

A R Drone Developer Guide

TCP/IP Illustrated, Volume 1, Second Edition, is a detailed and visual guide to today's TCP/IP protocol suite. Fully updated for the newest innovations, it demonstrates each protocol in action through realistic examples from modern Linux, Windows, and Mac OS environments. There's no better way to discover why TCP/IP works as it does, how it reacts to common conditions, and how to apply it in your own applications and networks. Building on the late W. Richard Stevens' classic first edition, author Kevin R. Fall adds his cutting-edge experience as a leader in TCP/IP protocol research, updating the book to fully reflect the latest protocols and best practices.

The Handbook of Unmanned Aerial Vehicles is a reference text for the academic and research communities, industry, manufacturers, users, practitioners, Federal Government, Federal and State Agencies, the private sector, as well as all organizations that are and will be using unmanned aircraft in a wide spectrum of applications. The Handbook covers all aspects of UAVs, from design to logistics and ethical issues. It is also targeting the young investigator, the future inventor and entrepreneur by providing an overview and detailed information of the state-of-the-art as well as useful new concepts that may lead to innovative research. The contents of the Handbook include material that addresses the needs and 'know how' of all of the above sectors targeting a very diverse audience. The Handbook offers a unique and comprehensive treatise of everything one needs to know about unmanned aircrafts, from conception to operation, from technologies to business activities, users, OEMs, reference sources, conferences, publications, professional societies, etc. It should serve as a Thesaurus, an indispensable part of the library for everyone involved in this area. For the first time, contributions by the world's top experts from academia, industry, government and the private sector, are brought together to provide unique perspectives on the current state-of-the-art in UAV, as well as future directions. The Handbook is intended for the expert/practitioner who seeks specific technical/business information, for the technically-oriented scientists and engineers, but also for the novice who wants to learn more about the status of UAV and UAV-related technologies. The Handbook is arranged in a user-friendly format, divided into main parts referring to: UAV Design Principles; UAV Fundamentals; UAV Sensors and Sensing Strategies; UAV Propulsion; UAV Control; UAV Communication Issues; UAV Architectures; UAV Health Management Issues; UAV Modeling, Simulation, Estimation and Identification; MAVs and Bio-Inspired UAVs; UAV Mission and Path Planning; UAV Autonomy; UAV Sense, Detect and Avoid Systems; Networked UAVs and UAV Swarms; UAV Integration into the National Airspace; UAV-Human Interfaces and Decision Support Systems; Human Factors and Training; UAV Logistics Support; UAV Applications; Social and Ethical Implications; The Future of UAVs. Each part is written by internationally renowned authors who are authorities in

their respective fields. The contents of the Handbook supports its unique character as a thorough and comprehensive reference book directed to a diverse audience of technologists, businesses, users and potential users, managers and decision makers, novices and experts, who seek a holistic volume of information that is not only a technical treatise but also a source for answers to several questions on UAV manufacturers, users, major players in UAV research, costs, training required and logistics issues.

This book focuses on two challenges posed in robot control by the increasing adoption of robots in the everyday human environment: uncertainty and networked communication. Part I of the book describes learning control to address environmental uncertainty. Part II discusses state estimation, active sensing, and complex scenario perception to tackle sensing uncertainty. Part III completes the book with control of networked robots and multi-robot teams. Each chapter features in-depth technical coverage and case studies highlighting the applicability of the techniques, with real robots or in simulation. Platforms include mobile ground, aerial, and underwater robots, as well as humanoid robots and robot arms. Source code and experimental data are available at <http://extras.springer.com>. The text gathers contributions from academic and industry experts, and offers a valuable resource for researchers or graduate students in robot control and perception. It also benefits researchers in related areas, such as computer vision, nonlinear and learning control, and multi-agent systems.

Jesse Rigsby hates video games—and for good reason. You see, a video game character is trying to kill him. After getting sucked in the new game Full Blast with his friend Eric, Jesse starts to see the appeal of vaporizing man-size praying mantis while cruising around by jet pack. But pretty soon, a mysterious figure begins following Eric and Jesse, and they discover they can't leave the game. If they don't figure out what's going on fast, they'll be trapped for good!

This is a hands-on book about ArcGIS that you work with as much as read. By the end, using Learn ArcGIS lessons, you'll be able to say you made a story map, conducted geographic analysis, edited geographic data, worked in a 3D web scene, built a 3D model of Venice, and more.

There are many distinct pleasures associated with computer programming. Craftsmanship has its quiet rewards, the satisfaction that comes from building a useful object and making it work. Excitement arrives with the flash of insight that cracks a previously intractable problem. The spiritual quest for elegance can turn the hacker into an artist. There are pleasures in parsimony, in squeezing the last drop of performance out of clever algorithms and tight coding. The games, puzzles, and challenges of problems from international programming competitions are a great way to experience these pleasures while improving your algorithmic and coding skills. This book contains over 100 problems that have appeared in previous programming contests, along with discussions of the theory and ideas necessary to attack them. Instant

online grading for all of these problems is available from two WWW robot judging sites. Combining this book with a judge gives an exciting new way to challenge and improve your programming skills. This book can be used for self-study, for teaching innovative courses in algorithms and programming, and in training for international competition. The problems in this book have been selected from over 1,000 programming problems at the Universidad de Valladolid online judge. The judge has ruled on well over one million submissions from 27,000 registered users around the world to date. We have taken only the best of the best, the most fun, exciting, and interesting problems available.

