

## Real Time Communication With Webrtc Peer To Peer In The Browser 1st Edition By Loreto Salvatore Romano Simon Pietro 2014 Paperback

Build a robust, high-performance telephony system with FreeSWITCH About This Book Learn how to install and configure a complete telephony system of your own, from scratch, using FreeSWITCH 1.6 Get in-depth discussions of important concepts such as dialplan, user directory, NAT handling, and the powerful FreeSWITCH event socket Discover expert tips from the FreeSWITCH experts, including the creator of FreeSWITCH—Anthony Minessale Who This Book Is For This book is for beginner-level IT professionals and enthusiasts who are interested in quickly getting a powerful telephony system up and running using FreeSWITCH. It would be good if you have some telephony experience, but it's not a must. What You Will Learn Build a complete WebRTC/SIP VoIP platform able to interconnect and process audio and video in real time Use advanced PBX features to create powerful dialplans Understand the inner workings and architecture of FreeSWITCH Real time configuration from database and webserver with mod\_xml\_curl Integrate browser clients into your telephony service Use scripting to go beyond the dialplan with the power and flexibility of a programming language Secure your FreeSWITCH connections with the help of effective techniques Deploy all FreeSWITCH features using best practices and expert tips Overcome frustrating NAT issues Control FreeSWITCH remotely with the all-powerful event socket Trace packets, check debug logging, ask for community and commercial help In Detail FreeSWITCH is an open source telephony platform designed to facilitate the creation of voice and chat-driven products, scaling from a soft-phone to a PBX and even up to an enterprise-class soft-switch. This book introduces FreeSWITCH to IT professionals who want to build their own telephony system. This book starts with a brief introduction to the latest version of FreeSWITCH. We then move on to the fundamentals and the new features added in version 1.6, showing you how to set up a basic system so you can make and receive phone calls, make calls between extensions, and utilize basic PBX functionality. Once you have a basic system in place, we'll show you how to add more and more functionalities to it. You'll learn to deploy the features on the system using unique techniques and tips to make it work better. Also, there are changes in the security-related components, which will affect the content in the book, so we will make that intact with the latest version. There are new support libraries introduced, such as SQLite, OpenSS, and more, which will make FreeSWITCH more efficient and add more functions to it. We'll cover these in the new edition to make it more appealing for you. Style and approach This easy-to-follow guide helps you understand every topic easily using real-world examples of FreeSWITCH tasks. This book is full of practical code so you get a gradual learning curve.

A project based guide to help you get started with web development by building real-world and modern web applications About This Book Learn JavaScript from scratch by building clones of popular web applications Understand the core concepts and techniques surrounding JavaScript with this power-packed hands-on guide Explore modern JavaScript frameworks and libraries such as Node, React and Webpack Who This Book Is For The target audience for this book is developers with little or basic knowledge of working with JavaScript. If you are an emerging web developer with experience in building static web pages using HTML and CSS, this book will teach you to add JavaScript elements to make your website interactive and dynamic. What You Will Learn A strong understanding of web application development with JavaScript and ES6. A firm foundation on which to master other JavaScript frameworks and libraries. Write maintainable and scalable code by organizing functions into modules. Importance of tools such as Node, NPM, Babel, and Webpack in Front-end development. Work with real-time data such as incoming video streams, texts, and so on Integrate React with JavaScript to build large-scale applications. Utilize Redux to manage data across React components and greatly speed up the development process In Detail JavaScript is the programming language that all web developers need to learn. The first item on our JavaScript to-do list is building a To-do list app, which you'll have done by the end of the first chapter. You'll explore DOM manipulation with JavaScript and work with event listeners. You'll work with images and text to build a Meme creator. You will also learn about ES (ECMAScript) classes, and will be introduced to layouts using the CSS3 Flexbox. You'll also develop a responsive Event Registration form that allows users to register for your upcoming event and use charts and graphics to display registration data. You will then build a weather application, which will show you different ways perform AJAX requests and work with dynamic, external data. WebRTC enables real-time communication in a web browser; you'll learn how to use it when you build a real-time video-call and chat application later in the book. Towards the end of the book, you will meet React, Facebook's JavaScript library for building user interfaces. You'll throw together a blog with React, and get a feel for why this kind of JavaScript framework is used to build large-scale applications. To make your blog more maintainable and scalable, you'll use Redux to manage data across React components. Style and approach This project-based guide will teach you all the facets of JavaScript through real-world app examples.

