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Inventor Guide

Sparkfun Inventor Guide

*The bestselling
beginner Arduino
guide, updated
with new projects!
Exploring Arduino
makes electrical
engineering and
embedded
software*

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*accessible. Learn
step by step
everything you
need to know
about electrical
engineering,
programming, and
human-computer
interaction
through a series of
increasingly
complex projects.
Arduino guru
Jeremy Blum walks*

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you through each build, providing code snippets and schematics that will remain useful for future projects. Projects are accompanied by downloadable source code, tips and tricks, and video tutorials to help you master Arduino. You'll

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*gain the skills you
need to develop
your own
microcontroller
projects! This new
2nd edition has
been updated to
cover the rapidly-
expanding Arduino
ecosystem, and
includes new full-
color graphics for
easier reference.
Servo motors and*

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stepper motors are covered in richer detail, and you'll find more excerpts about technical details behind the topics covered in the book. Wireless connectivity and the Internet-of-Things are now more prominently featured in the advanced projects

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to reflect Arduino's growing capabilities. You'll learn how Arduino compares to its competition, and how to determine which board is right for your project. If you're ready to start creating, this book is your ultimate guide! Get up to

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*date on the
evolving Arduino
hardware,
software, and
capabilities Build
projects that
interface with
other devices—wir
elessly! Learn the
basics of electrical
engineering and
programming
Access
downloadable*

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*materials and
source code for
every project
Whether you're a
first-timer just
starting out in
electronics, or a
pro looking to
mock-up more
complex builds,
Arduino is a
fantastic tool for
building a variety
of devices. This*

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book offers a comprehensive tour of the hardware itself, plus in-depth introduction to the various peripherals, tools, and techniques used to turn your little Arduino device into something useful, artistic, and

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educational.

*Exploring Arduino
is your roadmap to
adventure—start
your journey
today!*

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the next level with
the power of green
screen! This easy-
to-follow guide
clearly explains
green screen
technology and
shows, step-by-
step, how to dream*

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*up and create
professional-grade
video effects.*

*Written by a teach
er-maker-librarian,*

*The Green Screen
Makerspace*

Project Book

*features 25 low-
cost DIY projects*

that include

materials lists,

start-to-finish

instructions, and

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*detailed photos.
You will get
coverage of
software that
readers at any skill
level, in any
makerspace—from
a library to a living
room—can use to
produce videos
with high-quality
green screen
effects. •Learn
about the history*

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*and evolution of
green screen*

- *Explore the
underlying science
and technology*

- *Build your own
inexpensive—or
free!—green*

- *Choose a
suitable lighting kit
or find the best*

- *Put
it all together and
create visually*

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*interesting
presentations
•Edit your videos
using PC, Mac, and
Chromebook
programs
Bring your
electronic
inventions to life!
"This full-color
book is
impressive...there
are some really fun
projects!"*

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*-GeekDad,
Wired.com Who
needs an electrical
engineering
degree? This
intuitive guide
shows how to wire,
disassemble,
tweak, and re-
purpose everyday
devices quickly
and easily. Packed
with full-color
illustrations,*

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photos, and diagrams, Hacking Electronics teaches by doing--each topic features fun, easy-to-follow projects. Discover how to hack sensors, accelerometers, remote controllers, ultrasonic rangefinders, motors, stereo

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*equipment,
microphones, and
FM transmitters.
The final chapter
contains useful
information on
getting the most
out of cheap or
free bench and
software tools.
Safely solder, join
wires, and connect
switches Identify
components and*

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*read schematic
diagrams*

*Understand the
how and why of
electronics theory*

*Work with
transistors, LEDs,
and laser diode
modules Power*

*your devices with
a/c supplies,
batteries, or solar
panels Get up and
running on*

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*Arduino boards
and pre-made
modules Use
sensors to detect
everything from
noxious gas to
acceleration Build
and modify audio
amps,
microphones, and
transmitters Fix
gadgets and
scavenge useful
parts from dead*

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equipment

Thanks to the decreasing cost of prototyping, it's more feasible for professional makers and first-time entrepreneurs to launch a hardware startup. But exactly how do you go about it? This book provides the roadmap and