In Deutschland gibt es mehr Mobiltelefone als Einwohner. Der Mobilfunkmarkt boomt. Das Handy als ständiger Begleiter erfüllt längst nicht mehr nur die Funktion eines Telefons. Smartphones sind vielmehr multifunktionale Geräte mit Telefonfunktion. E-Mails checken, navigieren, Musik hören, Fotos aufnehmen, die Liste der Möglichkeiten, die ein Smartphone mittlerweile eröffnet, ist lang. Im Herbst 2010 wurden weltweit 77 Millionen Smartphones ausgeliefert. 200 Millionen Nutzer gehen täglich über ein mobiles Endgerät auf Facebook. 100 Millionen Youtube-Videos werden täglich über ein Smartphone abgespielt. Ein amerikanischer Jugendlicher versendet durchschnittlich 3339 SMS im Monat. Durch die hohe Verbreitung und Nutzung von Mobiltelefonen und Smartphones und die wachsenden technischen Möglichkeiten wird Mobile Marketing für Werbung treibende Unternehmen immer relevanter. Auch Apps für Smartphones erfreuen sich immer größerer Beliebtheit. Im Juli 2008 eröffnete der Apple App Store mit nur 500 Apps im Repertoire. 2009 warb Apple bereits mit dem Slogan 'Es gibt für alles eine App'. Mittlerweile hat der Apple App Store über 300.000 Apps. 2009 wurden 300 Millionen Apps über den Store heruntergeladen, 2010 sind es bereits 5 Milliarden. Die Spiele-App „Angry Birds“ demonstriert, wie erfolgreich eine App sein kann. Im Dezember 2009 erstmals im Apple App Store erschienen, stürmte sie schnell die Charts. Im Apple App Store war die App auf dem ersten Platz der meist geladenen Apps in 77 Ländern. Bei der Google-Suche erhält man über 48 Millionen Suchergebnisse. Durch die intuitive und einfache Bedienung in Kombination mit lustigen Spielcharakteren gelang es den Entwicklern, über 30 Millionen Downloads auf verschiedenen mobilen Plattformen zu generieren. Allein auf dem iPhone werden 65 Millionen Minuten täglich 'Angry Birds' gespielt. Einigen wenigen Unternehmen, die Apps als Marketing-Tool nutzen, gelang es ebenfalls, eine erfolgreiche App auf den Markt zu bringen. Die App von Zippo beispielsweise erreichte über 10 Millionen Downloads. Die Vermarktung von Produkten und Dienstleistungen über den mobilen Kanal wird immer relevanter. Unternehmen müssen sich deshalb auf die neuen Vermarktungsmöglichkeiten einstellen und lernen, mit diesen umzugehen. Im Kern beschäftigt sich diese Arbeit mit den Potentialen und Herausforderungen von Mobile Marketing allgemein und im Speziellen mit den Potentialen, Herausforderungen und Erfolgsfaktoren von Apps im Mobile [...]

Describes ways to incorporate domain modeling into software development.

JavaScript ist die Programmiersprache des Internet, die geheime Zutat, die deine Lieblingssites so fantastisch macht und Online-Spiele zum Laufen bringt! "JavaScript kinderleicht" zeigt dir (und deinen Eltern) die Welt der Programmierung im Web. Nick Morgan führt dich Schritt für Schritt durch die Grundlagen von JavaScript. Du experimentierst mit einzigartigen (und oft urkomischen) Beispielprogrammen, die du sofort in deinem Webbrowser ausprobieren kannst. Neue Begriffe werden erklärt; der Programmcode ist farbig dargestellt, strukturiert und mit Erklärungen versehen; witzige Abbildungen erhöhen den Lernspaß. Du beginnst mit den Grundlagen, etwa mit Strings, Arrays und Schleifen, und gehst dann zu fortgeschrittenen Aufgaben über: Du entwickelst mit jQuery interaktive Elemente, lernst objektorientiert zu programmieren oder wie man auf Browser-Klicks reagiert. Schließlich programmierst du Spiele wie "Schatzsuche", "Hangman" und "Snake". Du lernst auch, wie du • Funktionen einsetzt und wie sie helfen, übersichtliche Programme zu schreiben, • HTML schreibst und veränderst, um dynamische Webseiten zu entwickeln, • deine Webseiten mithilfe des DOM und von jQuery auf Benutzereingaben reagieren lässt, • mit dem Canvas-Element Grafiken zeichnest und animierst • benutzergesteuerte Spiele mit Kollisionserkennung und Spielständen programmierst Alle Kapitel bauen aufeinander auf. Die Programmieraufgaben am Ende jedes Kapitels fordern dich heraus und animieren dich, deine eigenen, tollen Programme zu schreiben.

This book constitutes the proceedings of the International Conference on Research and Education in Robotics, EUROBOT 2011, held in Prague, Czech Republic, in June 2011. The 28 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers present current basic research such as robot control and behaviour, applications of autonomous intelligent robots, and perception, processing and action; as well as educationally oriented papers addressing issues like robotics at school and at university, practical educational robotics activities, practices in educational robot design, and future pedagogical activities.