The conference on network security and communication engineering is meant to serve as a forum for exchanging new developments and research progresss between scholars, scientists and engineers all over the world and providing a unique opportunity to exchange information, to present the latest results as well as to review the relevant issues on

The Definitive Guide to HTML5 WebSocket is the ultimate insider's WebSocket resource. This revolutionary new web technology enables you to harness the power of true real-time connectivity and build responsive, modern web applications. This book contains everything web developers and architects need to know about WebSocket. It discusses how WebSocket-based architectures provide a dramatic reduction in unnecessary network overhead and latency compared to older HTTP (Ajax) architectures, how to layer widely used protocols such as XMPP and STOMP on top of WebSocket, and how to secure WebSocket connections and deploy WebSocket-based applications to the enterprise. Build real-time web applications with HTML5. This book: Introduces you to the WebSocket API and protocol Describes and provides real-world examples of protocol communication over WebSocket Explains WebSocket security and enterprise deployment

The major subjects of the book cover modeling, analysis and efficient management of information in Internet of Everything (IoE) applications and architectures. As the first book of its kind, it addresses the major new technological developments in the field and will reflect current research trends, as well as industry needs. It comprises of a good balance between theoretical and practical issues, covering case studies, experience and evaluation reports and best practices in utilizing IoE applications. It also provides technical/scientific information about various aspects of IoE technologies, ranging from basic concepts to research grade material, including future directions.

As more classes move to online instruction, there is a need for research that shows the effectiveness of synchronous learning. Educators must guide students on how to use these new learning tools and become aware of the research trends and opportunities within these developing online and hybrid courses. Educational Technology and Resources for Synchronous Learning in Higher Education provides evidence-based practice on incorporating synchronous teaching tools and practice within online courses to enhance content mastery and community development. Additionally, the book presents a strong theoretical overview of the topic and allows readers to develop a more nuanced understanding of the benefits and constraints of synchronous learning. Covering topics such as game learning, online communication, and professional development, it is designed for online instructors, instructional designers, administrators, students, and researchers and educators in higher education, as well as corporate, military, and government sectors.

This book constitutes selected papers of the Second International Conference on Advanced Communication Systems and Information Security, ACOSIS 2019, held in Marrakesh, Morocco, in November 2019. The 10 full papers and 10 short papers were thoroughly reviewed and selected from 94 submissions. The papers are organized according to the following topical sections: wireless communications and services; vehicular communications; channel coding; construction of error correcting codes; intrusion detection techniques; wireless and mobile network security; applied cryptography.

How does a film editor make decisions about where and when to cut in order to make a film 'feel right'? Generally speaking, the answer is, 'it's intuitive', which is accurate but leaves one wanting to know more. Cutting Rhythms breaks down the definition of intuition to find that, even if rhythmic thinking is intuitive thinking, we can still say more than we 'just know.' This book offers possibilities rather than prescriptions. It presents questions an editor or filmmaker can ask themselves about their work, and a clear and useful vocabulary for working with those questions. Cutting Rhythms makes ideas about rhythm in film editing clear and accessible, so that you can do more than just imitate editing you've seen on TV. With this book you'll develop your own sense of rhythm, refine our rhythmic shaping skills, and increase your creativity--and in so doing, become a better filmmaker.

