In-House Digital Tools in Library Spaces
Building Applications with IBeacon

Beacon Technologies

Mobile Application Development, Usability, and Security

Library services are dependent on technology tools in order to host, distribute, and control content. Today, many libraries are creating, testing, and supporting their own tools to better suit their particular communities. Developing In-House Digital Tools in Library Spaces is a pivotal reference source with the latest empirical research on organizational issues, examples of library automation, case studies of developing library products, and assessment of the impact and usefulness of in-house technologies. Featuring coverage on a broad range of topics such as linked data, mobile applications, and web analytics, this book is ideally designed for academicians, researchers, students, and librarians seeking current research on technological products and their development in library use.

Getting Started with Bluetooth Low Energy

This book is a practical guide to programming Bluetooth Low Energy in iPhones and iPads. In this book, you will learn the basics of how to program an iOS device to communicate with any Central or Peripheral device over Bluetooth Low Energy. Each chapter of the book builds on the previous one, culminating in three projects: - A Beacon and Scanner - A Echo Server and Client - A Remote Controlled Device Through the course of the book you will learn important concepts that relate to: - How Bluetooth Low Energy works - How data is sent and received - Common paradigms for handling data This book is excellent for anyone who has basic or advanced knowledge of iOS programming in SWIFT.

Program the Internet of Things with Swift for
Build a complete, professional-quality, hybrid mobile application with Ionic

About This Book

Develop high-grade and performance-optimized hybrid applications using the latest version of Ionic

Discover the latest and upcoming features of Ionic

A practical guide that will help you fully utilize all the features and components of Ionic efficiently

Who This Book Is For

The target audience for this book is intermediate-level application developers who have some basic knowledge of Ionic.

What You Will Learn

Use every Ionic component and its customization according to the application along with some important third party components

Recently released Lazy Loading and Grid System supporting desktop application with Electron

Integration of the various Ionic backend services and features such as Ionic Push, DB, Auth, Deploy in your application

Exploration of white-listing, CORS, and various other platform security aspects to secure your application

Synchronization of your data with the cloud server and fetching it in real time using Ionic Cloud and Firebase services

Integration of the Cordova iBeacon plugin which will fetch contextual data on the basis of location and Websockets for real time communication for IOT based applications

Implementation of offline functionality in your PWA application using service-worker, cache storage and indexedDB

In Detail

Ionic is an open source, front-end framework that allows you to develop hybrid mobile apps without any native-language hassle for each platform. It offers a library of mobile-optimized HTML, CSS, and JS components for building highly interactive mobile apps. This book will help you to develop a complete, professional and quality mobile application with Ionic Framework. You will start the journey by learning to configure, customize, and migrate Ionic 1x to 3x. Then, you will move on to Ionic 3 components and see how you can customize them according to your applications. You will also implement various native plugins and integrate them with Ionic and Ionic Cloud services to use them optimally in your
application. By this time, you will be able to create a full-
fledged e-commerce application. Next, you will master
authorization, authentication, and security techniques in
Ionic 3 to ensure that your application and data are
secure. Further, you will integrate the backend services
such as Firebase and the Cordova iBeacon plugin in your
application. Lastly, you will be looking into Progressive
Web Applications and its support with Ionic, with a
demonstration of an offline-first application. By the end
of the book, you will not only have built a professional,
hybrid mobile application, but will also have ensured that
your app is secure and performance driven. Style and
approach A step-by-step guide (covering all its features
and components) to build a complete mobile application
using Ionic. Each chapter will cover different features of
Ionic.

Protocols and Applications for the Industrial
Internet of Things

The development of online digital libraries has enhanced
the availability of printed materials. By implementing
these systems, this ensures the access of material to
universities, students, and bibliophiles. Digitizing the
Modern Library and the Transition From Print to
Electronic is a pivotal reference source for the latest
techniques and initiatives needed to transition libraries
into the digital age. Featuring extensive coverage on
relevant areas such as electronic resource management,
library management software, and semantic web, this
publication is an ideal resource for faculty members,
research scholars, students, information specialists, and
librarians in universities and in academic, public, and
special libraries.

Proceedings of the 20th Congress of the
International Ergonomics Association (IEA 2018)

The Internet of Things (IoT) has become a major influence
on the development of new technologies and innovations.
When utilized properly, these applications can enhance business functions and make them easier to perform. Protocols and Applications for the Industrial Internet of Things discusses and addresses the difficulties, challenges, and applications of IoT in industrial processes and production and work life. Featuring coverage on a broad range of topics such as industrial process control, machine learning, and data mining, this book is geared toward academicians, computer engineers, students, researchers, and professionals seeking current and relevant research on applications of the IoT.

