Kinect Guide

The three-volume set LNCS 9186, 9187, and 9188 constitutes the proceedings of the 4th International Conference on Design, User Experience, and Usability, DUXU 2015, held as part of the 17th International Conference on Human-Computer Interaction, HCII 2015, in Los Angeles, CA, USA, in August 2015, jointly with 13 other thematically similar conferences. The total of 1462 papers and 246 posters presented at the HCII 2015 conferences were carefully reviewed and selected from 4843 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The total of 132 contributions included in the DUXU proceedings were carefully reviewed and selected for inclusion in this three-volume set. The 64 papers included in this volume are organized in topical sections on designing the social media experience, designing the learning experience, designing the playing experience, designing the urban experience, designing the driving experience, designing the healthcare patient's experience, and designing for the healthcare professional's experience.

Nearly 40 years after their invention and a decade after exploding onto the mainstream, video games still remain a mystery to many parents, including which titles are appropriate, and their potential side-effects on kids. Now the answers are at your fingertips. Offering unrivaled insight and practical, real-world strategies for making gaming a positive part of family life, The Modern Parent's Guide to Kids and Video Games provides a vital resource for today's parent. From picking the right software to promoting online safety, setting limits and enforcing house rules, it offers indispensable hints, tips and how-to guides for fostering healthy play and development. Includes: Complete Guides to PC, Console, Mobile, Online & Social Games - Using Parental Controls and Game Ratings - Picking the Right Games - The Latest on Violence, Addiction, Online Safety - Setting Rules & Time Limits - Best Games for All Ages - Essential Tools & Resources. "An essential guide for parents." Jon Swartz, USA Today

This book highlights the recent research on soft computing and pattern recognition and their various practical applications. It presents 62 selected papers from the 12th International Conference on Soft Computing and Pattern Recognition (SoCPaR 2020) and 35 papers from the 16th International Conference on Information Assurance and Security (IAS 2020), which was held online, from December 15 to 18, 2020. A premier conference in the field of artificial intelligence, SoCPaR-IAS 2020 brought together researchers, engineers and practitioners whose work involves intelligent systems, network security and their applications in industry. Including contributions by authors from 40 countries, the book offers a valuable reference guide for all researchers, students and practitioners in the fields of Computer Science and Engineering.

Beginning Kinect Programming with the Microsoft Kinect SDK gets you up and running developing Kinect applications for your PC using Microsoft tools and the official SDK. You will have a working Kinect program by the end of the first chapter! The following chapters will open up the secrets of three-dimensional vision, skeleton tracking, audio through the Kinect, and more. Examples illustrate the concepts in the form of simple games that react to your body movements. The result is a fun read that helps you learn one of the hottest technologies out there today. Beginning Kinect Programming with the Microsoft Kinect SDK also provides building blocks and ideas for mashing up the Kinect with other technologies to create art, interactive games, 3D models and enhanced office automation. You'll learn the fundamental code basic to almost all Kinect applications. You'll learn to integrate that code with other tools and manipulate data to create amazing Kinect applications. Beginning Kinect Programming with the Microsoft Kinect SDK is your gateway into the exciting world of three-dimensional, real-time computer interaction. Helps you create a proper development environment for Kinect applications. Covers the basics of three-dimensional vision, skeleton tracking, gesture recognition, and audio Provides fun examples that keep you engaged and learning

Cites hundreds of examples of new products and services that are entering their markets better and cheaper than established and often more regulated ones, outlining a radical framework that companies can use to protect themselves at four key stages of competitive innovation.

This is the fourth volume of the successful series Robot Operating Systems: The Complete Reference, providing a comprehensive overview of robot operating systems (ROS), which is currently the main development framework for robotics applications, as well as the latest trends and contributed systems. The book is divided into four parts: Part 1 features two papers on navigation, discussing SLAM and path planning. Part 2 focuses on the integration of ROS into quadcopters and their control. Part 3 then discusses two emerging applications for robotics: cloud robotics, and video stabilization. Part 4 presents tools developed for ROS; the first is a practical alternative to the roslaunch system, and the second is related to penetration testing. This book is a valuable resource for ROS users and wanting to learn more about ROS capabilities and features.