WebRTC, Web Real-Time Communications, is revolutionizing the way web users communicate, both in the consumer and enterprise worlds. WebRTC adds standard APIs (Application Programming Interfaces) and built-in real-time audio and video capabilities and codecs to browsers without a plug-in. With just a few lines of JavaScript, web developers can add high quality peer-to-peer voice, video, and data channel communications to their collaboration, conferencing, telephony, or even gaming site or application. New for the Third Edition The third edition has an enhanced demo application which now shows the use of the data channel for real-time text sent directly between browsers. Also, a full description of the browser media negotiation process including actual SDP session descriptions from Firefox and Chrome. Hints on how to use Wireshark to monitor WebRTC protocols, and example captures are also included. TURN server support for NAT and firewall traversal is also new. This edition also features a step-by-step introduction to WebRTC, with concepts such as local media, signaling, and the Peer Connection introduced through separate runnable demos. Written by experts involved in the standardization effort, this book contains the most up to date discussion of WebRTC standards in W3C and IETF. Packed with figures, example code, and summary tables, this book is the ultimate WebRTC reference. Table of Contents 1 Introduction to Web Real-Time Communications 1.1 WebRTC Introduction 1.2 Multiple Media Streams in WebRTC 1.3 Multi-Party Sessions in WebRTC 1.4 WebRTC Standards 1.5 What is New in WebRTC 1.6 Important Terminology Notes 1.7 References 2 How to Use WebRTC 2.1 Setting Up a WebRTC Session 2.2 WebRTC Networking and Interworking Examples 2.3 WebRTC Pseudo-Code Example 2.4 References 3 Local Media 3.1 Media in WebRTC 3.2 Capturing Local Media 3.3 Media Selection and Control 3.4 Media Streams Example 3.5 Local Media Runnable Code Example 4 Signaling 4.1 The Role of Signaling 4.2 Signaling Transport 4.3 Signaling Protocols 4.4 Summary of Signaling Choices 4.5 Signaling Channel Runnable Code Example 4.6 References 5 Peer-to-Peer Media 5.1 WebRTC Media Flows 5.2 WebRTC and Network Address Translation (NAT) 5.3 STUN Servers 5.4 TURN Servers 5.5 Candidates 6 Peer Connection and Offer/Answer Negotiation 6.1 Peer Connections 6.2 Offer/Answer Negotiation 6.3 JavaScript Offer/Answer Control 6.4 Runnable Code Example: Peer Connection and Offer/Answer Negotiation 7 Data Channel 7.1 Introduction to the Data Channel 7.2 Using Data Channels 7.3 Data Channel Runnable Code Example 7.3.1 Client WebRTC Application 8 W3C Documents 8.1 WebRTC API Reference 8.2 WEBRTC Recommendations 8.3 WEBRTC Drafts 8.4 Related Work 8.5 References 9 NAT and Firewall Traversal 9.1 Introduction to Hole Punching 9.3 WebRTC and Firewalls 9.3.1 WebRTC Firewall Traversal 9.4 References 10 Protocols 10.1 Protocols 10.2 WebRTC Protocol Overview 10.3 References 11 IETF Documents 11.1 Request For Comments 11.2 Internet-Drafts 11.3 RTCWEB Working Group Internet-Drafts 11.4 Individual Internet-Drafts 11.5 RTCWEB Documents in Other Working Groups 11.6 References 12 IETF Related RFC Documents 12.1 Real-time Transport Protocol 12.2 Session Description Protocol 12.3 NAT Traversal RFCs 12.4 Codecs 12.5 Signaling 12.6 References 13 Security and Privacy 13.1 Browser Security Model 13.2 New WebRTC Browser Attacks 13.3 Communication Security 13.4 Identity in WebRTC 13.5 Enterprise Issues 14 Implementations and Uses INDEX ABOUT THE AUTHORS

How prepared are you to build fast and efficient web applications? This eloquent book provides what every web developer should know about the network, from fundamental limitations that affect performance to major innovations for building even more powerful browser applications—including HTTP 2.0 and XHR improvements, Server-Sent Events (SSE), WebSocket, and WebRTC. Author Ilya Grigorik, a web performance engineer at Google, demonstrates performance optimization best practices for TCP, UDP, and TLS protocols, and explains unique wireless and mobile network optimization requirements. You'll then dive into performance characteristics of technologies such as HTTP 2.0, client-side network scripting with XHR, real-time streaming with SSE and WebSocket, and P2P communication with WebRTC. Deliver superlative TCP, UDP, and TLS performance Speed up network performance over 3G/4G mobile networks Develop fast and energy-efficient mobile applications Address bottlenecks in HTTP 1.x and other browser protocols Plan for and deliver the best HTTP 2.0 performance Enable efficient real-time streaming in the browser Create efficient peer-to-peer videoconferencing and low-latency applications with real-time WebRTC transports