Digitizing the Modern Library and the Transition From Print to Electronic

Use the power of BLE to create exciting IoT applications

About This Book Build hands-on IoT projects using Bluetooth Low Energy and learn about Bluetooth 5 and its features. Build a health tracking system, and indoor navigation and warehouse weather monitoring projects using smart devices. Build on a theoretical foundation and create a practice-based understanding of Bluetooth Low Energy. Who This Book Is For If you're an application developer, a hardware enthusiast, or just curious about the Internet of Things and how to convert it into hands-on projects, then this book is for you. Having some knowledge of writing mobile applications will be advantageous. What You Will Learn Learn about the architecture and IoT uses of BLE, and in which domains it is being used the most Set up and learn about various development platforms (Android, iOS, Firebase, Raspberry Pi, Beacons, and GitHub) Create an Explorer App (Android/iOS) to diagnose a Fitness Tracker Design a Beacon with the Raspberry Pi and write an app to detect the Beacon Write a mobile app to periodically poll the BLE tracking sensor Compose an app to read data periodically from temperature and humidity sensors Explore more applications of BLE with IoT Design projects for both Android and iOS mobile platforms In Detail Bluetooth Low Energy, or Bluetooth Smart, is Wireless
Personal Area networking aimed at smart devices and IoT applications. BLE has been increasingly adopted by application developers and IoT enthusiasts to establish connections between smart devices. This book initially covers all the required aspects of BLE, before you start working on IoT projects. In the initial stages of the book, you will learn about the basic aspects of Bluetooth Low Energy—such as discovering devices, services, and characteristics—that will be helpful for advanced-level projects. This book will guide you through building hands-on projects using BLE and IoT. These projects include tracking health data, using a mobile App, and making this data available for health practitioners; Indoor navigation; creating beacons using the Raspberry Pi; and warehouse weather Monitoring. This book also covers aspects of Bluetooth 5 (the latest release) and its effect on each of these projects. By the end of this book, you will have hands-on experience of using Bluetooth Low Energy to integrate with smart devices and IoT projects. Style and Approach A practical guide that will help you promote yourself into an expert by building and exploring practical applications of Bluetooth Low Energy.

Bluetooth Low Energy in iOS Swift

Discover and implement a system of your choice using Bluetooth Low Energy. About This Book Learn the basics of Bluetooth Low Energy with its exciting new protocol stack and security. Build customized Bluetooth Low Energy projects that make your web or mobile apps smarter in terms of networking and communications. Using Android, iOS, and the Web, acquire key skills to harness the power of Bluetooth Low Energy in your IoT applications. Who This Book Is For The book is for developers and enthusiasts who are passionate about learning Bluetooth Low Energy technologies and want to add new features and services to their new or existing products. They should be familiar with programming languages such as Swift, Java, and JavaScript. Knowledge of debugging skills would be an advantage. What You
Will Learn Bluetooth Low Energy in theory. Bluetooth Low Energy Hardware and Software Development Kits. Implement Bluetooth low energy communication (central and peripheral) using Android. Master BLE Beacons with examples implemented over Eddystone and iBeacons. Implement indoor navigation using Estimote Beacons on iOS. Implement Internet gateways to control BLE devices on a Wi-Fi network. Understand BLE security mechanisms with a special focus on Bluetooth pairing, bonding, and key exchange to cover encryption, privacy, and user data integrity. Implement Bluetooth Mesh using CSRMesh Technology. In Detail Bluetooth Low Energy (BLE) is a Wireless Personal Area network technology aimed at novel applications for smart devices. High-tech BLE profiles and services are being increasingly used by application developers and hardware enthusiasts to allow devices to interact with the surrounding world. This book will focus on a technical introduction to BLE and how it is reshaping small-distance communication. We will start with IoT, where many technologies such as BLE, Zigbee, and IEEE 802.15.4 Mesh will be introduced. The book will present BLE from an engineering perspective, from which the protocol stack, architecture, and layers are discussed. You will learn to implement customized projects for Peripheral/Central communication, BLE Beacons, indoor navigation using triangulation, and the Internet gateway for Bluetooth Low Energy Personal Network, all using various code samples and APIs on Android, iOS, and the Web. Finally, the book will conclude with a glimpse into future technologies destined to be prominent in years to come. Style and approach The book is a practical tutorial that will help you understand the background and technicalities of BLE and offers a friendly environment to build and create robust BLE projects. This hands-on approach will give you a clear vision of Bluetooth Low Energy and how it can be used in IoT.

IoT, AI, and Blockchain for .NET

The European Journal of Tourism Research is an open
access academic journal in the field of tourism, published by Varna University of Management, Bulgaria. Its aim is to provide a platform for discussion of theoretical and empirical problems in tourism. Publications from all fields, connected with tourism such as tourism management, tourism marketing, tourism sociology, psychology in tourism, tourism geography, political sciences in tourism, mathematics, tourism statistics, tourism anthropology, culture and tourism, heritage and tourism, national identity and tourism, information technologies in tourism and others are invited. The journal is open to all researchers. Young researchers and authors from Central and Eastern Europe are encouraged to submit their contributions. Regular Articles in the European Journal of Tourism Research should normally be between 4 000 and 20 000 words. Major research articles of between 10 000 and 20 000 are highly welcome. Longer or shorter papers will also be considered. The journal publishes also Research Notes of 1 500 – 2 000 words. Submitted papers must combine theoretical concepts with practical applications or empirical testing. The European Journal of Tourism Research includes also the following sections: Book Reviews, announcements for Conferences and Seminars, abstracts of successfully defended Doctoral Dissertations in Tourism, case studies of Tourism Best Practices. The European Journal of Tourism Research is published in three Volumes per year. There are no charges for publication. The full text of the European Journal of Tourism Research is available in the following databases: EBSCO Hospitality and Tourism Complete CABI Leisure, Recreation and Tourism ProQuest Research Library The journal is indexed in Scopus and Clarivate Analytics’ Emerging Sources Citation Index. The editorial team welcomes your submissions to the European Journal of Tourism Research.