In Pro JavaFX 2: A Definitive Guide to Rich Clients with Java Technology, Jim Weaver, Weiqi Gao, Stephen Chin, Dean Iverson, and Johan Vos show you how you can use the JavaFX platform to create rich-client Java applications. You'll see how JavaFX provides a powerful Java-based UI platform capable of handling large-scale data-driven business applications. Covering the JavaFX API, development tools, and best practices, this book provides code examples that explore the exciting new features provided with JavaFX 2. It contains engaging tutorials that cover virtually every facet of JavaFX development and reference materials on JavaFX that augment the JavaFX API documentation. Written in an engaging and friendly style, Pro JavaFX 2 is an essential guide to JavaFX 2.

Updated for Docker Community Edition v18.09! Docker book designed for SysAdmins, SREs, Operations staff, Developers and DevOps who are interested in deploying the open source container service Docker. In this book, we'll walk you through installing, deploying, managing, and extending Docker. We're going to do that by first introducing you to the basics of Docker and its components. Then we'll start to use Docker to build containers and services to perform a variety of tasks. We're going to take you through the development lifecycle, from testing to production, and see where Docker fits in and how it can make your life easier. We'll make use of Docker to build test environments for new projects, demonstrate how to integrate Docker with continuous integration workflow, and then how to build application services and platforms. Finally, we'll show you how to use Docker's API and how to extend Docker yourself. We'll teach you how to: * Install Docker. * Take your first steps with a Docker container. * Build Docker images. * Manage and share Docker images. * Run and manage more complex Docker containers. * Deploy Docker containers as part of your testing pipeline. * Build multi-container applications and environments. * Learn about orchestration using Compose and Swarm for the orchestration of Docker containers and Consul for service discovery. * Explore the Docker API. * Getting Help and Extending Docker.

This PRINT REPLICA contains the 6th edition of the Test & Evaluation Management Guide (TEMG). The Test & Evaluation Management Guide is intended primarily for use in courses at DAU and secondarily as a generic desk reference for program and project management, and Test & Evaluation (T&E) personnel. It is written for current and potential acquisition management personnel and assumes some familiarity with basic terms, definitions, and processes as employed by the DoD acquisition process. The Test & Evaluation Management Guide is designed to assist Government and industry personnel in executing their management responsibilities relative to the T&E support of defense systems and facilitate learning during Defense Acquisition University coursework. The objective of a well-managed T&E program is to provide timely and accurate information to decision makers and program managers (PMs). The Test & Evaluation Management Guide was developed to assist the acquisition community in obtaining a better understanding of who the decision makers are and determining how and when to plan T&E events so that they are efficient and effective. Why buy a book you can download for free? We print this book so you don't have to. First you gotta find a good clean (legible) copy and make sure it's the latest version (not always easy). Some documents found on the web are missing some pages or the image quality is so poor, they are difficult to read. We look over each document carefully and replace poor quality images by going back to the original source document. We proof each document to make sure it's all there - including all changes. If you find a good copy, you could print it using a network printer you share with 100 other people (typically its either out of paper or toner). If it's just a 10-page document, no problem, but if it's 250-pages, you will need to punch 3 holes in all those pages and put it in a 3-ring binder. Takes at least an hour. It's much more cost-effective to just order the latest version from Amazon.com This book includes original commentary which is copyright material. Note that government documents are in the public domain. We print these large documents as a service so you don't have to. The books are compact, tightly-bound, full-size (8 1/2 by 11 inches), with large text and glossy covers. 4th Watch Publishing Co. is a HUBZONE SDVOSB. <https://usgovpub.com>

Quadcopters, Quads, Personal Drones, Multirotors and UAV's are amazing flying machines which contain advanced technology. They are about to transform our world and our lives in many ways. Updated for 2015 - Hobbyists, photographers, pilots or others with interest in this new technology can now participate in this revolution at a very low cost. This book will guide the beginner through the first steps in choosing, buying, flying and understanding these flying robots.

If you think you need a boarding pass to fly, you're really missing out... Today, drones are everywhere. From film studios to farms, they're in the hands of photographers, commercial surveyors and racers alike. This fully illustrated book explains how drones developed, where they're going and which one you should choose. It even includes complete instructions to build both a simple drone and a super-fast FPV racer yourself. Whether you're flying indoors or out, buying or building, this book covers everything:

- ¿ Understand the Jargon Flying has a lot of unfamiliar terminology, but this book will make it easy to master.
- ¿ Business or Pleasure Every type of multicopter you might want is introduced, including explanations of which is best suited for what role.
- ¿ Get the Best Pictures This edition includes an extended guide to the tech and composition tricks you can use to make your pictures stand out of the pack.
- ¿ Get the Best Video A new shot-guide shows you how to get the most engaging aerial video, whatever your drone.
- ¿ Be a Winning FPV Racer There are two complete step-by-step instructions for building your own drones inside: an FPV racer, or a surprisingly cheap wooden drone - both great projects. Following the worldwide success of the first edition, which has been translated into numerous languages, this second edition is not only fully updated to keep pace with the laws and technology, but also extended to thoroughly cover the fast-growing new sport of FPV drone racing, while still including a comprehensive guide to learning to fly any drone.