Information System Development—Improving Enterprise Communication are the collected proceedings of the 22nd International Conference on Information Systems Development: Improving Enterprise Communication—ISD 2013 Conference, held in Seville, Spain. It follows in the tradition of previous conferences in the series in exploring the connections between industry, research and education. These proceedings represent ongoing reflections within the academic community on established information systems topics and emerging concepts, approaches and ideas. It is hoped that the papers herein contribute towards disseminating research and improving practice. The conference tracks highlighted at the 22nd International Conference on Information Systems Development (ISD 2013) were: Applications Data and Ontologies End Users Enterprise Evolution Industrial cases in ISD Intelligent Business Process Management Model Driven Engineering in ISD New Technologies Process Management Quality

This book constitutes the proceedings of the 8th International Conference on Big Data Analytics, BDA 2020, which took place during December 15-18, 2020, in Sonapat, India. The 11 full and 3 short papers included in this volume were carefully reviewed and selected from 48 submissions; the book also contains 4 invited and 3 tutorial papers. The contributions were organized in topical sections named as follows: data science systems; data science architectures; big data analytics in healthcare; information interchange of Web data resources; and business analytics.

"WebRTC is the central standard for the development of web-based real-time communication applications, delivering the capability of seamlessly integrating peer-to-peer audio and video communication. The WebRTC protocol removes the typical barriers to web-based real-time communication by providing an array of enabling APIs which overcome variances in browser capability and platform, simplifying accessibility for developers, and end users. This video course will equip you with the understanding to quickly develop a complete WebRTC application, ready to be integrated into your own web application. If you're interested in creating a video application with WebRTC, this video delivers a strong example application which you can use, whilst laying the foundation for you to develop more complex instances in the future. This course opens with an introduction to WebRTC, placing it in context of similar technologies in the web environment, before diving into an exploration of key WebRTC APIs. After detailing the main API utilities, we'll examine various signalling approaches before designing two servers, one for serving our example, and another one for providing signalling. At this point, we'll put all the pieces together to create a fully functional, real-time communication application. The final section of this video course focuses on debugging and improving WebRTC applications treating other frameworks and developer tools which can be used to this end, with modern techniques employed by experienced developers. By the time you complete this video course, you will understand the fundamentals of WebRTC and its array of powerful APIs, with the ability to establish real-time video conferencing functionality over the web, with whoever you want."--Resource description page.

This book contains a selection of articles from The 2014 World Conference on Information Systems and Technologies (WorldCIST'14), held between the 15th and 18th of April in Funchal, Madeira, Portugal, a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges of modern Information Systems and Technologies research, technological development and applications. The main topics covered are: Information and Knowledge Management; Organizational Models and Information Systems; Intelligent and Decision Support Systems; Software Systems, Architectures, Applications and Tools; Computer Networks, Mobility and Pervasive Systems; Radar Technologies; Human-Computer Interaction; Health Informatics and Information Technologies in Education.

This book presents the proceedings of the 19th International Conference on Interactive Collaborative Learning, held 21-23 September 2016 at Clayton Hotel in Belfast, UK. We are currently witnessing a significant transformation in the development of education. The impact of globalisation on all areas of human life, the exponential acceleration of developments in both technology and the global markets, and the growing need for flexibility and agility are essential and challenging elements of this process that have to be addressed in general, but especially in the context of engineering education. To face these topical and very real challenges, higher education is called upon to find innovative responses. Since being founded in 1998, this conference has consistently been devoted to finding new approaches to learning, with a focus on collaborative learning. Today the ICL conferences have established themselves as a vital forum for the exchange of information on key trends and findings, and of practical lessons learned while developing and testing elements of new technologies and pedagogies in learning.