Device-to-Device based Proximity Service

Artificial intelligence (AI) describes machines/computers that mimic cognitive functions that humans associate
with other human minds, such as learning and problem solving. As businesses have evolved to include more automation of processes, it has become more vital to understand AI and its various applications. Additionally, it is important for workers in the marketing industry to understand how to coincide with and utilize these techniques to enhance and make their work more efficient. The Handbook of Research on Applied AI for International Business and Marketing Applications is a critical scholarly publication that provides comprehensive research on artificial intelligence applications within the context of international business. Highlighting a wide range of topics such as diversification, risk management, and artificial intelligence, this book is ideal for marketers, business professionals, academicians, practitioners, researchers, and students.

**Expert Delphi**

While the population continues to grow and expand, many people are now making their homes in cities around the globe. With this increase in city living, it is becoming vital to create intelligent urban environments that efficiently support this growth, and that simultaneous provide friendly, progressive environments to both businesses and citizens alike. The Handbook of Research on Entrepreneurial Development and Innovation Within Smart Cities is a comprehensive reference source that discusses social, economic, and environmental issues surrounding the evolution of smart cities. It provides insightful viewpoints on a range of topics such as entrepreneurial ecosystems, competitive tourism, city efficiency, corporate social responsibility, and smart destinations. This publication is ideal for all researchers, academics, and practitioners that wish to expand their knowledge on the emerging trends and topics involving smart cities.

**IoT Projects with Bluetooth Low Energy**
This book presents the scientific outcome of the 4th ACIS International Conference on Computational Science/Intelligence & Applied Informatics (CSII 2017), which was held on July 9-13, 2017 in Hamamatsu, Japan. The aim of this conference was to bring together researchers and scientists, businessmen and entrepreneurs, teachers, engineers, computer users, and students to discuss the numerous fields of computer science, to share their experiences and to exchange new ideas and information in a meaningful way. The book includes research findings concerning all aspects (theory, applications and tools) of computer and information science, and discusses the practical challenges encountered and the solutions adopted to address them. The book features 16 of the conference’s most promising papers, written by researchers who are expected to make significant contributions in the field of computer and information science.

Virtual Banking

These proceedings represent the work of researchers participating in the 10th International Conference on e-Learning (ICEL 2015) which is being hosted this year by the College of the Bahamas, Nassau on the 25-26 June 2015. ICEL is a recognised event on the International research conferences calendar and provides a valuable platform for individuals to present their research findings, display their work in progress and discuss conceptual advances in the area of e-Learning. It provides an important opportunity for researchers and managers to come together with peers to share their experiences of using the varied and expanding range of e-Learning available to them. With an initial submission of 91 abstracts, after the double blind, peer review process there are 41 academic Research papers and 2 PhD papers Research papers published in these Conference Proceedings. These papers come from some many different countries including: Australia, Belgium, Brazil, Canada, China, Germany, Greece, Hong Kong, Malaysia,
Portugal, Republic of Macedonia, Romania, Slovakia, South Africa, Sweden, United Arab Emirates, UK and the USA. A selection of the best papers - those agreed by a panel of reviewers and the editor will be published in a conference edition of EJEL (the Electronic Journal of e-Learning www.ejel.com). These will be chosen for their quality of writing and relevance to the Journal’s objective of publishing papers that offer new insights or practical help into the application e-Learning.

Akzeptanz von Beacons für Location-based Advertising

Proximity technology—in particular, Bluetooth beacons—is a major source of business opportunity, and this book provides everything you need to know to architect a solution to capitalize on that opportunity. Learn the key standards—iBeacon, Eddystone, Bluetooth 4.0, and AltBeacon—and how they work with other proximity technologies. Then build your understanding of the proximity framework and how to identify and deploy the best solutions for your own business, institutional, or consulting needs. Solutions architects of all types—venture capitalists, founders, CEOs, strategists, product managers, CTOs, business developers, and programmers—will learn about the following from reading Beacon Technologies: The Hitchhiker's Guide to the Beacosystem: • The disruptive implications of digital-physical convergence and the new applications it makes possible • The key standards that solutions developers need to understand to capitalize on the business opportunity of proximity technology • The new phenomenon of beacon networks, which will be hugely significant in driving strategic decisions and creating wealth • Other technologies in the proximity ecosystem catalyzed by and complementary to Bluetooth beacons, including visual light communication, magnetic resonance, and RFID • The Beacosystem framework for analyzing the proximity ecosystem Steve Statler is a writer, public speaker, and consultant working in the
beacon ecosystem. He trains and advises retailers, venue owners, VCs, as well as makers of beacon software and hardware. Previously he was the Senior Director for Strategy and Solutions Management at Qualcomm's Retail Solutions Division, helping to incubate Gimbal, one of the leading Bluetooth beacons on the market. He is also the CEO of Cause Based Solutions, creators of Give the Change, democratizing philanthropy, enabling non-profit supporters to donate the change from charity branded debit cards, and developer of The Good Traveler program. Contributors: Anke Audenaert, CEO, Favrit John Coombs, CEO, Rover Labs Theresa Mary Gordon, Co-Founder, tapGOconnect Phil Hendrix, Director, immr Kris Kolodziej, President, IndoorLBS Patrick Leddy, CEO, Pulsate Ben Parker, VP Business Development, AccelerateIT Mario Proietti, CEO, Location Smart Ray Rotolo, SVP OOH, Gimbal Kjartan Slette, COO, Unacast Jarno Vanto, Partner, Borenius Attorneys LLP David Young, Chief Engineer, Radius Networks Foreword by Asif Khan, President LBMA