The first book to focus on communications and networking in UAVs, covering theory, applications, regulation, policy, and implementation. A brain-computer interface (BCI) establishes a direct output channel between the human brain and external devices. BCIs infer user intent via direct measures of brain activity and thus enable communication and control without movement. This book, authored by experts in the field, provides an accessible introduction to the neurophysiological and signal-processing background required for BCI, presents state-of-the-art non-invasive and invasive approaches, gives an overview of current hardware and software solutions, and reviews the most interesting as well as new, emerging BCI applications. The book is intended not only for students and young researchers, but also for newcomers and other readers from diverse backgrounds keen to learn about this vital scientific endeavour.

This is a uniquely comprehensive reference that summarizes the state of the art of signal processing theory and techniques for solving emerging problems in neuroscience, and which clearly presents new theory, algorithms, software and hardware tools that are specifically tailored to the nature of the neurobiological environment. It gives a broad overview of the basic principles, theories and methods in statistical signal processing for basic and applied neuroscience problems. Written by experts in the field, the book is an ideal reference for researchers working in the field of neural engineering, neural interface, computational neuroscience, neuroinformatics, neuropsychology and neural physiology. By giving a broad overview of the basic principles, theories and methods, it is also an ideal introduction to statistical signal processing in neuroscience. A comprehensive overview of the specific problems in neuroscience that require application of existing and development of new theory, techniques, and technology by the signal processing community Contains state-of-the-art signal processing, information theory, and machine learning algorithms and techniques for neuroscience research Presents quantitative and information-driven science that has been, or can be, applied to basic and translational neuroscience problems

Want to make something that can fly? How about a flying robot? In this book, you'll learn how drones work, how to solve some of the engineering challenges a drone presents, and how to build your own--an autonomous quadcopter that you can build, customize, and fly. Your drone will be your eyes in the sky and in places where a human could never get to--much less fit!

This book constitutes the refereed proceedings of the 16th Annual Conference on Towards Autonomous Robotics, TAROS 2015, held in Liverpool UK, in September 2015. The 16 revised full papers presented together with 18 short papers were carefully reviewed and selected from 59 submissions. The overall program covers various aspects of robotics, including navigation, planning, sensing and perception, flying and swarm robots, ethics, humanoid robotics, human-robot interaction, and social robotics.

Buy the paperback, get Kindle eBook FREE using MATCHBOOK. go to www.usgovpub.com to learn how Why buy a book you can download for free? We print this book so you don't have to. First you gotta find a good clean (legible) copy and make sure it's the latest version (not always easy). Some documents found on the web are missing some pages or the image quality is so poor, they are difficult to read. We look over each document carefully and replace poor quality images by going back to the original source document. We proof each document to make sure it's all there - including all changes. If you find a good copy, you could print it using a network printer you share with 100 other people (typically its either out of paper or toner). If it's just a 10-page document, no problem, but if it's 250-pages, you will need to punch 3 holes in all those pages and put it in a 3-ring binder. Takes at least an hour. It's much more cost-effective to just order the latest version from Amazon.com This book includes original commentary which is copyright material. Note that government documents are in the public domain. We print these large documents as a service so you don't have to. The books are compact, tightly-bound, full-size (8 1/2 by 11 inches), with large text and glossy covers. 4th Watch Publishing Co. is a SDVOSB. www.usgovpub.com

It's easier to learn how to program a computer than it has ever been before. Now everyone can learn to write programs for themselves - no previous experience is necessary. Chris Pine takes a thorough, but lighthearted approach that teaches you the fundamentals of computer programming, with a minimum of fuss or bother. Whether you are interested in a new hobby or a new career, this book is your doorway into the world of programming. Computers are everywhere, and being able to program them is more important than it has ever been. But since most books on programming are written for other programmers, it can be hard to break in. At least it used to be. Chris Pine will teach you how to program. You'll learn to use your computer better, to get it to do what you want it to do. Starting with small, simple one-line programs to calculate your age in seconds, you'll see how to write interactive programs, to use APIs to fetch live data from the internet, to rename your photos from your digital camera, and more. You'll learn the same technology used to drive modern dynamic websites and large, professional applications. Whether you are looking for a fun new hobby or are interested in entering the tech world as a professional, this book gives you a solid foundation in programming. Chris teaches the basics, but also shows you how to think like a programmer. You'll learn through tons of examples, and through programming challenges throughout the book. When you finish, you'll know how and where to learn more - you'll be on your way. What You Need: All you need to learn how to program is a computer (Windows, macOS, or Linux) and an internet connection. Chris Pine will lead you through setting set up with the software you will need to start writing programs of your own.