Research on assistive technologies is undergoing many developments in its effectiveness in helping those with varying impairments. New technologies are constantly being created, researched, and implemented for those who need these technological aides in daily life. Assistive Technologies for Physical and Cognitive Disabilities combines worldwide cases on people with physical and cognitive disabilities with the latest applications in assistive technologies. This reference work brings different researchers together under one title to discuss current findings, developments, and ongoing research in the area of rehabilitative technology. This reference book is of critical use to professionals, researchers, healthcare practitioners, caretakers, academicians, and students.

This book describes the latest advances in fuzzy logic, neural networks, and optimization algorithms, as well as their hybrid intelligent combinations, and their applications in the areas such as intelligent control, robotics, pattern recognition, medical diagnosis, time series prediction, and optimization. The topic is highly relevant as most current intelligent systems and devices use some form of intelligent feature to enhance their performance. The book also presents new and advanced models and algorithms of type-2 fuzzy logic and intuitionistic fuzzy systems, which are of great interest to researchers in these areas. Further, it proposes novel, nature-inspired optimization algorithms and innovative neural models. Featuring contributions on theoretical aspects as well as applications, the book appeals to a wide audience.

This book constitutes the refereed proceedings of the Joint Conference on Robotics, LARS, SBR, Robocontrol 2014, held in São Carlos, Brazil, in October 2014. The 8 revised full papers presented were carefully reviewed and selected from 76 submissions. The selected papers present a complete and solid reference of the state-of-the-art of intelligent robotics and automation research, covering the following areas: autonomous mobile robots, tele-operated and telepresence robots, human-robot interaction, trajectory control for mobile robots, autonomous vehicles, service-oriented robotic systems, semantic mapping, environment mapping, visual odometry, applications of RGB-D sensors, humanoid and biped robots, Robocup soccer robots, robot control, path planning, multiple vehicles and teams of robots.

This is the quick, visual, one-stop tutorial for everyone who wants to get maximum fun and entertainment out of their Xbox 360, Xbox Live, and Kinect controller. Gaming experts Christina and Bill Loguidice cover everything Xbox has to offer, uncovering cool features and tools most users won't ever discover on their own. You learn how to get started with Xbox 360; fast-network your Xbox 360s; run the media content in your Windows PCs; personalize your Xbox experiences; find great stuff on Microsoft's Game, Video, and Music Marketplaces; get acquainted with your Xbox friends and communities; get to know the Kinect controller and Hub; and find great Kinect games and get better at playing them. This book's concise, step-by-step instructions link to callouts on Xbox screen captures that show you exactly what to do.

Tips and Notes help you discover powerful new techniques and shortcuts, and Help features guide you past common problems. This book is designed for all 50,000,000 Xbox 360 owners: from those who've just purchased their first system, to those diving headfirst into Kinect gaming, to millions of Xbox Live subscribers who want to get even more out of Microsoft's online services.

Hacking the Kinect is the technogeek's guide to developing software and creating projects involving the groundbreaking volumetric sensor known as the Microsoft Kinect. Microsoft's release of the Kinect in the fall of 2010 startled the technology world by providing a low-cost sensor that can detect and track body movement in three-dimensional space. The Kinect set new records for the fastest-selling gadget of all time. It has been adopted worldwide by hobbyists, robotics enthusiasts, artists, and even some entrepreneurs hoping to build business around the technology. Hacking the Kinect introduces you to programming for the Kinect. You'll learn to set up a software environment, stream data from the Kinect, and write code to interpret that data. The progression of hands-on projects in the book leads you even deeper into an understanding of how the device functions and how you can apply it to create fun and educational projects. Who knows? You might even come up with a business idea. Provides an excellent source of fun and educational projects for a tech-savvy parent to pursue with a son or daughter Leads you progressively from making your very first connection to the Kinect through mastery of its full feature set Shows how to interpret the Kinect data stream in order to drive your own software and hardware applications, including robotics applications