Computational Science/Intelligence and Applied Informatics

Technology is permanently transforming the banking industry, and digital payments are the key Electronic Payments, Mobile Commerce, and Virtual Banking: A Guide to Innovation, Partnering, and Regulation takes a hands-on approach to competing in the modern banking environment. Former PayPal Head of Financial Innovation Dan Schatt explores the reasons behind the massive consumer migration away from traditional banks, and provides clear, actionable guidance on beating new banking models at their own game. Digital payment is the hottest topic in banking today, and is set to define the future of the industry. Consumers are rapidly abandoning traditional banks in favor of institutions that are lower-cost and more consumer-centric. Between the pace of financial regulatory reform and the cloud computing revolution, the old banking model is on the
fast track to extinction. Electronic Payments, Mobile Commerce, and Virtual Banking provides the information banks need to compete in this new environment, and details the integral implementation actions that will allow them to thrive. The book discusses real-world innovations from banks, non-banks, and up and comers, and the heavy competition from the new outsource bank model. Topics include: The changing POS landscape and the need for digital wallet partnerships Shifting gears to greenfield market opportunities versus non-profitable markets Digital channel best practices for superior customer experience When to outsource, and what capabilities to truly own Case studies including PayPal, Google, Square, Facebook, Twitter, and more illustrate acceleration of innovation through banking partnerships, as well as the mechanics behind banking's biggest, scariest threats. The trick to surviving the paradigm shift is to embody innovation while providing a superior customer proposition. Electronic Payments, Mobile Commerce, and Virtual Banking: A Guide to Innovation, Partnering, and Regulation provides the inside track on managing the shift and dominating the new marketplace.

Building Applications with iBeacon

This book delivers concise coverage of classical methods and new developments related to indoor location-based services. It collects results from isolated domains including geometry, artificial intelligence, statistics, cooperative algorithms, and distributed systems and thus provides an accessible overview of fundamental methods and technologies. This makes it an ideal starting point for researchers, students, and professionals in pervasive computing. Location-based services are services using the location of a mobile computing device as their primary input. While such services are fairly easy to implement outside buildings thanks to accessible global positioning systems and high-quality environmental information, the situation inside buildings is fundamentally different. In general, there is no simple
way of determining the position of a moving target inside a building without an additional dedicated infrastructure. The book’s structure is learning oriented, starting with a short introduction to wireless communication systems and basic positioning techniques and ending with advanced features like event detection, simultaneous localization and mapping, and privacy aspects. Readers who are not familiar with the individual topics will be able to work through the book from start to finish. At the same time all chapters are self-contained to support readers who are already familiar with some of the content and only want to pick selected topics that are of particular interest.

Transactions on Edutainment XIII

This proceedings volume chronicles the papers presented at the 35th CIB W78 2018 Conference: IT in Design, Construction, and Management, held in Chicago, IL, USA, in October 2018. The theme of the conference focused on fostering, encouraging, and promoting research and development in the application of integrated information technology (IT) throughout the life-cycle of the design, construction, and occupancy of buildings and related facilities. The CIB - International Council for Research and Innovation in Building Construction - was established in 1953 as an association whose objectives were to stimulate and facilitate international cooperation and information exchange between governmental research institutes in the building and construction sector, with an emphasis on those institutes engaged in technical fields of research. The conference brought together more than 200 scholars from 40 countries, who presented the innovative concepts and methods featured in this collection of papers.

CWNA Certified Wireless Network Administrator Study Guide

Learn to rapidly build and deploy cross-platform
applications from a single codebase with practical, real-world solutions using the mature Delphi 10.4 programming environment. Key Features: Implement Delphi's modern features to build professional-grade Windows, web, mobile, and IoT applications and powerful servers. Become a Delphi code and project guru by learning best practices and techniques for cross-platform development. Deploy your complete end-to-end application suite anywhere.

Book Description: Delphi is a strongly typed, event-driven programming language with a rich ecosystem of frameworks and support tools. It comes with an extensive set of web and database libraries for rapid application development on desktop, mobile, and internet-enabled devices. This book will help you keep up with the latest IDE features and provide a sound foundation of project management and recent language enhancements to take your productivity to the next level. You'll discover how simple it is to support popular mobile device features such as sensors, cameras, and GPS. The book will help you feel comfortable working with FireMonkey and styles and incorporating 3D user interfaces in new ways. As you advance, you'll be able to build cross-platform solutions that not only look native but also take advantage of a wide array of device capabilities. You'll also learn how to use embedded databases, such as SQLite and InterBase ToGo, synchronizing them with your own custom backend servers or modules using the powerful RAD Server engine. The book concludes by sharing tips for testing and deploying your end-to-end application suite for a smooth user experience. By the end of this book, you'll be able to deliver modern enterprise applications using Delphi confidently. What you will learn: Discover the latest enhancements in the Delphi IDE. Overcome the barriers that hold you back from embracing cross-platform development. Become fluent with FireMonkey controls, styles, LiveBindings, and 3D objects. Build Delphi packages to extend RAD Server or modularize your applications. Use FireDAC to get quick and direct access to any data. Leverage IoT technologies such as Bluetooth.
and Beacons and learn how to put your app on a Raspberry Pi Enable remote apps with backend servers on Windows and Linux through REST APIs Develop modules for IIS and Apache web servers Who this book is for This book is for Delphi developers interested in expanding their skillset beyond Windows programming by creating professional-grade applications on multiple platforms, including Windows, Mac, iOS, Android, and back-office servers. You'll also find this book useful if you're a developer looking to upgrade your knowledge of Delphi to keep up with the latest changes and enhancements in this powerful toolset. Some Delphi programming experience is necessary to make the most out of this book.