Networked Control Systems (NCSs) are spatially distributed systems for which the communication between sensors,

actuators and controllers is realized by a shared (wired or wireless) communication network. NCSs offer several advantages, such as reduced installation and maintenance costs, as well as greater flexibility, over conventional control systems in which parts of control loops exchange information via dedicated point-to-point connections. The principal goal of this book is to present a coherent and versatile framework applicable to various settings investigated by the authors over the last several years. This framework is applicable to nonlinear time-varying dynamic plants and controllers with delayed dynamics; a large class of static, dynamic, probabilistic and priority-oriented scheduling protocols; delayed, noisy, lossy and intermittent information exchange; decentralized control problems of heterogeneous agents with time-varying directed (not necessarily balanced) communication topologies; state- and output-feedback; off-line and on-line intermittent feedback; optimal intermittent feedback through Approximate Dynamic Programming (ADP) and Reinforcement Learning (RL); and control systems with exogenous disturbances and modeling uncertainties. Thoroughly revised, this third edition focuses on modern techniques used to generate synthetic three-dimensional images in a fraction of a second. With the advent of programmable shaders, a wide variety of new algorithms have arisen and evolved over the past few years. This edition discusses current, practical rendering methods used in games and other applications. It also presents a solid theoretical framework and relevant mathematics for the field of interactive computer graphics, all in an approachable style. The authors have made the figures used in the book available for download for fair use.:Download Figures. Reviews Rendering has been a required reference for professional graphics practitioners for nearly a decade. This latest edition is as relevant as ever, covering topics from essential mathematical foundations to advanced techniques used by today's cutting edge games. -- Gabe Newell, President, Valve, May 2008 Rendering ... has been completely revised and revamped for its updated third edition, which focuses on modern techniques used to generate three-dimensional images in a fraction of the time old processes took. From practical rendering for games to math and details for better interactive applications, it's not to be missed. -- The Bookwatch, November 2008 You'll get brilliantly lucid explanations of concepts like vertex morphing and variance shadow mapping—as well as a new respect for the incredible craftsmanship that goes into today's PC games. -- Logan Decker, PC Gamer Magazine , February 2009

The interest in robotics has remarkably augmented over recent years. Novel solutions for complex and very diverse application fields (exploration/intervention in severe environments, assistive, social, personal services, emergency rescue operations, transportation, entertainment, unmanned aerial vehicles, medical, etc.), has been anticipated by means of a large progress in this area of robotics. Moreover, the amalgamation of original ideas and related innovations, the search for new potential applications and the use of state of the art supporting technologies permit to foresee an important step forward and a significant socio-

economic impact of advanced robot technology in the forthcoming years. In response to the technical challenges in the development of these sophisticated machines, a significant research and development effort has yet to be undertaken. It concerns embedded technologies (for power sources, actuators, sensors, information systems), new design methods, adapted control techniques for highly redundant systems, as well as operational and decisional autonomy and human/robot co-existence. This book contains the proceedings of the ROBOT 2013: FIRST IBERIAN ROBOTICS CONFERENCE and it can be said that included both state of the art and more practical presentations dealing with implementation problems, support technologies and future applications. A growing interest in Assistive Robotics, Agricultural Robotics, Field Robotics, Grasping and Dexterous Manipulation, Humanoid Robots, Intelligent Systems and Robotics, Marine Robotics, has been demonstrated by the very relevant number of contributions. Moreover, ROBOT2013 incorporates a special session on Legal and Ethical Aspects in Robotics that is becoming a topic of key relevance. This Conference will be held in Madrid (28-29 November 2013), organised by the Sociedad Española para la Investigación y Desarrollo en Robótica (SEIDROB) and by the Centre for Automation and Robotics - CAR (Universidad Politécnica de Madrid (UPM) and Consejo Superior de Investigaciones Científicas (CSIC)), along with the co-operation of Grupo Temático de Robótica CEA-GTRob, Sociedade Portuguesa de Robotica (SPR), and Asociación Española de Promoción de la Investigación en Agentes Físicos (RedAF).

The two volume-set, LNCS 7930 and LNCS 7931, constitutes the refereed proceedings of the 5th International Work-Conference on the Interplay between Natural and Artificial Computation, IWINAC 2013, held in Mallorca, Spain, in June 2013. The 92 revised full papers presented in LNCS 7930 and LNCS 7931 were carefully reviewed and selected from numerous submissions. The first part, LNCS 7930, entitled "Natural and Artificial Models in Computation and Biology", includes all the contributions mainly related to the methodological, conceptual, formal, and experimental developments in the fields of neurophysiology and cognitive science. The second part, LNCS 7931, entitled "Natural and Artificial Computation in Engineering and Medical Applications", contains the papers related to bioinspired programming strategies and all the contributions related to the computational solutions to engineering problems in different application domains, specially Health applications, including the CYTED "Artificial and Natural Computation for Health" (CANS) research network papers. In addition, this two volume-set reflects six interesting areas: cognitive robotics; natural computing; wetware computation; quality of life technologies; biomedical and industrial perception applications; and Web intelligence and neuroscience.