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best practices you need for turning a product idea into a full-fledged business. Written by three experts from the field, The Hardware Startup takes you from idea validation to launch, complete with practical strategies for funding, market

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*research,
branding,
prototyping,
manufacturing,
and distribution.
Two dozen case
studies of real-
world startups
illustrate possible
successes and
failures at every
stage of the
process. Validate
your idea by*

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*learning the needs
of potential users
Develop branding,
marketing, and
sales strategies
early on Form
relationships with
the right
investment
partners Prototype
early and often to
ensure you're on
the right path
Understand*

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*processes and
pitfalls of
manufacturing at
scale Jumpstart
your business with
the help of an
accelerator Learn
strategies for
pricing, marketing,
and distribution Be
aware of the legal
issues your new
company may face*

The Arduino

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*Inventor's Guide
Beginning Arduino
Programming
Hacking
Electronics: An
Illustrated DIY
Guide for Makers
and Hobbyists
Learning Through
Discovery
Raspberry Pi
Cookbook
The Art of
Hardware Hacking*

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"In many cultures, making food for those you love is common practice. Since we celebrate those special people on Valentine's Day, it's the perfect holiday to make some amazing baked treats. Each themed recipe is

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written especially for young bakers, including safety tips, ingredients and equipment lists, and step-by-step instructions. A full-color photograph accompanies each recipe so readers can page through the book to find

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just the treat they want to make.

Whether it's sweet for a sweetheart or has the traditional red in it, whatever recipe readers choose will stand up to the inclusion of an extra ingredient, love."

This book is a printed edition of

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the Special Issue
"Interface Circuits
for Microsensor
Integrated
Systems" that was
published in
Micromachines
JavaScript
Robotics is on the
rise. Rick Waldron,
the lead author of
this book and
creator of the

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Johnny-Five platform, is at the forefront of this movement. Johnny-Five is an open source JavaScript Arduino programming framework for robotics. This book brings together fifteen innovative

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programmers,
each creating a
unique Johnny-
Five robot step-by-
step, and offering
tips and tricks
along the way.
Experience with
JavaScript is a
prerequisite.

Handmade
Electronic Music:
The Art of

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Hardware Hacking provides a long-needed, practical, and engaging introduction for students of electronic music, installation and sound-art to the craft of making--as well as creatively cannibalizing--electronic circuits for

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artistic purposes.
Designed for
practioners and
students of
electronic art, it
provides a guided
tour through the
world of
electronics,
encouraging
artists to get to
know the inner
workings of basic

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electronic devices
so they can
creatively use
them for their own
ends. Handmade
Electronic Music
introduces the
basic of practical
circuitry while
instructing the
student in basic
electronic
principles, always

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from the practical point of view of an artist. It teaches a style of intuitive and sensual experimentation that has been lost in this day of prefabricated electronic musical instruments whose inner workings are not open to

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experimentation. It encourages artists to transcend their fear of electronic technology to launch themselves into the pleasure of working creatively with all kinds of analog circuitry.

Breaking Free with
Managed

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Functional
Programming
The Green Screen
Makerspace
Project Book
A Year-Round Fun
Food Adventure
Theory and
Application
Briggs
Workbook

*A complete, basic
electronics reference*

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*manual that includes
component and circuit
descriptions, tables,
math formulas,
schematic symbols.*

*An essential resource
for both students and
teachers alike, this DC
Electrical Circuits
Workbook contains
over 500 problems
spread across seven
chapters. Each chapter
begins with an overview*

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*of the relevant theory
and includes exercises
focused on specific
kinds of circuit
problems such as
Analysis, Design,
Challenge and
Computer Simulation.
An Appendix offers the
answers to the odd-
numbered Analysis and
Design exercises.
Chapter topics include
fundamental for*

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*current, voltage,
energy, power and
resistor color code;
series, parallel, and
series-parallel resistive
circuits using either
voltage or current
sources; analysis
techniques such as
superposition, source
conversions, mesh
analysis, nodal
analysis, Thévenin's
and Norton's theorems,*