This book constitutes the refereed proceedings of the 17th International Conference on Speech and Computer, SPECOM 2015, held in Athens, Greece, in September 2015. The 59 revised full papers presented together with 2 invited talks were carefully reviewed and selected from 104 initial submissions. The papers cover a wide range of topics in the area of computer speech processing such as recognition, synthesis, and understanding and related domains including signal processing, language and text processing, multi-modal speech processing or human-computer interaction.

In recent years, many technologies for gait and posture assessments have emerged. Wearable sensors, active and passive in-house monitors, and many combinations thereof all promise to provide accurate measures of physical activity, gait, and posture parameters. Motivated by market projections for wearable technologies and driven by recent technological innovations in wearable sensors (MEMs, electronic textiles, wireless communications, etc.), wearable health/performance research is growing rapidly and has the potential to transform future healthcare from disease treatment to disease prevention. The objective of this Special Issue is to address and disseminate the latest gait, posture, and activity monitoring systems as well as various mathematical models/methods that characterize mobility functions. This Special Issue focuses on wearable monitoring systems and physical sensors, and its mathematical models can be utilized in varied environments under varied conditions to monitor health and performance

Deliver rich audio and video real-time communication and peer-to-peer data exchange right in the browser, without the need for proprietary plug-ins. The updated second edition of this concise hands-on guide shows you how to use the emerging Web Real-Time Communication (WebRTC) technology to build a browser-to-browser application, piece by piece. The authors' learn-by-example approach is perfect for web programmers looking to understand real-time communication, and telecommunications architects unfamiliar with HTML5 and JavaScript-based client-server web programming. You'll use a ten-step recipe to create a complete WebRTC system, with exercises that you can apply to your own projects.

Interactive mobile technologies have now become the core of many—if not all—fields of society. Not only do the younger generation of students expect a mobile working and learning environment, but also the new ideas, technologies and solutions introduced on a nearly daily basis also boost this trend. Discussing and assessing key trends in the mobile field were the primary aims of the 11th International Conference on Interactive Mobile Communication, Technologies and Learning (IMCL2017), which was held in Thessaloniki from 30 November to 01 December 2017. Since being founded in 2006, the conference has been devoted to new approaches in interactive mobile technologies, with a focus on learning. The IMCL conferences have in the meanwhile become a central forum of the exchange of new research results and relevant trends, as well as best practices. This book contains papers in the fields of: Future Trends and Emerging Mobile

Technologies Design and Development of Mobile Learning Apps and Content Mobile Games—Gamification and Mobile Learning Adaptive Mobile Environments Augmented Reality and Immersive Applications Tangible, Embedded and Embodied Interaction Interactive Collaborative and Blended Learning Digital Technology in Sports Mobile Health Care and Training Multimedia Learning in Music Education 5G Network Infrastructure Case Studies Real-World Experiences The content will appeal to a broad readership, including policymakers, academics, educators, researchers in pedagogy and learning theory, school teachers, the learning industry, further education lecturers, etc.

Highlights innovations for building even more powerful browser apps including HTTP 2.0, XHR improvements, Server-Sent Events (SSEs), WebSocket, and WebRTC.

This book is for programmers who want to learn about real-time communication and utilize the full potential of WebRTC. It is assumed that you have working knowledge of setting up a basic telecom infrastructure as well as basic programming and scripting knowledge.

The book begins by teaching you how to capture audio and video streams from the browser using the Media Capture and Streams API. You will then create your first WebRTC application capable of audio and video calling. The book will also give you in-depth knowledge about signaling and building a signaling server in Node.js. While being introduced to the RTCDataChannel object, you will learn how it relates to WebRTC and how to add text-based chat to your application. You will also learn to take your application further by supporting multiple users through different technologies and scale its performance and security. This book will also cover several theories using full mesh networks, partial mesh networks, and multipoint control units. By the end of this book, you will have an extensive understanding of real-time communication and the WebRTC protocol and APIs.