JavaScript is the programming language of the Internet, the secret sauce that makes the Web awesome, your favorite sites interactive, and online games fun! JavaScript for Kids is a lighthearted introduction that teaches programming essentials through patient, step-by-step examples paired with funny illustrations. You'll begin with the basics, like working with strings, arrays, and loops, and then move on to more advanced topics, like building interactivity with jQuery and drawing graphics with Canvas. Along the way, you'll write games such as Find the Buried Treasure, Hangman, and Snake. You'll also learn how to: –Create functions to organize and reuse your code –Write and modify HTML to create dynamic web pages –Use the DOM and jQuery to make your

web pages react to user input –Use the Canvas element to draw and animate graphics –Program real user-controlled games with collision detection and score keeping With visual examples like bouncing balls, animated bees, and racing cars, you can really see what you’re programming. Each chapter builds on the last, and programming challenges at the end of each chapter will stretch your brain and inspire your own amazing programs. Make something cool with JavaScript today! Ages 10+ (and their parents!) Working Backwards is an insider’s breakdown of Amazon’s approach to culture, leadership, and best practices from two long-time Amazon executives. Colin started at Amazon in 1998; Bill joined in 1999. In Working Backwards, these two long-serving Amazon executives reveal and codify the principles and practices that drive the success of one of the most extraordinary companies the world has ever known. With twenty-seven years of Amazon experience between them, much of it in the early aughts—a period of unmatched innovation that brought products and services including Kindle, Amazon Prime, Amazon Studios, and Amazon Web Services to life—Bryar and Carr offer unprecedented access to the Amazon way as it was refined, articulated, and proven to be repeatable, scalable, and adaptable. With keen analysis and practical steps for applying it at your own company—no matter the size—the authors illuminate how Amazon’s fourteen leadership principles inform decision-making at all levels and reveal how the company’s culture has been defined by four characteristics: customer obsession, long-term thinking, eagerness to invent, and operational excellence. Bryar and Carr explain the set of ground-level practices that ensure these are translated into action and flow through all aspects of the business. Working Backwards is a practical guidebook and a corporate narrative, filled with the authors’ in-the-room recollections of what “Being Amazonian” is like and how it has affected their personal and professional lives. They demonstrate that success on Amazon’s scale is not achieved by the genius of any single leader, but rather through commitment to and execution of a set of well-defined, rigorously-executed principles and practices—shared here for the very first time.

The micro:bit, a tiny computer being distributed by the BBC to students all over the UK, is now available for anyone to purchase and play with. Its small size and low power requirements make it an ideal project platform for hobbyists and makers. You don’t have to be limited by the web-based programming solutions, however: the hardware on the board is deceptively powerful, and this book will teach you how to really harness the power of the micro:bit. You’ll learn about sensors, Bluetooth communications, and embedded operating systems, and along the way you’ll develop an understanding of the next big thing in computers: the Internet of Things.

Master the techniques needed to build great, efficient embedded devices on Linux About This Book Discover how to build and configure reliable embedded Linux devices This book has been updated to include Linux 4.9 and Yocto Project 2.2 (Morty) This comprehensive guide covers the remote update of devices in the field and power management Who This Book Is For If you are an engineer who wishes to understand and use Linux in embedded devices, this book is for you. It is also for Linux developers and system programmers who are familiar with embedded systems and want to learn and program the best in class devices. It is appropriate for students studying embedded techniques, for developers implementing embedded Linux devices, and engineers

supporting existing Linux devices. What You Will Learn Evaluate the Board Support Packages offered by most manufacturers of a system on chip or embedded module Use Buildroot and the Yocto Project to create embedded Linux systems quickly and efficiently Update IoT devices in the field without compromising security Reduce the power budget of devices to make batteries last longer Interact with the hardware without having to write kernel device drivers Debug devices remotely using GDB, and see how to measure the performance of the systems using powerful tools such as `perf`, `ftrace`, and `valgrind` Find out how to configure Linux as a real-time operating system In Detail Embedded Linux runs many of the devices we use every day, from smart TVs to WiFi routers, test equipment to industrial controllers - all of them have Linux at their heart. Linux is a core technology in the implementation of the inter-connected world of the Internet of Things. The comprehensive guide shows you the technologies and techniques required to build Linux into embedded systems. You will begin by learning about the fundamental elements that underpin all embedded Linux projects: the toolchain, the bootloader, the kernel, and the root filesystem. You'll see how to create each of these elements from scratch, and how to automate the process using Buildroot and the Yocto Project. Moving on, you'll find out how to implement an effective storage strategy for flash memory chips, and how to install updates to the device remotely once it is deployed. You'll also get to know the key aspects of writing code for embedded Linux, such as how to access hardware from applications, the implications of writing multi-threaded code, and techniques to manage memory in an efficient way. The final chapters show you how to debug your code, both in applications and in the Linux kernel, and how to profile the system so that you can look out for performance bottlenecks. By the end of the book, you will have a complete overview of the steps required to create a successful embedded Linux system. Style and approach This book is an easy-to-follow and pragmatic guide with in-depth analysis of the implementation of embedded devices. It follows the life cycle of a project from inception through to completion, at each stage giving both the theory that underlies the topic and practical step-by-step walkthroughs of an example implementation. Design and build land, air, and sea drones using Ardupilot with Pixhawk 2.1 About This Book Explore the best practices used by the top industry professionals that will not only help you build drones in time, but also build effective solutions to cater to. Navigate through the complexities of Ardupilot to put together a complete functional UAV and assemble your drone Learn through practical examples that help you build robust UAV flight and ground control components Who This Book Is For The primary audience for this book is anyone (enthusiasts and hobbyists) who dream of building their own drones. It will also help those who are trying to build UAVs for commercial purposes. Some prior experience with microcontrollers and electronics would be useful. What You Will Learn Kitbash "dumb" objects into smart ones Program Pixhawk for your drones Fabricate your own parts out of different materials Integrate Pixhawk into different types of drones Build and understand the significant difference between land, sea, and air drones Adapt old Pixhawk sensors to the new Pixhawk 2.1 plugs Become familiar with procedures for testing your new drones In Detail The Ardupilot platform is an application ecosystem that encompasses various OS projects for drone programming, flight control, and advanced functionalities. The Ardupilot platform supports many Comms and APIs, such as DroneKit, ROS, and MAVLink. It unites OS drone projects to provide a common codebase. With the help of this book, you will have the satisfaction of building a