Meet the Kinect introduces the exciting world of volumetric computing using the Microsoft Kinect. You'll learn to write scripts and software enabling the use of the Kinect as an input device. Interact directly with your computer through physical motion. The Kinect will read and track body movements, and is the bridge between the physical reality in which you exist and the virtual world created by your software. Microsoft's Kinect was released in fall 2010 to become the fastest-selling electronic device ever. For the first time, we have an inexpensive, three-dimensional sensor enabling direct interaction between human and computer, between the physical world and the virtual. The Kinect has been enthusiastically adopted by a growing culture of enthusiasts, who put it to work in creating technology-based art projects, three-dimensional scanners, adaptive devices for sight-impaired individuals, new ways of interacting with PCs, and even profitable business opportunities. Meet the Kinect is the resource to get you started in mastering the Kinect and the exciting possibilities it brings. You'll learn about the Kinect hardware and what it can do. You'll install drivers and learn to download and run the growing amount of Kinect software freely available on the Internet. From there, you'll move into writing code using some of the more popular frameworks and APIs, including the official Microsoft API and the language known as Processing that is popular in the art and creative world. Along the way, you'll learn principles and terminology. Volumetric computing didn't begin with the Kinect. The field is decades old—if you've ever had an MRI, for example, you have benefitted from volumetric computing technology. Meet the Kinect goes beyond just the one device to impart the principles and terminology underlying the exciting field of volumetric computing that is now wide-open and accessible to the average person.

If you've done some Arduino tinkering and wondered how you could incorporate the Kinect—or the other way around—then this book is for you. The authors of Arduino and Kinect Projects will show you how to create 10 amazing, creative projects, from simple to complex. You'll also find out how to incorporate Processing in your project design—a language very similar to the Arduino language. The ten projects are carefully designed to build on your skills at every step. Starting with the Arduino and Kinect equivalent of "Hello, World," the authors will take you through a diverse range of projects that showcase the huge range of possibilities that open up when Kinect and Arduino are combined. Gesture-based Remote Control. Control devices and home appliances with hand gestures. Kinect-networked Puppet. Play with a physical puppet remotely using your whole body. Mood Lamps. Build your own set of responsive, gesture controllable LED lamps. Drawing Robot. Control a drawing robot using a Kinect-based tangible table. Remote-controlled Vehicle. Use your body gestures to control a smart vehicle. Biometric Station. Use the Kinect for biometric recognition and checking Body Mass Indexes. 3D Modeling Interface. Learn how to use the Arduino LilyPad to build a wearable 3D modelling interface. 360o Scanner. Build a turntable scanner and scan any object 360o using only one Kinect. Delta Robot. Build and control your own fast and accurate parallel robot.

"This 10-volume compilation of authoritative, research-based articles contributed by thousands of researchers and experts from all over the world emphasized modern issues and the presentation of potential opportunities, prospective solutions, and future directions in the field of information science and technology"--Provided by publisher.

The book reports on advanced topics in the areas of neurorehabilitation research and practice. It focuses on new methods for interfacing the human nervous system with electronic and mechatronic systems to restore or compensate impaired neural functions. Importantly, the book merges different perspectives, such as the clinical, neurophysiological, and bioengineering ones, to promote, feed and encourage collaborations between clinicians, neuroscientists and engineers. Based on the 2016 International Conference on Neurorehabilitation (ICNR 2016) held on October 18-21, 2016, in Segovia, Spain, this book covers various aspects of neurorehabilitation research and practice, including new insights into biomechanics, brain physiology, neuroplasticity, and brain damages and diseases, as well as innovative methods and technologies for studying and/or recovering brain function, from data mining to interface technologies and neuroprosthetics. In this way, it offers a concise, yet comprehensive reference guide to neurosurgeons, rehabilitation physicians, neurologists, and bioengineers. Moreover, by highlighting current challenges in understanding brain diseases as well as in the available technologies and their implementation, the book is also expected to foster new collaborations between the different groups, thus stimulating new ideas and research directions.