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and delta-wye conversions; plus dependent sources, and an introduction to capacitors and inductors. RL and RC circuits are included for DC initial and steady state response along with transient response. This is the print version of the on-line OER. Catch a glimpse inside a school bus and you'll

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see lots of kids looking down. What are they doing? They're deciding on strategy, building cities, setting traps for monsters, sharing resources, and nurturing critical relationships. Over 90 percent of kids ages 2–17 play video games. In Video Games: Design and Code Your Own Adventure, young

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readers learn why games are so compelling and what ancient games such as mancala have in common with modern games like Minecraft. Kids will even create their very own video games using software such as MIT's Scratch! Using a familiar, high-interest subject, Video Games introduces

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foundation subjects such as geometry, physics, probability, and psychology in a practical framework. Building Tetris pieces out of Rice Crispie Treats and designing board games are some of the hands-on projects that engage readers' building skills, while writing actual game code opens digital

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*doors readers may not
have known existed.
Learn the Raspberry Pi
3 from the experts!
Raspberry Pi User
Guide, 4th Edition is
the "unofficial official"
guide to everything
Raspberry Pi 3. Written
by the Pi's creator and
a leading Pi guru, this
book goes straight to
the source to bring you
the ultimate Raspberry*

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Pi 3 manual. This new fourth edition has been updated to cover the Raspberry Pi 3 board and software, with detailed discussion on its wide array of configurations, languages, and applications. You'll learn how to take full advantage of the mighty Pi's full capabilities, and then expand those

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*capabilities even more
with add-on
technologies. You'll
write productivity and
multimedia programs,
and learn flexible
programming
languages that allow
you to shape your
Raspberry Pi into
whatever you want it to
be. If you're ready to
jump right in, this book
gets you started with*

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*clear, step-by-step
instruction from
software installation to
system customization.
The Raspberry Pi's
tremendous popularity
has spawned an entire
industry of add-ons,
parts, hacks, ideas, and
inventions. The
movement is growing,
and pushing the
boundaries of
possibility along with*

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it—are you ready to be a part of it? This book is your ideal companion for claiming your piece of the Pi. Get all set up with software, and connect to other devices

Understand Linux System Admin nomenclature and conventions Write your own programs using Python and Scratch

Extend the Pi's

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capabilities with add-ons like Wi-Fi dongles, a touch screen, and more The credit-card sized Raspberry Pi has become a global phenomenon. Created by the Raspberry Pi Foundation to get kids interested in programming, this tiny computer kick-started a movement of tinkerers, thinkers,

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experimenters, and inventors. Where will your Raspberry Pi 3 take you? The Raspberry Pi User Guide, 3rd Edition is your ultimate roadmap to discovery.

*Arduino For Dummies
Building NodeBots with
Johnny-Five,
Raspberry Pi, Arduino,
and BeagleBone
Make: Arduino Bots*

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and Gadgets

DC Electrical Circuits

Defend Your Base with

Simple Circuits,

Arduino, and

Raspberry Pi

National Geographic

Kids Cookbook

"A hands-on primer

for the new

electronics

enthusiast"--Cover.

Learn how to design

digital circuits with

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FPGAs (field-programmable gate arrays), the devices that reconfigure themselves to become the very hardware circuits you set out to program. With this practical guide, author Justin Rajewski shows you hands-on how to create FPGA projects, whether you're a

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programmer,
engineer, product
designer, or maker.
You'll quickly go from
the basics to
designing your own
processor. Designing
digital circuits used to
be a long and costly
endeavor that only big
companies could
pursue. FPGAs make
the process much
easier, and now

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they're affordable enough even for hobbyists. If you're familiar with electricity and basic electrical components, this book starts simply and progresses through increasingly complex projects. Set up your environment by installing Xilinx ISE and the author's Mojo IDE Learn how

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hardware designs are broken into modules, comparable to functions in a software program

Create digital hardware designs and learn the basics on how they'll be implemented by the FPGA