The latest techniques for averting UC disaster Establish a holistic security stance by learning to view your unified communications infrastructure through the eyes of the nefarious cyber-criminal. Hacking Exposed Unified Communications & VoIP, Second Edition offers thoroughly expanded coverage of today's rampant threats alongside ready-to-deploy countermeasures. Find out how to block TDoS, toll fraud, voice SPAM, voice social engineering and phishing, eavesdropping, and man-in-the-middle exploits. This comprehensive guide features all-new chapters, case studies, and examples. See how hackers target vulnerable UC devices and entire networks Defend against TDoS, toll fraud, and service abuse Block calling number hacks and calling number spoofing Thwart voice social engineering and phishing exploits Employ voice spam mitigation products and filters Fortify Cisco Unified Communications Manager Use encryption to prevent eavesdropping and MITM attacks Avoid injection of malicious audio, video, and media files Use fuzzers to test and buttress your VoIP applications Learn about emerging technologies such as Microsoft Lync, OTT UC, other forms of UC, and cloud and WebRTC

This book is a step-by-step project-based guide that aims to teach you how to develop your own web applications and services with WebRTC in a concise, practical manner. This book will be perfect for you if you are a WebRTC developer and want to build complex WebRTC applications and projects, or if you want to gain practical experience in developing web applications, advanced WebRTC media handling, server and client signaling, call flows, or third-party integration. It is essential to have prior knowledge of building simple applications using WebRTC.

Deliver rich audio and video real-time communication and peer-to-peer data exchange right in the browser, without the need for proprietary plug-ins. This concise hands-on guide shows you how to use the emerging Web Real-Time Communication (WebRTC) technology to build a browser-to-browser application, piece by piece. The authors' learn-by-example approach is perfect for web programmers looking to understand real-time communication, and telecommunications architects unfamiliar with HTML5 and JavaScript-based client-server web programming. You'll use a ten-step recipe to create a complete WebRTC system, with exercises that you can apply to your own projects. Tour the WebRTC development cycle and trapezoid architectural model Understand how and why VoIP is shifting from standalone functionality to a browser component Use mechanisms that let client-side web apps interact with browsers through the WebRTC API Transfer streaming data between browser peers with the RTCPeerConnection API Create a signaling channel between peers for setting up a WebRTC session Put everything together to create a basic WebRTC system from scratch Learn about conferencing, authorization, and other advanced WebRTC features.

This book on SDP is the first of this kind that attempts to put all SDP related RFCs together with their mandatory and optional texts in a chronological systematic way as if people can use a single "super-SDP RFC" with almost one-to-one integrity from beginning to end to see the big picture of SDP in addition to base SDP functionalities.

Learn how to create beautiful, interactive, browser-based data visualizations with the D3 JavaScript library. This hands-on book shows you how to use a combination of JavaScript and SVG to build everything from simple bar charts to complex infographics. You'll learn how to use basic D3 tools by building visualizations based on real data from the New York Metropolitan Transit Authority. Using historical tables, geographical information, and other data, you'll graph bus breakdowns and accidents and the percentage of subway trains running on time, among other examples. By the end of the book, you'll be prepared to build your own web-based data visualizations with D3. Join a dataset with elements of a webpage, and modify the elements based on the data Map data values onto pixels and colors with D3's scale objects Apply axis and line generators to simplify aspects of building visualizations Create a simple UI that allows users to investigate and compare data Use D3 transitions in your UI to animate important aspects of the data Get an introduction to D3 layout tools for building more sophisticated visualizations If you can code and manipulate data, and know how to work with JavaScript and SVG, this book is for you.

Unleash the power of XMPP in order to build exciting, real-time, federated applications based on open standards in a secure and highly scalable fashion About This Book Learn about the fundamentals of XMPP and be able to work with the core functionality both server-side and in the browser Build a simple 1-to-1 chat (the "Hello World" of XMPP), explore

