? Can code metrics predict the number of bugs in a piece of software? Do design patterns actually make better software? What effect does personality have on pair programming? What matters more: how far apart people are geographically, or how far apart they are in the org chart? Contributors include: Jorge Aranda Tom Ball Victor R. Basili Andrew Begel Christian Bird Barry Boehm Marcelo Cataldo Steven Clarke Jason Cohen Robert DeLine Madeline Diep Hakan Erdogmus Michael Godfrey Mark Guzdial Jo E. Hannay Ahmed E. Hassan Israel Herraiz Kim Sebastian Herzig Cory Kapser Barbara Kitchenham Andrew Ko Lucas Layman Steve McConnell Tim Menzies Gail Murphy Nachi Nagappan Thomas J. Ostrand Dewayne Perry Marian Petre Lutz Prechelt Rahul Premraj Forrest Shull Beth Simon Diomidis Spinellis Neil Thomas Walter Tichy Burak Turhan Elaine J. Weyuker Michele A. Whitecraft Laurie Williams Wendy M. Williams Andreas Zeller Thomas Zimmermann

Digital Forensics with Open Source Tools Dec 13 2020 Digital Forensics with Open Source Tools is the definitive book on investigating and analyzing computer systems and media using open source tools. The book is a technical procedural guide, and explains the use of open source tools on Mac, Linux and Windows systems as a platform for performing computer forensics. Both well-known and novel forensic methods are demonstrated using command-line and graphical open source computer forensic tools for examining a wide range of target systems and artifacts. Written by world-renowned forensic practitioners, this book uses the most current examination and analysis techniques in the field. It consists of 9 chapters that cover a range of topics such as the open source examination platform; disk and file system analysis; Windows systems and artifacts; Linux systems and artifacts; Mac OS X systems and artifacts; Internet artifacts; and automating analysis and extending capabilities. The book

lends itself to use by students and those entering the field who do not have means to purchase new tools for different investigations. This book will appeal to forensic practitioners from areas including incident response teams and computer forensic investigators; forensic technicians from legal, audit, and consulting firms; and law enforcement agencies. Written by world-renowned forensic practitioners Details core concepts and techniques of forensic file system analysis Covers analysis of artifacts from the Windows, Mac, and Linux operating systems

The Open Schoolhouse Mar 16 2021 Schools leaders struggle with budget-breaking software bills while students endure locked-down computers and closed technology policies. Thankfully, there's a better way to empower and inspire students: the open source model. The Open Schoolhouse is a candid story and practical guidebook for school administrators and educators seeking affordable and powerful technology programs. Follow Penn Manor School District's open technology journey from the server room to the classroom. Learn how open source software and values helped the district cut costs, design a one-to-one laptop program, and create an internationally recognized student help desk. You'll discover: The secrets behind free and open source software and how open source principles ignite classroom collaboration, design thinking, and communities of practice How LibreOffice, Linux, Moodle, WordPress, and other open source programs can save schools hundreds of thousands of dollars How open source culture and software tools can help school technology teams improve infrastructure and support systems The step-by-step story of dreaming, planning, and launching an open high school one-to-one laptop program and student-led technology help desk How a remarkable team of high school technology apprentices created innovative software for thousands of students and teachers If you like clear examples, abundant anecdotes, and inspiring student success stories, you'll love this behind the scenes look at how one school district rebooted classroom technology and empowered students to rewire their world. Read The Open Schoolhouse and be inspired to upgrade your school to open source!

Open Source Technology: Concepts, Methodologies, Tools, and Applications May 30 2022 The pervasiveness of and universal access to modern Information and Communication Technologies has enabled a popular new paradigm in the dissemination of information, art, and ideas. Now, instead of relying on a finite number of content providers to control the flow of information, users can generate and disseminate their own content for a wider audience. Open Source Technology: Concepts, Methodologies, Tools, and Applications investigates examples and methodologies in user-generated and freely-accessible content available through electronic and online media. With applications in education, government, entertainment, and more, the technologies explored in these volumes will provide a comprehensive reference for web designers, software developers, and practitioners in a wide variety of fields and disciplines.