Build your projects with Lucid, a beginner-friendly hardware description

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language, based on Verilog, with syntax similar to C/C++ and Java

Presents an introduction to the open-source electronics prototyping platform. *A Beginner's Guide to Circuits* is the perfect first step for anyone ready to jump into the world of electronics

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and circuit design. After finishing the book's nine graded projects, readers will understand core electronics concepts which they can use to make their own electrifying creations! First, you'll learn to read circuit diagrams and use a breadboard, which allows you to connect

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electrical components without using a hot soldering iron! Next, you'll build nine simple projects using just a handful of readily available components, like resistors, transistors, capacitors, and other parts. As you build, you'll learn what each component does, how it works, and how to

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combine components to achieve new and interesting effects. By the end of the book, you'll be able to build your own electronic creations. With easy-to-follow directions, anyone can become an inventor with the help of *A Beginner's Guide to Circuits!* Build These 9 Simple Circuits! □ Steady-

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Hand Game: Test your nerves using a wire and a buzzer to create an Operation-style game! □ Touch-Enabled Light: Turn on a light with your finger! □ Cookie Jar Alarm: Catch cookie thieves red-handed with this contraption. □ Night-Light: Automatically turn on a light when it gets

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dark. □ **Blinking LED:**
This classic circuit
blinks an LED. □
**Railroad Crossing
Light: Danger! Don't
cross the tracks if this
circuit's pair of lights
is flashing.** □ **Party
Lights:** Throw a party
with these charming
string lights. □ **Digital
Piano:** Play a tune
with this simple
synthesizer and learn

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how speakers work. □
LED Marquee: Put on
a light show and
impress your friends
with this flashy finale.

Forrest M. Mims
Engineer's Mini
Notebook

Nine Simple Projects
with Lights, Sounds,
and More!

Learning Robotics
Using Python

Digital Design for

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Beginners with Mojo
and Lucid HDL

Hacking Raspberry Pi

The Hardware Startup

Desktop or DIY 3D

printers are devices

you can either buy

preassembled as a

kit, or build from a

collection of parts to

design and print

physical objects

including replacement

household parts,

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custom toys, and even art, science, or engineering projects. Maybe you have one, or maybe you're thinking about buying or building one.

Practical 3D Printers takes you beyond how to build a 3D printer, to calibrating, customizing, and creating amazing models, including 3D

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printed text, a warship model, a robot platform, windup toys, and arcade-inspired alien invaders. You'll learn about the different types of personal 3D printers and how they work; from the MakerBot to the RepRap printers like the Huxley and Mendel, as well as the whiteAnt CNC

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featured in the Apress book *Printing in Plastic*. You'll discover how easy it is to find and design 3D models using web-based 3D modeling, and even how to create a 3D model from a 2D image. After learning the basics, this book will walk you through building multi-part

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models with a steampunk warship project, working with meshes to build your own action heroes, and creating an autonomous robot chassis. Finally, you'll find even more bonus projects to build, including wind-up walkers, faceted vases for the home, and a handful of

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useful upgrades to modify and improve your 3D printer.

Rereko is just your average high-school girl from Electopia, the land of electricity, but she's totally failed her final electricity exam! Now she has to go to summer school on Earth. And this time, she has to pass. Luckily, her ever-

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patient tutor Hikaru is there to help. Join them in the pages of The Manga Guide to Electricity as Rereko examines everyday electrical devices like flashlights, heaters, and circuit breakers, and learns the meaning of abstract concepts like voltage, potential, current, resistance,

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conductivity, and electrostatic force. The real-world examples that you'll find in The Manga Guide to Electricity will teach you: -What electricity is, how it works, how it's created, and how it can be used -The relationship between voltage, current, and resistance (Ohm's

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law) -Key electrical concepts like inductance and capacitance -How complicated components like transformers, semiconductors, diodes, and transistors work -How electricity produces heat and the relationship between current and magnetic

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fields If thinking about how electricity works really fries your brain, let The Manga Guide to Electricity teach you all things electrical in a shockingly fun way. Makerspaces are places designed to inspire creativity and collaboration. In Code It! Programming and Keyboards You Can

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Create Yourself, kids will make a computer key out of a banana and use popular software programs to code music, game characters, and more! Step-by-step photos bring each project to life. Techniques and tips help troubleshoot and use the materials within the makerspace. Aligned

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to Common Core Standards and correlated to state standards.