multi-user chat, publish subscribe systems, and work with a decentralized social network Author Lloyd Watkins is a member of the XMPP standards committee Who This Book Is For If you want to learn about the fundamentals of XMPP, be able to work with the core functionality both server-side and in the browser then this book is for you.No knowledge of XMPP is required, or of TCP/IP networking. It's important that you already know how to build applications of some form, and are looking get a better understanding of how to implement XMPP for one or more of its many uses. You should be interested in the decentralized web, know HTML, and likely know JavaScript and NodeJS. You will probably know JSON, and hopefully XML (this is the native output of XMPP). What You Will Learn Install and configure an XMPP server and use it to connect from a traditional desktop client and send a message Build a simple server-side application that will respond to messages from our logged in desktop client Install and run XMPP-FTW, connect to the server from the browser, and handle incoming/outgoing messages Connect to a multi-user chat room, send/receive stanzas, add a room password, join a protected room, set the room's subject, and change a user's affiliation Get to grips with the publish-subscribe extension of XMPP and use it to build a pusher system that can make any website real-time Build a simple XMPP component and create an extension for XMPP-FTW that allows you to use your own custom format Build an XMPP version of the classic game "Pong" In Detail XMPP (eXtensible Messaging and Presence Protocol) is a messaging protocol that enables communication between two or more devices via the Internet. With this book, developers will learn about the fundamentals of XMPP, be able to work with the core functionality both server-side and in the browser, as well as starting to explore several of the protocol extensions. You will not only have a solid grasp of XMPP and how it works, but will also be able to use the protocol to build real-world applications that utilize the power of XMPP. By the end of this book, you will know more about networking applications in general, and have a good understanding of how to extend XMPP, as well as using it in sample applications. Style and approach Through a number of hands-on projects, this book shows you how to build usable applications that highlights a feature of XMPP.

Master the art of advanced VoIP and WebRTC communication with the most dynamic application server, FreeSWITCH About This Book Forget the hassle - make FreeSWITCH work for you Discover how FreeSWITCH integrates with a range of tools and APIs From high availability to IVR development use this book to become more confident with this useful communication software Who This Book Is For SysAdmins, VoIP engineers – whoever you are, whatever you're trying to do, this book will help you get more from FreeSWITCH. What You Will Learn Get to grips with the core concepts of FreeSWITCH Learn FreeSWITCH high availability Work with SIP profiles, gateways, ITSPs, and Codecs optimization Implement effective security on your projects Master audio manipulation and recording Discover how FreeSWITCH works alongside WebRTC Build your own complex IVR and PBX applications Connect directly to PSTN/TDM Create your own FreeSWITCH module Trace SIP packets with the help of best open source tools Implement Homer Sipcapture to troubleshoot and debug all your platform traffic In Detail FreeSWITCH is one of the best tools around if you're looking for a modern method of managing communication protocols through a range of different media. From real-time browser communication with the WebRTC API to implementing VoIP (voice over internet protocol), with FreeSWITCH you're in full control of your projects. This book shows you how to unlock its full potential – more than just a tutorial, it's packed with plenty of tips and tricks to make it work for you. Written by members of the team who actually helped build FreeSWITCH, it will guide you through some of the newest features of version 1.6 including video transcoding and conferencing. Find out how FreeSWITCH interacts with other tools and APIs, learn how to tackle common (and not so common) challenges ranging from high availability to IVR development and programming advanced PBXs. Great communication functionality begins with FreeSWITCH – find out how and get your project up and running today. Style and approach Find out how it works, then put your knowledge into practice - that's how this advanced FreeSWITCH guide has been designed to help you learn. You'll soon master FreeSWITCH and be confident using it in your projects.

This book, gathering the Proceedings of the 2018 Computing Conference, offers a remarkable collection of chapters covering a wide range of topics in intelligent systems, computing and their real-world applications. The Conference attracted a total of 568 submissions from pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer review process. Of those 568 submissions, 192 submissions (including 14 poster papers) were selected for inclusion in these proceedings. Despite computer science's comparatively brief history as a formal academic discipline, it has made a number of fundamental contributions to science and society—in fact, along with electronics, it is a founding science of the current epoch of human history ('the Information Age') and a main driver of the Information Revolution. The goal of this conference is to provide a platform for researchers to present fundamental contributions, and to be a premier venue for academic and industry practitioners to share new ideas and development experiences. This book collects state of the art chapters on all aspects of Computer Science, from classical to intelligent. It covers both the theory and applications of the latest computer technologies and methodologies. Providing the state of the art in intelligent methods and techniques for solving real-world problems, along with a vision of future research, the book will be interesting and valuable for a broad readership.