Penetration Tester's Open Source Toolkit Jan 14 2021 Penetration Tester's Open Source Toolkit, Third Edition, discusses the open source tools available to penetration testers, the ways to use them, and the situations in which they apply. Great commercial penetration testing tools can be very expensive and sometimes hard to use or of questionable accuracy. This book helps solve both of these problems. The open source, no-cost penetration testing tools presented do a great job and can be modified by the student for each situation. This edition offers instruction on how and in which situations the penetration tester can best use them. Real-life scenarios support and expand upon explanations throughout. It also presents core technologies for each type of testing and the best tools for the job. The book consists of 10 chapters that covers a wide range of topics such as reconnaissance; scanning and enumeration; client-side attacks and human weaknesses; hacking database services; Web server and Web application testing; enterprise application testing; wireless penetrating testing; and building penetration test labs. The chapters also include case studies where the tools that are discussed are applied. New to this edition: enterprise application testing, client-side attacks and updates on Metasploit and Backtrack. This book is for people who are interested in penetration testing or professionals engaged in penetration testing. Those working in the areas of database, network, system, or application administration, as well as architects, can gain insights into how penetration testers perform testing in their specific areas of expertise and learn what to expect from a penetration test. This book can also serve as a reference for security or audit professionals. Details current open source penetration testing tools Presents core technologies for each type of testing and the best tools for the job New to this edition: Enterprise application testing, client-side attacks and updates on Metasploit and Backtrack

Innovation Happens Elsewhere Aug 28 2019 It's a plain fact: regardless of how smart,

creative, and innovative your organization is, there are more smart, creative, and innovative people outside your organization than inside. Open source offers the possibility of bringing more innovation into your business by building a creative community that reaches beyond the barriers of the business. The key is developing a web-driven community where new types of collaboration and creativity can flourish. Since 1998 Ron Goldman and Richard Gabriel have been helping groups at Sun Microsystems understand open source and advising them on how to build successful communities around open source projects. In this book the authors present lessons learned from their own experiences with open source, as well as those from other well-known projects such as Linux, Apache, and Mozilla. * Winner of 2006 Jolt Productivity Award for General Books * Describes how open source development works and offers persuasive reasons for using it to help achieve business goals. * Shows how to use open source in day-to-day work, discusses the various licenses in use, and describes what makes for a successful project. * Written in an engaging style for executives, managers, and engineers that addresses the human and business issues involved in open source development as well as its history, philosophy, and future

Quartz Job Scheduling Framework Jan 02 2020 Integrate Powerful Scheduling Capabilities into Any Java Application or Environment If your Java applications depend on tasks that must be performed at specific times or if your systems have recurring maintenance jobs that could be automated, then you need Quartz: the first full-featured, open source job scheduling framework. Quartz Job Scheduling Framework reveals how to make the most of Quartz with virtually any Java EE or Java SE application, from the smallest standalone program to the largest e-commerce application. Best-selling author Chuck Cavaness shows developers and architects how to integrate Quartz with leading open source Java frameworks, including Hibernate and Struts. Using practical examples, Cavaness illuminates everything from basic job scheduling to the use of Quartz in clustered environments and enterprise workflow applications. To jumpstart your own Quartz projects, he also presents a full chapter of "cookbook" sample code. Coverage includes • Understanding the value of scheduling in the enterprise environment • Installing and configuring the Quartz framework • Scheduling jobs, and triggering them on simple or complex schedules • Using JobStores to persist schedule information between JVM restarts • Using Listeners to receive callbacks from Quartz when key events occur • Extending Quartz with Plugins • Accessing Quartz through a Web-based graphical interface • Clustering Quartz applications, both horizontally and vertically • Using RMI to schedule Quartz remotely • Leveraging Quartz to automate maintenance and workflow

The Architecture of Open Source Applications, Volume II Oct 03 2022 Architects look at thousands of buildings during their training, and study critiques of those buildings written by masters. In contrast, most software developers only ever get to know a handful of large programs well -- usually programs they wrote themselves -- and never study the great programs of history. As a result, they repeat one another's mistakes rather than building on one another's successes.This second volume of The Architecture of Open Source Applications aims to change that. In it, the authors of twenty-four open source applications explain how their software is structured, and why. What are each program's major components? How do they interact? And what did their builders learn during their development? In answering these questions, the contributors to this book provide unique insights into how they think.

Multitool Linux Jul 08 2020 An innovative guide reveals how to perform a wide variety of tasks with Linux and other open source software by furnishing a wealth of real-world problems and then detailing the free software that comes with, or is available for Linux that will solve the problem, and demonstrates the adaptability of Linux. Original. (Intermediate).