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Raspberry Pi is taking off like a rocket! You can use this amazing, dirt-cheap, credit card-sized computer to learn powerful

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hardware hacking techniques as you build incredibly creative and useful projects! This complete, full-color guide requires absolutely no experience with either hardware hacking or computer programming. Colorful photos guide you through each project,

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and the step-by-step
instructions are
stunningly clear and
easy!

Arduino Project
Handbook

Getting Started with
Arduino

Book of F#

Interface Circuits for
Microsensor

Integrated Systems

Practical 3D Printers

The Maker's Guide to

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the Zombie

Apocalypse

This book will show you how to use your Arduino to control a variety of different robots, while providing step-by-step instructions on the entire robot

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building process.
You'll learn
Arduino basics
as well as the
characteristics of
different types
of motors used
in robotics. You
also discover
controller
methods and
failsafe methods,

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and learn how to apply them to your project.

The book starts with basic robots and moves into more complex projects, including a GPS-enabled robot, a robotic lawn mower, a fighting

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bot, and even a
DIY Segway-
clone.

Introduction to
the Arduino and
other

components
needed for

robotics Learn

how to build

motor controllers

Build bots from

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simple line-
following and
bump-sensor
bots to more
complex robots
that can mow
your lawn, do
battle, or even
take you for a
ride Please note:
the print version
of this title is

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black & white;
the eBook is full
color.

The world of
Raspberry Pi is
evolving quickly,
with many new
interface boards
and software
libraries
becoming
available all the

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time. In this
cookbook,
prolific hacker
and author Simon
Monk provides
more than 200
practical recipes
for running this
tiny low-cost
computer with
Linux,
programming it

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with Python, and
hooking up
sensors, motors,
and other hardware—
including
Arduino. You 'll
also learn basic
principles to help
you use new
technologies
with Raspberry
Pi as its

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ecosystem develops. Python and other code examples from the book are available on GitHub. This cookbook is ideal for programmers and hobbyists familiar with the Pi through

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resources such
as Getting
Started with
Raspberry Pi
(O ' Reilly). Set
up and manage
your Raspberry
Pi Connect the Pi
to a network
Work with its
Linux-based
operating system

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Use the Pi ' s
ready-made
software

Program

Raspberry Pi
with Python

Control hardware
through the GPIO
connector Use

Raspberry Pi to
run different
types of motors

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Work with
switches,
keypads, and
other digital
inputs Hook up
sensors for
taking various
measurements
Attach different
displays, such as
an LED matrix
Create dynamic

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projects with
Raspberry Pi and
Arduino Make
sure to check out
10 of the over
60 video recipes
for this book at:
[http://razzpisamp
ler.oreilly.com/](http://razzpisampler.oreilly.com/)
You can
purchase all
recipes at:

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Processing is a free, beginner-friendly programming language designed to help non-programmers create interactive art with code. The SparkFun Guide

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to Processing,
the first in the
SparkFun
Electronics
series, will show
you how to craft
digital artwork
and even
combine that
artwork with
hardware so that
it reacts to the

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world around you. Start with the basics of programming and animation as you draw colorful shapes and make them bounce around the screen. Then move on to a series of hands-

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on, step-by-step projects that will show you how to:

- Make detailed pixel art and scale it to epic proportions
- Write a maze game and build a MaKey MaKey controller with fruit buttons

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- Play, record, and sample audio to create your own soundboard
- Fetch weather data from the Web and build a custom weather dashboard
- Create visualizations that change

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based on sound,
light, and
temperature
readings With a
little imagination
and Processing
as your
paintbrush,
you ' ll be on your
way to coding
your own gallery
of digital art in

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no time! Put on
your artist ' s hat,
and begin your
DIY journey by
learning some
basic
programming and
making your first
masterpiece with
The SparkFun
Guide to
Processing. The

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code in this book
is compatible
with Processing
2 and Processing
3.