Mobile Technologies in Libraries

High-precision location information is increasingly useful for mobile application developers, since it allows devices to interact with the world around them. This practical book shows you how to achieve arm’s reach accuracy with iBeacons, simple transmitters that enable your applications to react to nearby surroundings and then deliver timely, relevant information—especially indoors, where GPS and cell service are inaccurate. Whether you’re enabling a map, giving users directions, creating a game, recommending purchases, letting users check in, or creating an immersive experience, you’ll learn how iBeacons provide precise location information, empowering your applications to engage and interact with users nearby. Get examples of several application types you can build with iBeacons Learn how iBeacons provide applications with proximity information Set up, activate, and test iBeacons on both specialized and general-purpose hardware Explore the APIs and tools you need to develop location-aware mobile applications Use built-in iOS features to interact with iBeacons, including Passbook Build networks to help shoppers, travelers, conference attendees, and others find what they’re looking for
Rediscovering Heritage Through Technology

D2D-based proximity service is a very hot topic with great commercial potential from an application standpoint. Unlike existing books which focus on D2D communications technologies, this book fills a gap by summarizing and analyzing the latest applications and research results in academic, industrial fields, and standardization. The authors present the architecture, fundamental issues, and applications in a D2D networking environment from both application and interdisciplinary points of view.

Fearless Cross-Platform Development with Delphi

This book focuses on emerging issues in usability, interface design, human-computer interaction, user experience and assistive technology. It highlights research aimed at understanding human interaction with products, services and systems, and focuses on finding effective approaches for improving user experience. It also discusses key issues in designing and providing assistive devices and services to individuals with disabilities or impairment, to assist mobility, communication, positioning, environmental control and daily living. The book covers modelling as well as innovative design concepts, with a special emphasis on user-centered design, and design for specific populations, particularly the elderly. Virtual reality, digital environments, heuristic evaluation and forms of device interface feedback of (e.g. visual and haptic) are also among the topics covered. Based on the both the AHFE 2019 Conference on Usability & User Experience and the AHFE 2019 Conference on Human Factors and Assistive Technology, held on July 24-28, 2019, Washington D.C., USA, this book reports on cutting-edge findings, research methods and user-centred evaluation approaches.
Building Applications with IBeacon

This book presents the proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018), held on August 26-30, 2018, in Florence, Italy. By highlighting the latest theories and models, as well as cutting-edge technologies and applications, and by combining findings from a range of disciplines including engineering, design, robotics, healthcare, management, computer science, human biology and behavioral science, it provides researchers and practitioners alike with a comprehensive, timely guide on human factors and ergonomics. It also offers an excellent source of innovative ideas to stimulate future discussions and developments aimed at applying knowledge and techniques to optimize system performance, while at the same time promoting the health, safety and wellbeing of individuals. The proceedings include papers from researchers and practitioners, scientists and physicians, institutional leaders, managers and policy makers that contribute to constructing the Human Factors and Ergonomics approach across a variety of methodologies, domains and productive sectors. This volume includes papers addressing the following topics: Safety and Health, and Slips, Trips and Falls.

Cloud Computing, Smart Grid and Innovative Frontiers in Telecommunications

Create applications using Industry 4.0. Discover how artificial intelligence (AI) and machine learning (ML) capabilities can be enhanced using the Internet of things (IoT) and secured using Blockchain, so your latest app can be not just smarter but also more connected and more secure than ever before. This book covers the latest easy-to-use APIs and services from Microsoft, including Azure IoT, Cognitive Services APIs, Blockchain as a Service (BaaS), and Machine Learning Studio. As you work through the book, you’ll get hands-on experience building an example solution that uses all of these
technologies—an IoT suite for a smart healthcare facility. Hosted on Azure and networked using Azure IoT, the solution includes centralized patient monitoring, using Cognitive Services APIs for face detection, recognition, and tracking. Blockchain is used to create trust-based security and inventory management. Machine learning is used to create predictive solutions to proactively improve quality of life. By the end of the book, you’ll be confident creating richer and smarter applications using these technologies. What You’ll Learn Know the technologies underpinning Industry 4.0 and AI 2.0 Develop real-time solutions using IoT in Azure Bring the smart capabilities of AI 2.0 into your application using a simple API call Host and manage your solution on Azure Understand Blockchain as a Service Capture and analyze data on the fly Make predictions using existing data Who This Book Is For Novice and intermediate .NET developers and architects who want to learn what it takes to create a modern or next-generation application

Advances in Informatics and Computing in Civil and Construction Engineering

This journal subline serves as a forum for stimulating and disseminating innovative research ideas, theories, emerging technologies, empirical investigations, state-of-the-art methods, and tools in all different genres of edutainment, such as game-based learning and serious games, interactive storytelling, virtual learning environments, VR-based education, and related fields. It covers aspects from educational and game theories, human-computer interaction, computer graphics, artificial intelligence, and systems design. The 25 papers presented in the 13th issue were organized in topical sections named: learning games and visualization; virtual reality and applications; 3D graphics technology, multimedia computing, and others.