How Open Source Ate Software Feb 12 2021 Learn how free software became open source and how you can sell open source software. This book provides a historical context of how open source has thoroughly transformed how we write software, how we cooperate, how we communicate, how we organize, and, ultimately, how we think about business values. You'll look at project and community examples including Linux, BSD, Apache, and Kubernetes, understand the open source development model, and how open source has influenced approaches more broadly, even proprietary software, such as open betas. You'll also examine the flipside, the "Second Machine Age," and the challenges of open source-based business models. Today, open source serves as shorthand for much broader trends and behaviors. It's not just about a free (in all senses of the word) alternative to commercial software. It increasingly is the new commercial software. How Open Source Ate Software reveals how open source has much in common, and is often closely allied, with many other trends in business and society. You'll see how it enables projects that go beyond any individual company. That makes open source not just a story about software, but a story about almost everything. What You'll Learn Understand open

source opportunities and challenges Sell software if you're giving it away Apply open source principles more broadly to openorg, devops, etc. Review which organizational incentives you can implement Who This Book Is For Anyone who has an interest in what is happening in open source and the open source community, and anyone who is contemplating making a business that involves open source.

Open Source Web Applications for Libraries Aug 21 2021

An Introduction to Statistical Learning Mar 04 2020 An Introduction to Statistical Learning provides an accessible overview of the field of statistical learning, an essential toolset for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. This book presents some of the most important modeling and prediction techniques, along with relevant applications. Topics include linear regression, classification, resampling methods, shrinkage approaches, tree-based methods, support vector machines, clustering, and more. Color graphics and real-world examples are used to illustrate the methods presented. Since the goal of this textbook is to facilitate the use of these statistical learning techniques by practitioners in science, industry, and other fields, each chapter contains a tutorial on implementing the analyses and methods presented in R, an extremely popular open source statistical software platform. Two of the authors co-wrote The Elements of Statistical Learning (Hastie, Tibshirani and Friedman, 2nd edition 2009), a popular reference book for statistics and machine learning researchers. An Introduction to Statistical Learning covers many of the same topics, but at a level accessible to a much broader audience. This book is targeted at statisticians and non-statisticians alike who wish to use cutting-edge statistical learning techniques to analyze their data. The text assumes only a previous course in linear regression and no knowledge of matrix algebra.

Understanding Open Source and Free Software Licensing Dec 25 2021 Describes the legal implications of open source and free software licensing and provides an explanation of what an open source software license actually is, and how to draft one for personal use.

Occupational Outlook Handbook Jun 06 2020

The Performance of Open Source Applications Sep 02 2022 In 1974, Donald Knuth wrote, "We should forget about small efficiencies, say about 97% of the time: premature optimization is the root of all evil." With computers available now that are millions of times faster than those available then, today's programmers have even less reason to worry about shaving cycles and saving bytes than those a generation ago. But "less" isn't "none": every once in a while, squeezing the last ounce of performance out of the machine really does matter.This book is written by over a dozen developers who have grappled with slow code, memory leaks, or uncontrollable latency in open source software. They share their mistakes and successes, and give the reader an over-the-shoulder view of how they approached their specific challenges. With examples from bioinformatics research code to web browsers, the solutions are as varied as the problems.This book will help junior and senior developers alike understand how their colleagues think about performance.

The Linux Development Platform Oct 11 2020 Two leading Linux developers show how to choose the best tools for your specific needs and integrate them into a complete development environment that maximizes your effectiveness in any project, no matter how large or complex. Includes research, requirements, coding, debugging, deployment, maintenance and beyond, choosing and implementing editors, compilers, assemblers, debuggers, version control systems, utilities, using Linux Standard Base to deliver applications that run reliably on a wide range of Linux systems, comparing Java development options for Linux platforms, using Linux in cross-platform and embedded development environments.

Open Sources Oct 23 2021 Freely available source code, with contributions from thousands of programmers around the world: this is the spirit of the software revolution known as Open Source. Open Source has grabbed the computer industry's attention. Netscape has opened the source code to Mozilla; IBM supports Apache; major database vendors haved ported their products to Linux. As enterprises realize the power of the open-source development model, Open Source is becoming a viable mainstream alternative to commercial software.Now in Open Sources, leaders of Open Source come together for the first time to discuss the new vision of the software industry they have created. The essays in this volume offer insight into how the Open Source movement works, why it succeeds, and where it is going.For programmers who have labored on open-source projects, Open Sources is the new gospel: a powerful vision from the movement's spiritual leaders. For businesses integrating open-source software into their enterprise, Open Sources reveals the mysteries of how open development builds better software, and how businesses can leverage freely available software for a competitive