Games systems used to be simple--plug into TV, put in game cartirage, power on...and occasionally spend several minutes plugging dust out and putting it in at just the right angle! Today game systems are more than game

systems--they are multi-media powerhouses. In the case of Xbox 360, it is a full on computer. This guide will help you get the most out of your Xbox 360 and everything that's built into it--from adjusting parental settings to changing the way it looks. GameCaps Walkthroughs was started as a way of bringing cheap, reliable, and informative game walkthroughs and system profiles. Our library is growing more every month.

This book highlights how to integrate your makerspace within the wider community. Discover how you can connect your makerspace with service learning to support different groups, take makerspace tools to various points of need through community partnerships, and build relationships with faculty, students, and patrons through makerspace projects.

A guide to creating computer applications using Microsoft Kinect features instructions on using the device with different operating systems, using 3D scanning technology, and building robot arms, all using open source programming language.

Ongoing advancements in modern technology have led to significant developments with smart technologies. With the numerous applications available, it becomes imperative to conduct research and make further progress in this field. Smart Technologies: Breakthroughs in Research and Practice provides comprehensive and interdisciplinary research on the most emerging areas of information science and technology. Including innovative studies on image and speech recognition, human-computer interface, and wireless technologies, this multi-volume book is an ideal source for researchers, academicians, practitioners, and students interested in advanced technological applications and developments.

This is the first of a two-volume set (CCIS 434 and CCIS 435) that constitutes the extended abstracts of the posters presented during the 16th International Conference on Human-Computer Interaction, HCII 2014, held in Heraklion, Crete, Greece in June 2014, and consisting of 14 thematic conferences. The total of 1476 papers and 220 posters presented at the HCII 2014 conferences were carefully reviewed and selected from 4766 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The extended abstracts were carefully reviewed and selected for inclusion in this two-volume set. This volume contains posters' extended abstracts addressing the following major topics: design methods, techniques and knowledge; the design of everyday things; interacting with information and knowledge; cognitive, perceptual and emotional issues in HCI; multimodal and natural interaction; algorithms and machine learning methods in HCI; virtual and augmented environments.

This book develops valuable new approaches to digital out-of-home media and digital signage in urban environments. It offers solutions for communicating interactive features of digital signage to passers-by. Digital out-of-home media and digital signage screens are becoming increasingly interactive thanks to touch input technology and gesture recognition. To optimize their conversion rate, interactive public displays must 1) attract attention, 2) communicate to passers-by that they are interactive, 3) explain the interaction, and 4) provide a motivation for passers-by to interact. This book highlights solutions to problems 2 and 3 above. The focus is on whole-body interaction, where the positions and orientations of users and their individual body parts are captured by specialized sensors (e.g., depth cameras). The book presents revealing findings from a field study on communicating interactivity, a laboratory on analysing visual attention, a field study on mid-air gestures, and a field study on using mid-air gestures to select items on interactive public displays.

Reveals hacks for building interfaces that mimic the capabilities of the Kinect, which responds to body gestures, movements, and voice.

This book is a mini tutorial with plenty of code examples and strategies to give you many options when building your own applications.This book is meant for readers who are familiar with C/C++ programming and want to write simple programs with Kinect. The standard template library can also be used as it is simple enough to understand.

This book constitutes the refereed proceedings of the 7th Computational Color Imaging Workshop, CCIW 2019, held in Chiba, Japan, in March 2019. The 22 full papers presented in this volume were carefully reviewed and selected from 34 submissions. The papers are organized in topical sections named: computational color imaging; multispectral imaging; perceptual model and application; color image evaluation; colot image filtering; color image applications; and color imaging for material appearance. In addition, the book contains 3 invited talks in full paper length.