This book covers the state-of-the-art in digital games research and development for anyone working with or studying digital games and those who are considering entering into this rapidly growing industry. Many books have been published that sufficiently describe popular topics in digital games; however, until now there has not been a comprehensive book that draws the traditional and emerging facets of gaming together across multiple disciplines within a single volume. This book constitutes the refereed proceedings of the 20th EUNICE/IFIP WG 6.2, 6.6 Workshop on Advances in Communication Networking, EUNICE 2014, held in Rennes, France, in September 2014. The 21 papers presented were carefully reviewed and selected from numerous submissions and present aspects in the field of information and communication technologies.

The book will follow a step-by-step tutorial approach to construct an application that allows video conferencing and calls

between two browsers and a system for sharing files among a group. This book is ideal for developers new to the WebRTC standards who are interested in adding sensor-driven, real-time, peer-to-peer communication to their web applications. You will only need basic experience with HTML and JavaScript.

Deliver rich audio and video real-time communication and peer-to-peer data exchange right in the browser, without the need for proprietary plug-ins. This concise hands-on guide shows you how to use the emerging Web Real-Time Communication (WebRTC) technology to build a browser-to-browser application, piece by piece. The authors' learn-by-example approach is perfect for web programmers looking to understand real-time communication, and telecommunications architects unfamiliar with HTML5 and JavaScript-based client-server web programming. You'll use a ten-step recipe to create a complete WebRTC system, with exercises that you can apply to your own projects. Tour the WebRTC development cycle and trapezoid architectural model Understand how and why VoIP is shifting from standalone functionality to a browser component Use mechanisms that let client-side web apps interact with browsers through the WebRTC API Transfer streaming data between browser peers with the RTCPeerConnection API Create a signaling channel between peers for setting up a WebRTC session Put everything together to create a basic WebRTC system from scratch Learn about conferencing, authorization, and other advanced WebRTC features

This book presents the latest research findings, methods and development techniques related to Ubiquitous and Pervasive Computing (UPC) as well as challenges and solutions from both theoretical and practical perspectives with an emphasis on innovative, mobile and internet services. With the proliferation of wireless technologies and electronic devices, there is a rapidly growing interest in Ubiquitous and Pervasive Computing (UPC). UPC makes it possible to create a human-oriented computing environment where computer chips are embedded in everyday objects and interact with physical world. It also allows users to be online even while moving around, providing them with almost permanent access to their preferred services. Along with a great potential to revolutionize our lives, UPC also poses new research challenges.

The Global IoT Summit will present selected papers on IoT technologies, research and applications The GloTS will be collocated with the IoT Week Conference with access to a very rich and comprehensive program, bringing together top researchers, experts and industry in the Internet of Things domain The 2020 programme will cover Emerging Technologies, IoT Cybersecurity, Privacy & Data Protection, Smart Cities, Artificial Intelligence, IoT and 5G Convergence, Advanced Manufacturing, Smart Farming, Big Data Analytics, Large Scale Pilots, IoT Market, smart water management, GDPR, Trends and many more

This book constitutes the refereed post-conference proceedings of the 11th International Conference on Broadband Communications, Networks, and Systems, Broadnets 2020, which took place in Qingdao, China, in December 2020. The 13 full papers presented were carefully reviewed and selected from 32 submissions. The papers are thematically grouped as a session on wireless network and security and a session on communication quality.

If you are a JavaScript developer with a basic knowledge of WebRTC and software development, but want to explore how to use it in more depth, this book is for you.

This book features original research and recent advances in ICT fields related to sustainable development. Based the International Conference on Networks, Intelligent systems, Computing & Environmental Informatics for Sustainable Development, held in Marrakech in April 2020, it features peer-reviewed chapters authored by prominent researchers from around the globe. As such it is an invaluable resource for courses in computer science, electrical engineering and urban sciences for sustainable development. This book covered topics including • Green Networks • Artificial Intelligence for Sustainability • Environment Informatics • Computing Technologies

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