drone from scratch and exploring its many recreational uses (aerial photography, playing, aerial surveillance, and so on). This book helps individuals and communities build powerful UAVs for both personal and commercial purposes. You will learn to unleash the Ardupilot technology for building, monitoring, and controlling your drones. This is a step-by-step guide covering practical examples and instructions for assembling a drone, building ground control unit using microcontrollers, QgroundControl, and MissionPlanner. You can further build robotic applications on your drone utilizing critical software libraries and tools from the ROS framework. With the help of DroneKit and MAVLink (for reliable communication), you can customize applications via cloud and mobile to interact with your UAV. Style and approach Step-by-step instructions to help assemble your first drone with the Ardupilot platform.

Use Unity-based examples to understand fundamental mathematical concepts and see how they are applied when building modern video game functionality. You will gain the theoretical foundation you need, and you will know how to examine and modify an implementation. This book covers points in a 3D Cartesian coordinate system, and then discusses vectors and the details of dot and cross products. Basic mathematical foundations are illustrated through Unity-based example implementations. Also provided are examples showing how the concepts are applied when implementing video game functionality, such as collision support, motion simulations, autonomous behaviors, shadow approximations, and reflection off arbitrary walls. Throughout this book, you learn and examine the concepts and their applications in a game engine. What You Will Learn Understand the basic concepts of points and vectors and their applications in game development Apply mathematical concepts to modern video game functionality, such as spherical and box colliders Implement autonomous behaviors, including following way points, facing a target, chasing an object, etc. Who This Book is For Beginners, and those interested in the implementation of interactive games, who need a basic mathematical background or a refresher with modern examples

The past decade has seen tremendous interest in the production and refinement of unmanned aerial vehicles, both fixed-wing, such as airplanes and rotary-wing, such as helicopters and vertical takeoff and landing vehicles. This book provides a diversified survey of research and development on small and miniature unmanned aerial vehicles of both fixed and rotary wing designs. From historical background to proposed new applications, this is the most comprehensive reference yet.

The fast and easy way to pick out, set up, and learn to fly your drone Ready to soar into the world of unmanned aircraft? Drones For Dummies introduces you to the fascinating world of UAVs. Written in plain English and brimming with friendly instruction, Drones For Dummies provides you with the information you need to find and purchase the right drone for your needs, examples of ways to use a drone, and even drone etiquette and the laws and regulations governing consumer drone usage. Plus, you'll discover the basics of flight, including how to use a drone to capture photos and video. Originally designed to assist in military and special operations applications, the use of drones has expanded into the public service sector and the consumer market for people looking to have a good time flying an aircraft remotely. Drones For Dummies covers everything you need to know to have fun with your UAV, and is packed with cool ways to expand your drone's use beyond simply flying. Pick the perfect drone to suit your needs Properly set up and fly a drone Use a drone to capture images and footage with a camera Tips for maintaining your drone If you're interested in the exciting new technology of unmanned aircraft vehicles,

Drones For Dummies helps you take flight.

In the era of cyber-physical systems, the area of control of complex systems has grown to be one of the hardest in terms of algorithmic design techniques and analytical tools. The 23 chapters, written by international specialists in the field, cover a variety of interests within the broader field of learning, adaptation, optimization and networked control. The editors have grouped these into the following 5 sections: “Introduction and Background on Control Theory”, “Adaptive Control and Neuroscience”, “Adaptive Learning Algorithms”, “Cyber-Physical Systems and Cooperative Control”, “Applications”. The diversity of the research presented gives the reader a unique opportunity to explore a comprehensive overview of a field of great interest to control and system theorists. This book is intended for researchers and control engineers in machine learning, adaptive control, optimization and automatic control systems, including Electrical Engineers, Computer Science Engineers, Mechanical Engineers, Aerospace/Automotive Engineers, and Industrial Engineers. It could be used as a text or reference for advanced courses in complex control systems.

- Collection of chapters from several well-known professors and researchers that will showcase their recent work
- Presents different state-of-the-art control approaches and theory for complex systems
- Gives algorithms that take into consideration the presence of modelling uncertainties, the unavailability of the model, the possibility of cooperative/non-cooperative goals and malicious attacks compromising the security of networked teams
- Real system examples and figures throughout, make ideas concrete

Includes chapters from several well-known professors and researchers that showcases their recent work
Presents different state-of-the-art control approaches and theory for complex systems
Explores the presence of modelling uncertainties, the unavailability of the model, the possibility of cooperative/non-cooperative goals, and malicious attacks compromising the security of networked teams
Serves as a helpful reference for researchers and control engineers working with machine learning, adaptive control, and automatic control systems

Build exciting AR applications on mobile and wearable devices with Unity 3D, Vuforia, ARToolKit, Microsoft Mixed Reality HoloLens, Apple ARKit, and Google ARCore

About This Book Create unique AR applications from scratch, from beginning to end, with step-by-step tutorials
Use Unity 3D to efficiently create AR apps for Android, iOS, and Windows platforms
Use Vuforia, ARToolKit, Windows Mixed Reality, and Apple ARKit to build AR projects for a variety of markets
Learn best practices in AR user experience, software design patterns, and 3D graphics

Who This Book Is For The ideal target audience for this book is developers who have some experience in mobile development, either Android or iOS. Some broad web development experience would also be beneficial.