business advantage.The contributors here have been the leaders in the open-source arena: Brian Behlendorf (Apache) Kirk McKusick (Berkeley Unix) Tim O'Reilly (Publisher, O'Reilly & Associates) Bruce Perens (Debian Project, Open Source Initiative) Tom Paquin and Jim Hamerly (mozilla.org, Netscape) Eric Raymond (Open Source Initiative) Richard Stallman (GNU, Free Software Foundation, Emacs) Michael Tiemann (Cygnus Solutions) Linus Torvalds (Linux) Paul Vixie (Bind) Larry Wall (Perl) This book explains why the majority of the Internet's servers use open- source technologies for everything from the operating system to Web serving and email. Key technology products developed with open-source software have overtaken and surpassed the commercial efforts of billion dollar companies like Microsoft and IBM to dominate software markets. Learn the inside story of what led Netscape to decide to release its source code using the open-source mode. Learn how Cygnus Solutions builds the world's best compilers by sharing the source code. Learn why venture capitalists are eagerly watching Red Hat Software, a company that gives its key product -- Linux -- away.For the first time in print, this book presents the story of the open- source phenomenon told by the people who created this movement.Open Sources will bring you into the world of free software and show you the revolution.

The Architecture of Open Source Applications Nov 04 2022 Beschrijving van vijfentwintig open source applicaties.

Code Quality Apr 04 2020 Page 26: How can I avoid off-by-one errors? Page 143: Are Trojan Horse attacks for real? Page 158: Where should I look when my application can't handle its workload? Page 256: How can I detect memory leaks? Page 309: How do I target my application to international markets? Page 394: How should I name my code's identifiers? Page 441: How can I find and improve the code coverage of my tests? Diomidis Spinellis' first book, Code Reading, showed programmers how to understand and modify key functional properties of software. Code Quality focuses on non-functional properties, demonstrating how to meet such critical requirements as reliability, security, portability, and maintainability, as well as efficiency in time and space. Spinellis draws on hundreds of examples from open source projects--such as the Apache web and application servers, the BSD Unix systems, and the HSQLDB Java database--to illustrate concepts and techniques that every professional software developer will be able to appreciate and apply immediately. Complete files for the open source code illustrated in this book are available online at: http://www.spinellis.gr/codequality/

500 Lines Or Less Aug 01 2022 As we pointed out in The Architecture of Open Source Applications, architects look at thousands of buildings during their training, and study the critiques of many more. But most software developers only ever get to know a handful of programs well - usually programs they wrote themselves. This book provides you with the chance to study how 26 experienced programmers think when they are building something new. The programs you will read about in this book were all written from scratch to solve difficult problems. A web server, a pedometer, a Python interpreter, a web-based spreadsheet, and many more applications are written, in 500 lines of code or less, and described by their creators so that you can learn from their insights and their mistakes.

Information Technology and Open Source: Applications for Education, Innovation, and Sustainability Apr 16 2021 This book constitutes revised selected papers from the following SEFM 2012 satellite events: InSuEdu, the First International Symposium on Innovation and Sustainability in Education; MokMaSD, the First International Symposium on Modelling and Knowledge Management for Sustainable Development and Open Cert, the 6th International Workshop on Foundations and Techniques for Open Source Software Certification, held in Thessaloniki, Greece, in October 2012. The total of 14 regular papers and 7 short papers included in this volume were carefully reviewed and selected from 35 submissions. The papers cover the topics related to the use of Information and Communication Technology (ICT) and Open Source Software (OSS) as tools to foster and support Education, Innovation and Sustainability.

Automate the Boring Stuff with Python, 2nd Edition Dec 01 2019 The second edition of this best-selling Python book (over 500,000 copies sold!) uses Python 3 to teach even the technically uninclined how to write programs that do in minutes what would take hours to do by hand. There is no prior programming experience required and the book is loved by liberal arts majors and geeks alike. If you've ever spent hours renaming files or updating hundreds of spreadsheet cells, you know how tedious tasks like these can be. But what if you could have your computer do them for you? In this fully revised second edition of the best-selling classic Automate the Boring Stuff with Python, you'll learn how to use Python to write programs that do in minutes what would take you hours to do by hand--no prior programming