Time-of-Flight Cameras and Microsoft KinectTM closely examines the technology and general characteristics of time-of-flight range cameras, and outlines the best methods for maximizing the data captured by these devices. This book also analyzes the calibration issues that some end-users may face when using these type of cameras for research, and suggests methods for improving the real-time 3D reconstruction of dynamic and static scenes. Time-of-Flight Cameras and Microsoft KinectTM is intended for researchers and advanced-level students as a reference guide for time-of-flight cameras. Practitioners working in a related field will also find the book valuable.

This book gathers outstanding research papers presented at the International Conference on Frontiers in Computing and Systems (COMSYS 2020), held on January 13-15, 2019 at Jalpaiguri Government Engineering College, West Bengal, India and jointly organized by the Department of Computer Science & Engineering and Department of Electronics & Communication Engineering. The book presents the latest research and results in various fields of machine learning, computational intelligence, VLSI, networks and systems, computational biology, and security, making it a rich source of reference material for academia and industry alike

This book constitutes the refereed proceedings of the Third International Conference on Technology Trends, CITT 2017, held in Babahoyo, Ecuador, in November 2017. The 16 revised full papers presented were carefully reviewed and selected from 71 submissions. The papers are organized in topical sections on communications; computer and software engineering.

Serious games provide a unique opportunity to engage students more fully than traditional teaching approaches. Understanding the best way to utilize games and play in an educational setting is imperative for effectual learning in the twenty-first century. Gamification: Concepts, Methodologies, Tools, and Applications investigates the use of games in education, both inside and

outside of the classroom, and how this field once thought to be detrimental to student learning can be used to augment more formal models. This four-volume reference work is a premier source for educators, administrators, software designers, and all stakeholders in all levels of education.

The first comprehensive guide to discovering and preventingattacks on the Android OS As the Android operating system continues to increase its shareof the smartphone market, smartphone hacking remains a growingthreat. Written by experts who rank among the world's foremostAndroid security researchers, this book presents vulnerabilitydiscovery, analysis, and exploitation tools for the good guys.Following a detailed explanation of how the Android OS works andits overall security architecture, the authors examine howvulnerabilities can be discovered and exploits developed forvarious system components, preparing you to defend againstthem. If you are a mobile device administrator, security researcher,Android app developer, or consultant responsible for evaluatingAndroid security, you will find this guide is essential to yourtoolbox. A crack team of leading Android security researchers explainAndroid security risks, security design and architecture, rooting,fuzz testing, and vulnerability analysis Covers Android application building blocks and security as wellas debugging and auditing Android apps Prepares mobile device administrators, security researchers,Android app developers, and security consultants to defend Androidsystems against attack Android Hacker's Handbook is the first comprehensiveresource for IT professionals charged with smartphonesecurity.

This book constitutes the thoroughly refereed proceedings of the 14th International Conference on Image Analysis and Recognition, ICIAR 2017, held in Montreal, QC, Canada, in July 2017. The 73 revised full papers presented were carefully reviewed and selected from 133 submissions. The papers are organized in the following topical sections: machine learning in image recognition; machine learning for medical image computing; image enhancement and reconstruction; image segmentation; motion and tracking; 3D computer vision; feature extraction; detection and classification; biomedical image analysis; image analysis in ophthalmology; remote sensing; applications.

This book reports on the latest technological and clinical advances in the field of neurorehabilitation. It is, however, much more than a conventional survey of the state-of-the-art in neurorehabilitation technologies and therapies. It was formed on the basis of a week of lively discussions between curious PhD students and leading research experts during the summer school on neurorehabilitation (SSNR2012), September 16-21 in Nuévalos, Zaragoza (Spain). Its unconventional format makes it a perfect guide for all PhD students, researchers and professionals interested in gaining a multidisciplinary perspective on current and future neurorehabilitation scenarios. The book covers various aspects of neurorehabilitation research and practice, organized into different parts. The first part discusses a selection of common impairments affecting brain function, such as stroke, cerebral palsy and Parkinson's disease; the second deals with both spinal cord and brain plasticity. The third part covers the most recent rehabilitation and diagnostics technologies, including robotics, neuroprostheses, brain-machine interfaces and electromyography systems. Practical examples and case studies related to the application of some of the latest techniques in realistic clinical scenarios are covered in the fourth part.