ICEL2015-10th International Conference on e-Learning
This book constitutes the refereed proceedings of the 9th International Conference on Cloud Computing, CloudComp 2019, and the 4th International Conference on Smart Grid and Innovative Frontiers in Telecommunications, SmartGIFT 2019, both held in Beijing, China, in December 2019. The 55 full papers of both conferences were selected from 113 submissions. CloudComp 2019 presents recent advances and experiences in clouds, cloud computing and related ecosystems and business support. The papers are grouped thematically in tracks on cloud architecture and scheduling; cloud-based data analytics; cloud applications; and cloud security and privacy. SmartGIFT 2019 focus on all aspects of smart grids and telecommunications, broadly understood as the renewable generation and distributed energy resources integration, computational intelligence applications, information and communication technologies.

Hybrid Mobile Development with Ionic

Smart Sensors Networks: Communication Technologies and Intelligent Applications explores the latest sensor and sensor networks techniques and applications, showing how networked wireless sensors are used to monitor and gather intelligence from our surrounding environment. It provides a systematic look at the unique characteristics of wireless sensor networks through their usage in a broad range of areas, including healthcare for the elderly, energy consumption, industrial automation, intelligent transportation systems, smart homes and cities, and more. The book shows how sensor-networks work and how they are applied to monitor our surrounding environment. It explores the most important aspects of modern sensors technologies, providing insights on the newest technologies and the systems needed to operate them. Readers will find the book to be an entry point for understanding the fundamental differences between the various sensor technologies and their use in for different scenarios. Indexing: The books
of this series are submitted to EI-Compendex and SCOPUS Presents numerous specific use-cases throughout, showing practical applications of concepts Contains contributions from leading experts around the globe Collects, in one place, the latest thinking on an emerging topic Addresses the security and privacy issues inherent in sensor deployment

Handbook of Research on Entrepreneurial Development and Innovation Within Smart Cities

Marco Altpeter beschäftigt sich mit neuen Technologien für Location-based Services, wie bspw. (Bluetooth-)Beacons, und deren Einsatzmöglichkeiten im Marketing. Da eine kundenindividuelle Ansprache per Smartphone die Akzeptanz der Kunden voraussetzt, identifiziert der Autor empirisch Determinanten der Akzeptanz neuer Technologien am Beispiel von Location-based Advertising aus Konsumentensicht und untersucht sie auf der Grundlage der Strukturgleichungsmodellanalyse.

Virtual, Augmented and Mixed Reality

This volume constitutes the refereed proceedings of the 8th International Conference on HCI in Virtual, Augmented and Mixed Reality, VAMR 2016, held as part of the 18th International Conference on Human-Computer Interaction, HCII 2016, which took place in Toronto, Canada, in July 2016. HCII 2016 received a total of 4354 submissions, of which 1287 papers were accepted for publication after a careful reviewing process. The 70 papers presented in this volume are organized in topical sections named: Usability, User Experience and Design in VAMR, Perception, Cognition, Psychology and Behaviour in VAMR, Multimodal Interaction in VAMR, Novel Devices and Technologies in VAMR, VAMR Applications in Aviation, Space and the Military, Medicine, Health and Well-Being Applications of VAMR, VAMR in Industry,
Beacon Technologies

Program the Internet of Things with Swift and iOS is a detailed tutorial that will teach you how to build apps using Apple’s native APIs for the Internet of Things, including the Apple Watch, HomeKit, and Apple Pay. This is the second book by Ahmed Bakir (author of Beginning iOS Media App Development) and his team at devAtelier LLC, who have been involved in developing over 20 mobile projects. Written like a code review, this book presents a detailed "how" and "why" for each topic, explaining Apple-specific design patterns as they come up and pulling lessons from other popular apps. To help you getting up and running quickly, each chapter is framed within a working project, allowing you to use the sample code directly in your apps. The Internet of Things is not limited to Apple devices alone, so this book also explains how to interface with popular third-party hardware devices, such as the Fitbit and Raspberry Pi, and generic interfaces, like Restful API’s and HTTPS. The Internet of Things is waiting — be a part of it!

Smart Sensors Networks

This book constitutes the proceedings of the 7th International Conference on Mobile Computing, Applications, and Services (MobiCASE 2015) held in Berlin, Germany, in November 2015. The 16 full and 4 poster papers were carefully reviewed and selected from 43 submissions, and are presented together with 4 papers from the First Workshop on Situation Recognition by Mining Temporal Information (SIREMETI 2015). The conference papers cover the following topics: intelligent caching, activity recognition and crowdsourcing, mobile frameworks, middleware, interactive applications and mobility.