experience required. You'll learn the basics of Python and explore Python's rich library of modules for performing specific tasks, like scraping data off websites, reading PDF and Word documents, and automating clicking and typing tasks. The second edition of this international fan favorite includes a brand-new chapter on input validation, as well as tutorials on automating Gmail and Google Sheets, plus tips on automatically updating CSV files. You'll learn how to create programs that effortlessly perform useful feats of automation to: • Search for text in a file or across multiple files • Create, update, move, and rename files and folders • Search the Web and download online content • Update and format data in Excel spreadsheets of any size • Split, merge, watermark, and encrypt PDFs • Send email responses and text notifications • Fill out online forms Step-by-step instructions walk you through each program, and updated practice projects at the end of each chapter challenge you to improve those programs and use your newfound skills to automate similar tasks. Don't spend your time doing work a well-trained monkey could do. Even if you've never written a line of code, you can make your computer do the grunt work. Learn how in Automate the Boring Stuff with Python, 2nd Edition.

Deep Learning for Coders with fastai and PyTorch Feb 01 2020 Deep learning is often viewed as the exclusive domain of math PhDs and big tech companies. But as this hands-on guide demonstrates, programmers comfortable with Python can achieve impressive results in deep learning with little math background, small amounts of data, and minimal code. How? With fastai, the first library to provide a consistent interface to the most frequently used deep learning applications. Authors Jeremy Howard and Sylvain Gugger, the creators of fastai, show you how to train a model on a wide range of tasks using fastai and PyTorch. You'll also dive progressively further into deep learning theory to gain a complete understanding of the algorithms behind the scenes. Train models in computer vision, natural language processing, tabular data, and collaborative filtering Learn the latest deep learning techniques that matter most in practice Improve accuracy, speed, and reliability by understanding how deep learning models work Discover how to turn your models into web applications Implement deep learning algorithms from scratch Consider the ethical implications of your work Gain insight from the foreword by PyTorch cofounder, Soumith Chintala

R for Data Science May 06 2020 Learn how to use R to turn raw data into insight, knowledge, and understanding. This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience, R for Data Science is designed to get you doing data science as quickly as possible. Authors Hadley Wickham and Garrett Grolemund guide you through the steps of importing, wrangling, exploring, and modeling your data and communicating the results. You'll get a complete, big-picture understanding of the data science cycle, along with basic tools you need to manage the details. Each section of the book is paired with exercises to help you practice what you've learned along the way. You'll learn how to: Wrangle—transform your datasets into a form convenient for analysis Program—learn powerful R tools for solving data problems with greater clarity and ease Explore—examine your data, generate hypotheses, and quickly test them Model—provide a low-dimensional summary that captures true "signals" in your dataset Communicate—learn R Markdown for integrating prose, code, and results

Foundations for Architecting Data Solutions Jun 18 2021 While many companies ponder implementation details such as distributed processing engines and algorithms for data analysis, this practical book takes a much wider view of big data development, starting with initial planning and moving diligently toward execution. Authors Ted Malaska and Jonathan Seidman guide you through the major components necessary to start, architect, and develop successful big data projects. Everyone from CIOs and COOs to lead architects and developers will explore a variety of big data architectures and applications, from massive data pipelines to web-scale applications. Each chapter addresses a piece of the software development life cycle and identifies patterns to maximize long-term success throughout the life of your project. Start the planning process by considering the key data project types Use guidelines to evaluate and select data management solutions Reduce risk related to technology, your team, and vague requirements Explore system interface design using APIs, REST, and pub/sub systems Choose the right distributed storage system for your big data system Plan and implement metadata collections for your data architecture Use data pipelines to ensure data integrity from source to final storage Evaluate the attributes of various engines for processing the data you collect

Embedded Systems and Robotics with Open Source Tools Nov 11 2020 Embedded Systems and Robotics with Open-Source Tools provides easy-to-understand and easy-to-implement guidance

for rapid prototype development. Designed for readers unfamiliar with advanced computing technologies, this highly accessible book: Describes several cutting-edge open-source software and hardware technologies Examines a number of embedded computer systems and their practical applications Includes detailed projects for applying rapid prototype development skills in real time Embedded Systems and Robotics with Open-Source Tools effectively demonstrates that, with the help of high-performance microprocessors, microcontrollers, and highly optimized algorithms, one can develop smarter embedded devices.