The 3-volume set LNCS 8510, 8511 and 8512 constitutes the refereed proceedings of the 16th International Conference on Human-Computer Interaction, HCII 2014, held in Heraklion, Crete, Greece in June 2014. The total of 1476 papers and 220 posters presented at the HCII 2014 conferences was carefully reviewed and selected from 4766 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers thoroughly cover the entire field of human-computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas.

Create your own innovative applications in computer vision, game design, music, robotics, and other areas by taking full advantage of Kinect's extensive interactive, multi-media platform. With this book, you get a step-by-step walkthrough of the best techniques and tools to come out of the OpenKinect project, the largest and most active Kinect hacking community. Learn dozens of hacks for building interfaces that respond to body movements, gestures, and voice, using open source toolkits such as openFrameworks, the Processing IDE, and OpenKinect driver library. Whether you're an artist, designer, researcher, or hobbyist, this book will give you a running start with Kinect. Set up a development environment in Windows 7, Mac OSX, or Ubuntu Build special effects apps with tools such as Synapse and Cinder Create gestural interfaces to integrate and control digital music components Capture the realistic motions of a 3D model with NI mate, Blender, and Animata Design gesture-based games with the ZigFu SDK Recreate the dimensions of any room in realtime, using RGBDemo Use gestures to navigate robots and control PC interfaces

The world of medical technologies is undergoing a sea change in the domain of consumer culture. Having a grasp on what appeals to consumers and how consumers are making purchasing decisions is essential to the success of any organization that thrives by offering a product or service. As such, it is vital to examine the consumer-centered aspects of medical technological developments that have a patient-centered focus and allow patients to take part in their own personal health and wellness. Consumer-Driven Technologies in Healthcare: Breakthroughs in Research and Practice is a critical source of academic knowledge on the use of smartphones and other technological devices for cancer therapy, fitness and wellness, chronic disease monitoring, and other areas. The tracking of these items using technology has allowed consumers to take control of their own healthcare. Highlighting a range of pertinent topics such as clinical decision support systems, patient engagement, and electronic health records, this publication is an ideal reference source for doctors, nurse practitioners, hospital administrators, medical professionals, IT professionals, academicians, and researchers interested in advancing medical practice through technology.

This book is a practical tutorial that explains all the features of Kinect SDK by creating sample applications throughout the book. It includes a detailed discussion of APIs with step-by-step explanation of development of a real-world sample application. The purpose of this book is to explain how to develop applications using the Kinect for Windows SDK. If you are a beginner and looking to start developing applications using the Kinect for Windows SDK, and if you want to build motion-sensing, speech-recognizing applications with Kinect, this book is for you. This book uses C? and WPF (Windows P.

Create rich experiences for users of Windows 7 and Windows 8 Developer Preview with this pragmatic guide to the Kinect for Windows Software Development Kit (SDK). The author, a developer evangelist for Microsoft, walks you through Kinect sensor technology and the SDK—providing hands-on insights for how to add gesture and posture recognition to your apps. If you're skilled in C# and Windows Presentation Foundation, you'll learn how to integrate Kinect in your applications and begin writing Uis and controls that can handle Kinect interaction. This book introduces the Kinect for Windows Software Development Kit to developers looking to enrich applications they build for Windows 7 and later with human motion tracking Teaches developers with core C# and

WPF skills how to program gesture and posture recognition in Kinect Describes how to integrate 3D representation on top of a real scene Provides expert insights and code samples to get you up and running

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