Advances in Building Information Modeling
High-precision location information is increasingly useful for mobile application developers, since it allows devices to interact with the world around them. This practical book shows you how to achieve arm’s reach accuracy with iBeacons, simple transmitters that enable your applications to react to nearby surroundings and then deliver timely, relevant information—especially indoors, where GPS and cell service are inaccurate. Whether you’re enabling a map, giving users directions, creating a game, recommending purchases, letting users check in, or creating an immersive experience, you’ll learn how iBeacons provide precise location information, empowering your applications to engage and interact with users nearby. Get examples of several application types you can build with iBeacons. Learn how iBeacons provide applications with proximity information. Set up, activate, and test iBeacons on both specialized and general-purpose hardware. Explore the APIs and tools you need to develop location-aware mobile applications. Use built-in iOS features to interact with iBeacons, including Passbook. Build networks to help shoppers, travelers, conference attendees, and others find what they’re looking for.

Handbook of Research on Applied AI for International Business and Marketing Applications

Learn the key standards—iBeacon, Eddystone, Bluetooth 4.0, and AltBeacon—and how they work with other proximity technologies. Then build your understanding of the proximity framework and how to identify and deploy the best solutions for your own business, institutional, or consulting needs. Proximity technology—in particular, Bluetooth beacons—is a major source of business opportunity, and this book provides everything you need to know to architect a solution to capitalize on that opportunity. What You’ll Learn Understand the disruptive
Implications of digital-physical convergence and the new applications it makes possible. Review the key standards that solutions developers need to understand to capitalize on the business opportunity of proximity technology. Discover the new phenomenon of beacon networks, which will be hugely significant in driving strategic decisions and creating wealth. See other technologies in the proximity ecosystem catalyzed by and complementary to Bluetooth beacons, including visual light communication, magnetic resonance, and RFID. Examine the Beacosystem framework for analyzing the proximity ecosystem. Who

This Book Is For Solutions architects of all types—venture capitalists, founders, CEOs, strategists, product managers, CTOs, business developers, and programmers. Stephen Statler is a writer, public speaker, and consultant working in the beacon ecosystem. He trains and advises retailers, venue owners, VCs, as well as makers of beacon software and hardware, and is a thought leader in the beacosystem community. Previously he was the Senior Director for Strategy and Solutions Management at Qualcomm's Retail Solutions Division, helping to incubate Gimbal, one of the leading Bluetooth beacons in the market. He is also the CEO of Cause Based Solutions, creators of Give the Change, democratizing philanthropy, enabling non-profit supporters to donate the change from charity branded debit cards, and developer of The Good Traveler program. Contributors: Anke Audenaert, CEO, Favrit John Coombs, CEO, Rover Labs Theresa Mary Gordon, Co-Founder, tapGOconnect Phil Hendrix, Director, immr Kris Kolodziej, President, IndoorLBS Patrick Leddy, CEO, Pulsate Ben Parker, VP Business Development, AccelerateIT Mario Proietti, CEO, Location Smart Ray Rotolo, SVP OOH, Gimbal Kjartan Slette, COO, Unacast Jarno Vanto, Partner, Borenius Attorneys LLP David Young, Chief Engineer, Radius Networks. Foreword by Asif Khan, President LBMA

Mobile Computing, Applications, and Services
This book is intended for iOS developers who are curious to learn about iBeacon and want to start building applications for iOS. You will gain everything you need to know to master indoor location functionality using Bluetooth beacon technology. No knowledge of iBeacon is assumed.

Building Bluetooth Low Energy Systems

The rapid expansion of mobile technology has had a profound impact on many different sectors, industries, and institutions, among those that have been affected are libraries. With more users expecting access to information and resources in a mobile optimized format, libraries have had to adapt to meet the needs of users. Mobile Technologies in Libraries: A LITA Guide is written for library staff interested in how mobile technologies have changed the way we access, and expect to access, information, as well as how libraries can incorporate and adapt to mobile technology.

Learning iBeacon

This book constitutes the refereed proceedings of the First Eurasian BIM Forum, EBF 2019, held in Istanbul, Turkey, in May 2019. The 16 full papers were carefully reviewed and selected from 44 submissions. The papers cover such topics as BIM adoption and implementation; BIM for project management; BIM for sustainability and performative design; BIM and facility management and infrastructural issues.

Advances in Usability and User Experience

With Bluetooth Low Energy (BLE), smart devices are about to become even smarter. This practical guide demonstrates how this exciting wireless technology helps developers build mobile apps that share data with external hardware, and how hardware engineers can gain easy and reliable access to mobile operating systems.
This book provides a solid, high-level overview of how devices use BLE to communicate with each other. You’ll learn useful low-cost tools for developing and testing BLE-enabled mobile apps and embedded firmware and get examples using various development platforms—including iOS and Android for app developers and embedded platforms for product designers and hardware engineers. Understand how data is organized and transferred by BLE devices Explore BLE’s concepts, key limitations, and network topology Dig into the protocol stack to grasp how and why BLE operates Learn how BLE devices discover each other and establish secure connections Set up the tools and infrastructure for BLE application development Get examples for connecting BLE to iPhones, iPads, Android devices, and sensors Develop code for a simple device that transmits heart rate data to a mobile device

Indoor Location-Based Services

With the proliferation of technology, science became a medium used to create and interpret heritage in a way that redefines human achievements. The recent advances in technology are providing us with a variety of tools aimed at exploring, experiencing and interacting with heritage in a completely new way, which was unimaginable up until a few decades ago. Suddenly, heritage has become accessible and exciting to those who might not have previously considered it interesting. This book presents a selection of approaches in various topics such as artificial intelligence, gamification, and virtual and augmented reality, and uses practical examples to show how they can be deployed in real-world scenarios. As such, it inspires a wide variety of stakeholders and helps them experience our common heritage through a new lens.