Working in Public Aug 09 2020 Open source software has undergone significant shift over the past 20 years. Today, often unseen solo operators maintain code used by millions. In Working in Public, Nadia Eghbal takes an inside look at modern open software development and its evolution over the last two decades--and its ramifications for an internet reorienting itself around individual creators. She examines GitHub as a platform; the structures, roles, incentives, and relationships of open source projects; and their heretofore unexplored maintenance, via the work that software requires its creators and the costs of production that must be maintained. Open source offers us a model through which to understand the challenges faced by online creators on all platforms."--Publisher description

Sarbanes-Oxley Compliance Using COBIT and Open Source Tools Jun 26 2019 This book illustrates the many Open Source cost savings opportunities available to companies seeking Sarbanes-Oxley compliance. It also provides examples of the Open Source infrastructure components that can and should be made compliant. In addition, the book clearly documents which Open Source tools you should consider using in the journey towards compliance. Although many books and reference material have been authored on the financial and business side of Sox compliance, very little material is available that directly address the information technology considerations, even less so on how Open Source fits into that discussion. Each chapter begins with an analysis of the business and technical ramifications of Sarbanes-Oxley as regards to topics covered before moving into the detailed instructions on the use of the various Open Source applications and tools relating to the compliance objectives. Shows companies how to use Open Source tools to achieve SOX compliance, which dramatically lowers the cost of using proprietary, commercial applications Only SOX compliance book specifically detailing steps to achieve SOX compliance for IT Professionals

Understanding the Digital World Sep 09 2020 The basics of how computer hardware, software, and systems work, and the risks they create for our privacy and security Computers are everywhere. Some of them are highly visible, in laptops, tablets, cell phones, and smart watches. But most are invisible, like those in appliances, cars, medical equipment, transportation systems, power grids, and weapons. We never see the myriad computers that quietly collect, share, and sometimes leak vast amounts of personal data about us. Through computers, governments and companies increasingly monitor what we do. Social networks and advertisers know far more about us than we should be comfortable with, using information we freely give them. Criminals have all-too-easy access to our data. Do we truly understand the power of computers in our world? Understanding the Digital World explains how computer hardware, software, networks, and systems work. Topics include how computers are built and how they compute; what programming is and why it is difficult; how the Internet and the web operate; and how all of these affect our security, privacy, property, and other important social, political, and economic issues. This book also touches on fundamental ideas from computer science and some of the inherent limitations of computers. It includes numerous color illustrations, notes on sources for further exploration, and a glossary to explain technical terms and buzzwords. Understanding the Digital World is a must-read for all who want to know more about computers and communications. It explains, precisely and carefully, not only how they operate but also how they influence our daily lives, in terms anyone can understand, no matter what their experience and knowledge of technology.

Open Source Sep 29 2019 In recent years, the way open source software is developed has taken hold as a valid alternative to commercial proprietary methods, as have the products themselves, e.g., the Linux operating system, Apache web-server software, and Mozilla Firefox browser. But what is open source software? How is the open source community organized? What makes this new model successful? What effects has it had and might it have on the future of the IT industry, companies and government policies? These and many other questions are answered in this book. The first chapter gives a brief history of the open source community and the second chapter takes a close look at the relationship between intellectual property rights and software, both open source and proprietary. The next three chapters consider the who, the open source community, the how, software development both within and outside the community, and the what, open source projects and product quality. Chapters 6 and 7 focus on

the different users of open source software: companies and governments respectively. These are followed by two chapters that interpret the phenomenon, first from an organizational point of view in Chapter 8 and then using the theory of complex adaptive systems in Chapter 9. The last chapter explores the current and potential applications of the concept underlying open source software in other fields. Sample Chapter(s). Chapter 1: History of Open Source (189 KB). Contents: History of Open Source; Software and Intellectual Property Rights; The Organization of the Open Source Community; Software Development Models; Open Source Products and Software Quality; Strategies and Business Models; Government Policies Towards Open Source Software; New Trends in Work Organization; Open Source as a Complex Adaptive System; Developments. Readership: Postgraduate students, academicians and practitioners in the field of technology management.

Nessus, Snort, and Ethereal Power Tools May 18 2021 Nessus, Snort, and Ethereal Power Tools covers customizing Snort to perform intrusion detection and prevention; Nessus to analyze the network layer for vulnerabilities; and Ethereal to sniff their network for malicious or unusual traffic. The book contains an appendix detailing the best of the rest open source security tools. Each of these tools is intentionally designed to be highly customizable so that users can torque the programs to suit their particular needs. Users can code their own custom rules, plug-ins, and filters that are tailor-made to fit their own networks and the threats which they most commonly face. The book describes the most important concepts of coding and customizing tools, and then provides readers with invaluable working scripts that can either be used as is or further refined by using knowledge gained from the book. Snort, Nessus, and Ethereal are the three most popular open source security tools in the world Only book that teaches readers how to customize these tools for their specific needs by coding rules, plugins, and filters Companion Web site provides all working code and scripts from the book for download