What You Will Learn Build Augmented Reality applications through a step-by-step, tutorial-style project approach
Use the Unity 3D game engine with the Vuforia AR platform, open source ARToolKit, Microsoft's Mixed Reality Toolkit, Apple ARKit, and Google ARCore, via the C# programming language
Implement practical demo applications of AR including education, games, business marketing, and industrial training
Employ a variety of AR recognition modes, including target images, markers, objects, and spatial mapping
Target a variety of AR devices including phones, tablets, and wearable smartglasses, for Android, iOS, and Windows HoloLens
Develop expertise with Unity 3D graphics, UIs, physics, and event systems
Explore and utilize AR best practices and software design patterns

In Detail Augmented Reality brings with it a set of challenges that are unseen and unheard of for traditional web and mobile developers. This book is your gateway to Augmented Reality development—not a theoretical showpiece for your bookshelf, but a handbook you will keep by your desk while coding and architecting your first AR app and for years to come. The book opens with an introduction to Augmented Reality, including markets, technologies, and development tools. You will begin by setting up your development machine for Android, iOS, and Windows development, learning the basics of using Unity and the Vuforia AR

platform as well as the open source ARToolKit and Microsoft Mixed Reality Toolkit. You will also receive an introduction to Apple's ARKit and Google's ARCore! You will then focus on building AR applications, exploring a variety of recognition targeting methods. You will go through multiple complete projects illustrating key market sectors including business marketing, education, industrial training, and gaming. By the end of the book, you will have gained the necessary knowledge to make quality content appropriate for a range of AR devices, platforms, and intended uses. Style and approach This book adopts a practical, step-by-step, tutorial-style approach. The design principles and methodology will be explained by creating different modules of the AR app.

Explores emerging monitoring strategies and presents adaptive management techniques to anticipate and mitigate coral bleaching, with emphasis upon identification and promotion of resilience in coral reef ecosystems. Includes coverage of strategic use of marine protected areas.

NEW YORK TIMES BEST SELLER • A grand, devastating portrait of three generations of the Sackler family, famed for their philanthropy, whose fortune was built by Valium and whose reputation was destroyed by OxyContin. From the prize-winning and bestselling author of *Say Nothing*, as featured in the HBO documentary *Crime of the Century*. The Sackler name adorns the walls of many storied institutions—Harvard, the Metropolitan Museum of Art, Oxford, the Louvre. They are one of the richest families in the world, known for their lavish donations to the arts and the sciences. The source of the family fortune was vague, however, until it emerged that the Sacklers were responsible for making and marketing a blockbuster painkiller that was the catalyst for the opioid crisis. *Empire of Pain* begins with the story of three doctor brothers, Raymond, Mortimer and the incalculably energetic Arthur, who weathered the poverty of the Great Depression and appalling anti-Semitism. Working at a barbaric mental institution, Arthur saw a better way and conducted groundbreaking research into drug treatments. He also had a genius for marketing, especially for pharmaceuticals, and bought a small ad firm. Arthur devised the marketing for Valium, and built the first great Sackler fortune. He purchased a drug manufacturer, Purdue Frederick, which would be run by Raymond and Mortimer. The brothers began collecting art, and wives, and grand residences in exotic locales. Their children and grandchildren grew up in luxury. Forty years later, Raymond's son Richard ran the family-owned Purdue. The template Arthur Sackler created to sell Valium—co-opting doctors, influencing the FDA, downplaying the drug's addictiveness—was employed to launch a far more potent product: OxyContin. The drug went on to generate some thirty-five billion dollars in revenue, and to launch a public health crisis in which hundreds of thousands would die. This is the saga of three generations of a single family and the mark they would leave on the world, a tale that moves from the bustling streets of early twentieth-century Brooklyn to the seaside palaces of Greenwich, Connecticut, and Cap d'Antibes to the corridors of power in Washington, D.C. *Empire of Pain* chronicles the multiple investigations of the Sacklers and their company, and the scorched-earth legal tactics that the family has used to evade accountability. The history of the Sackler dynasty is rife with drama—baroque personal lives; bitter disputes over estates; fistfights in boardrooms; glittering art collections; Machiavellian courtroom maneuvers; and the calculated use of money to burnish reputations and crush the less powerful. *Empire of Pain* is a masterpiece of narrative reporting and writing, exhaustively documented and ferociously compelling. It is a portrait of the excesses of America's second Gilded Age, a study of impunity among the super elite and a relentless investigation of the naked greed and indifference to human suffering that built one of the world's great fortunes.

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