European Journal of Tourism Research

The #1 selling Wi-Fi networking reference guide in the
The CWNA: Certified Wireless Network Administrator Study Guide is the ultimate preparation resource for the CWNA exam. Fully updated to align with the latest version of the exam, this book features expert coverage of all exam objectives to help you pass the exam. But passing the exam is just a first step. For over 16 years, the CWNA Study Guide has helped individuals jump-start their wireless networking careers. Wireless networking professionals across the globe use this book as their workplace reference guide for enterprise Wi-Fi technology. Owning this book provides you with a foundation of knowledge for important Wi-Fi networking topics, including: Radio frequency (RF) fundamentals 802.11 MAC and medium access Wireless LAN topologies and architecture WLAN design, troubleshooting and validation Wi-Fi networking security The book authors have over 40 years of combined Wi-Fi networking expertise and provide real-world insights that you can leverage in your wireless networking career. Each of the book’s 20 chapters breaks down complex topics into easy to understand nuggets of useful information. Each chapter has review questions that help you gauge your progress along the way. Additionally, hands-on exercises allow you to practice applying CWNA concepts to real-world scenarios. You also get a year of free access to the Sybex online interactive learning environment, which features additional resources and study aids, including bonus practice exam questions. The CWNA certification is a de facto standard for anyone working with wireless technology. It shows employers that you have demonstrated competence in critical areas, and have the knowledge and skills to perform essential duties that keep their wireless networks functioning and safe. The CWNA: Certified Wireless Network Administrator Study Guide gives you everything you need to pass the exam with flying colors.

Developing In-House Digital Tools in Library Spaces
High-precision location information is increasingly useful for mobile application developers, since it allows devices to interact with the world around them. This practical book shows you how to achieve arm’s reach accuracy with iBeacons, simple transmitters that enable your applications to react to nearby surroundings and then deliver timely, relevant information—especially indoors, where GPS and cell service are inaccurate. Whether you’re enabling a map, giving users directions, creating a game, recommending purchases, letting users check in, or creating an immersive experience, you’ll learn how iBeacons provide precise location information, empowering your applications to engage and interact with users nearby. Get examples of several application types you can build with iBeacons Learn how iBeacons provide applications with proximity information Set up, activate, and test iBeacons on both specialized and general-purpose hardware Explore the APIs and tools you need to develop location-aware mobile applications Use built-in iOS features to interact with iBeacons, including Passbook Build networks to help shoppers, travelers, conference attendees, and others find what they’re looking for

Building Applications with IBeacon

The development of mobile technology has experienced exponential growth in recent years. Mobile devices are ubiquitous in modern society, impacting both our personal and professional lives. Mobile Application Development, Usability, and Security provides a thorough overview on the different facets of mobile technology management and its integration into modern society. Highlighting issues related to analytics, cloud computing, and different types of application development, this book is a pivotal reference source for professionals, researchers, upper-level students, and practitioners actively involved in the area of mobile computing.

Beacon Technologies
Become a developer superhero and build stunning cross-platform apps with Delphi About This Book A one-stop guide on Delphi to help you build cross-platform apps This book covers important concepts such as the FireMonkey library, shows you how to interact with the Internet of Things, and enables you to integrate with Cloud services The code is explained in detail with observations on how to create native apps for iOS and Android with a single code base Who This Book Is For If you want to create stunning applications for mobile, desktop, the cloud, and the Internet of Things, then this book is for you. This book is for developers who would like to build native cross-platform apps with a single codebase for iOS and Android. A basic knowledge of Delphi is assumed, although we do cover a primer on the language. What You Will Learn Understand the basics of Delphi and the FireMonkey application platform as well as the specifics of Android and iOS platforms Complete complex apps quickly with access to platform features and APIs using a single, easy-to-maintain code base Work with local data sources, including embedded SQL databases, REST servers, and Backend-as-a-Service providers Take full advantage of mobile hardware capabilities by working with sensors and Internet of Things gadgets and devices Integrate with cloud services and data using REST APIs and scalable multi-tier frameworks for outstanding multi-user and social experience Architect and deploy powerful mobile back-end services and get super-productive by leveraging Delphi IDE agile functionality Get to know the best practices for writing a high-quality, reliable, and maintainable codebase in the Delphi Object Pascal language In Detail Delphi is the most powerful Object Pascal IDE and component library for cross-platform native app development. It enables building natively compiled, blazingly fast apps for all major platforms including Android, iOS, Windows, Mac, and Linux. If you want to build server-side applications, create web services, and have clear GUIs for your project, then this book is for you. The book begins with a basic primer on
Delphi helping you get accustomed to the IDE and the Object Pascal language and will then quickly move on to advanced-level concepts. Through this book, we'll help you understand the architecture of applications and will teach you the important concepts of the FireMonkey library, show you how to build server-side services, and enable you to interact with the Internet of Things. Towards the end, you will learn to integrate your app with various web services and deploy them. By the end of the book, you will be able to build powerful, cross-platform, native apps for iOS and Android with a single code base. Style and approach This book will help you build cross-platform mobile apps with Delphi using a step-by-step approach.

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