Producing Open Source Software Feb 24 2022 The corporate market is now embracing free, "open source" software like never before, as evidenced by the recent success of the technologies underlying LAMP (Linux, Apache, MySQL, and PHP). Each is the result of a publicly collaborative process among numerous developers who volunteer their time and energy to create better software. The truth is, however, that the overwhelming majority of free software projects fail. To help you beat the odds, O'Reilly has put together Producing Open Source Software, a guide that recommends tried and true steps to help free software developers work together toward a common goal. Not just for developers who are considering starting their own free software project, this book will also help those who want to participate in the process at any level. The book tackles this very complex topic by distilling it down into easily understandable parts. Starting with the basics of project management, it details specific tools used in free software projects, including version control, IRC, bug tracking, and Wikis. Author Karl Fogel, known for his work on CVS and Subversion, offers practical advice on how to set up and use a range of tools in combination with open mailing lists and archives. He also provides several chapters on the essentials of recruiting and motivating developers, as well as how to gain much-needed publicity for your project. While managing a team of enthusiastic developers -- most of whom you've never even met -- can be challenging, it can also be fun. Producing Open Source Software takes this into account, too, as it speaks of the sheer pleasure to be had from working with a motivated team of free software developers.

Deep Learning Oct 30 2019 An introduction to a broad range of topics in deep learning, covering mathematical and conceptual background, deep learning techniques used in industry, and research perspectives. "Written by three experts in the field, Deep Learning is the only comprehensive book on the subject." —Elon Musk, cochair of OpenAI; cofounder and CEO of Tesla and SpaceX Deep learning is a form of machine learning that enables computers to learn from experience and understand the world in terms of a hierarchy of concepts. Because the computer gathers knowledge from experience, there is no need for a human computer operator to formally specify all the knowledge that the computer needs. The hierarchy of concepts allows the computer to learn complicated concepts by building them out of simpler ones; a graph of these hierarchies would be many layers deep. This book introduces a broad range of topics in deep learning. The text offers mathematical and conceptual background, covering relevant concepts in linear algebra, probability theory and information theory, numerical computation, and machine learning. It describes deep learning techniques used by practitioners in industry, including deep feedforward networks, regularization, optimization algorithms, convolutional networks, sequence modeling, and practical methodology; and it surveys such applications as natural language processing, speech recognition, computer vision, online recommendation

systems, bioinformatics, and videogames. Finally, the book offers research perspectives, covering such theoretical topics as linear factor models, autoencoders, representation learning, structured probabilistic models, Monte Carlo methods, the partition function, approximate inference, and deep generative models. Deep Learning can be used by undergraduate or graduate students planning careers in either industry or research, and by software engineers who want to begin using deep learning in their products or platforms. A website offers supplementary material for both readers and instructors.

Open Source Messaging Application Development Sep 21 2021 *Author is the maintainer of Gaim; and provides excellent insight into the application *Practice building and extending Gaim, while learning GTK toolkit and network protocols *Tutorials are based on OS Gaim project: the #1 Sourceforge project out of 86,116 present on Sourceforge *In one 7 day period (from 8/23/04-8/30/04), it was downloaded nearly 55,000 times. Typing "gaim" into google brings up over 900,000 hits

Code Reading Jul 20 2021 CD-ROM contains cross-referenced code.

Open Source Software in Life Science Research Nov 23 2021 The free/open source approach has grown from a minor activity to become a significant producer of robust, task-orientated software for a wide variety of situations and applications. To life science informatics groups, these systems present an appealing proposition - high quality software at a very attractive price. Open source software in life science research considers how industry and applied research groups have embraced these resources, discussing practical implementations that address real-world business problems. The book is divided into four parts. Part one looks at laboratory data management and chemical informatics, covering software such as Bioclipse, OpenTox, ImageJ and KNIME. In part two, the focus turns to genomics and bioinformatics tools, with chapters examining GenomicsTools and EBI Atlas software, as well as the practicalities of setting up an 'omics' platform and managing large volumes of data. Chapters in part three examine information and knowledge management, covering a range of topics including software for web-based collaboration, open source search and visualisation technologies for scientific business applications, and specific software such as DesignTracker and Utopia Documents. Part four looks at semantic technologies such as Semantic MediaWiki, TripleMap and Chem2Bio2RDF, before part five examines clinical analytics, and validation and regulatory compliance of free/open source software. Finally, the book concludes by looking at future perspectives and the economics and free/open source software in industry. Discusses a broad range of applications from a variety of sectors Provides a unique perspective on work normally performed behind closed doors Highlights the criteria used to compare and assess different approaches to solving problems

The Cathedral & the Bazaar Mar 28 2022 Open source provides the competitive advantage in the Internet Age. According to the August Forrester Report, 56 percent of IT managers interviewed at Global 2,500 companies are already using some type of open source software in their infrastructure and another 6 percent will install it in the next two years. This revolutionary model for collaborative software development is being embraced and studied by many of the biggest players in the high-tech industry, from Sun Microsystems to IBM to Intel.The Cathedral & the Bazaar is a must for anyone who cares about the future of the computer industry or the dynamics of the information economy. Already, billions of dollars have been made and lost based on the ideas in this book. Its conclusions will be studied, debated, and implemented for years to come. According to Bob Young, "This is Eric Raymond's great contribution to the success of the open source revolution, to the adoption of Linux-based operating systems, and to the success of open source users and the companies that supply them."The interest in open source software development has grown enormously in the past year. This revised and expanded paperback edition includes new material on open source developments in 1999 and 2000. Raymond's clear and effective writing style accurately describing the benefits of open source software has been key to its success. With major vendors creating acceptance for open source within companies, independent vendors will become the open source story in 2001.

Introduction to Cryptography with Open-Source Software Jun 30 2022 Once the privilege of a secret few, cryptography is now taught at universities around the world. Introduction to Cryptography with Open-Source Software illustrates algorithms and cryptosystems using examples and the open-source computer algebra system of Sage. The author, a noted educator in the field, provides a highly practical learning experience by progressing at a gentle pace, keeping mathematics at a manageable level, and including numerous end-of-chapter exercises. Focusing on the cryptosystems themselves rather than the means of breaking them, the book first explores when and how the methods of modern cryptography can be used and misused. It

then presents number theory and the algorithms and methods that make up the basis of cryptography today. After a brief review of "classical" cryptography, the book introduces information theory and examines the public-key cryptosystems of RSA and Rabin's cryptosystem. Other public-key systems studied include the El Gamal cryptosystem, systems based on knapsack problems, and algorithms for creating digital signature schemes. The second half of the text moves on to consider bit-oriented secret-key, or symmetric, systems suitable for encrypting large amounts of data. The author describes block ciphers (including the Data Encryption Standard), cryptographic hash functions, finite fields, the Advanced Encryption Standard, cryptosystems based on elliptical curves, random number generation, and stream ciphers. The book concludes with a look at examples and applications of modern cryptographic systems, such as multi-party computation, zero-knowledge proofs, oblivious transfer, and voting protocols.

Open Source Geospatial Tools Apr 28 2022 This book focuses on the use of open source software for geospatial analysis. It demonstrates the effectiveness of the command line interface for handling both vector, raster and 3D geospatial data. Appropriate open-source tools for data processing are clearly explained and discusses how they can be used to solve everyday tasks. A series of fully worked case studies are presented including vector spatial analysis, remote sensing data analysis, landcover classification and LiDAR processing. A hands-on introduction to the application programming interface (API) of GDAL/OGR in Python/C++ is provided for readers who want to extend existing tools and/or develop their own software.

Data Visualization Jul 28 2019 An accessible primer on how to create effective graphics from data This book provides students and researchers a hands-on introduction to the principles and practice of data visualization. It explains what makes some graphs succeed while others fail, how to make high-quality figures from data using powerful and reproducible methods, and how to think about data visualization in an honest and effective way. Data Visualization builds the reader's expertise in ggplot2, a versatile visualization library for the R programming language. Through a series of worked examples, this accessible primer then demonstrates how to create plots piece by piece, beginning with summaries of single variables and moving on to more complex graphics. Topics include plotting continuous and categorical variables; layering information on graphics; producing effective "small multiple" plots; grouping, summarizing, and transforming data for plotting; creating maps; working with the output of statistical models; and refining plots to make them more comprehensible. Effective graphics are essential to communicating ideas and a great way to better understand data. This book provides the practical skills students and practitioners need to visualize quantitative data and get the most out of their research findings. Provides hands-on instruction using R and ggplot2 Shows how the "tidyverse" of data analysis tools makes working with R easier and more consistent Includes a library of data sets, code, and functions