Arduino Project
Handbook is a
beginner-friendly
collection of
electronics
projects using
the low-cost

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Arduino board.
With just a
handful of
components, an
Arduino, and a
computer, you ' ll
learn to build and
program
everything from
light shows to
arcade games to
an ultrasonic

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security system.

First you 'll get

set up with an

introduction to

the Arduino and

valuable advice

on tools and

components.

Then you can

work through the

book in order or

just jump to

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projects that catch your eye. Each project includes simple instructions, colorful photos and circuit diagrams, and all necessary code. Arduino Project Handbook is a fast and fun way

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to get started
with micro-
controllers
that ' s perfect for
beginners,
hobbyists,
parents, and
educators. Uses
the Arduino Uno
board.

Video Games
Handmade

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Electronic Music
Learn
Electronics by
Making 10
Awesome
Projects
Exploring
Arduino
Design and Code
Your Own
Adventure
Learning FPGAs

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***Get Your Move
On! In Making
Things Move:
DIY
Mechanisms for
Inventors,
Hobbyists, and
Artists, you'll
learn how to
successfully
build moving
mechanisms
through non-***

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***technical
explanations,
examples, and
do-it-yourself
projects--from
kinetic art
installations to
creative toys to
energy-
harvesting
devices.
Photographs,
illustrations,***

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***screen shots,
and images of
3D models are
included for
each project.
This unique
resource
emphasizes
using off-the-
shelf
components,
readily
available***

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accessible
fabrication
techniques.
Simple projects
give you hands-
on practice
applying the
skills covered in
each chapter,
and more
complex
projects at the***

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topics from
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chapters. Turn
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imaginative
ideas into
reality with
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***to: Find and
select materials
Fasten and join
parts Measure
force, friction,
and torque
Understand
mechanical and
electrical
power, work,
and energy
Create and
control motion***

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***Work with
bearings,
couplers, gears,
screws, and
springs
Combine simple
machines for
work and fun
Projects
include: Rube
Goldberg
breakfast
machine***

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***Mousetrap
powered car
DIY motor with
magnet wire
Motor direction
and speed
control
Designing and
fabricating spur
gears Animated
creations in
paper An
interactive***

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***rotating
platform Small
vertical axis
wind turbine
SADbot: the
seasonally
affected
drawing robot
Make Great
Stuff! TAB, an
imprint of
McGraw-Hill
Professional, is***

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***a leading
publisher of DIY
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books for
makers,
hackers, and
electronics
hobbyists.
F# brings the
power of
functional-first
programming to
the .NET***

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Framework, a platform for developing software in the Microsoft Windows ecosystem. If you're a traditional .NET developer used to C# and Visual Basic, discovering F#

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***will be a
revelation that
will change how
you code, and
how you think
about coding.
In The Book of
F#, Microsoft
MVP Dave
Fancher shares
his expertise
and teaches
you how to***

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***wield the power
of F# to write
succinct,
reliable, and
predictable
code. As you
learn to take
advantage of
features like
default
immutability,
pipelining, type
inference, and***

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***pattern
matching, you'll
be amazed at
how efficient
and elegant
your code can
be. You'll also
learn how to: ****
***Exploit F#'s
functional
nature using
currying,
partial***

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***application, and
delegation *
Streamline type
creation and
safety with
record types
and
discriminated
unions * Use
collection types
and modules to
handle data
sets more***

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effectively *
***Use pattern
matching to
decompose
complex types
and branch
your code
within a single
expression ****
***Make your
software more
responsive with
parallel***

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***programming
and
asynchronous
workflows *
Harness object
orientation to
develop rich
frameworks and
interact with
code written in
other .NET
languages * Use
query***

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***expressions
and type
providers to
access and
manipulate
data sets from
disparate
sources Break
free of that old
school of
programming.
The Book of F#
will show you***

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***how to unleash
the
expressiveness
of F# to create
smarter, leaner
code.***

***Beginning
Arduino
Programming
allows you to
quickly and
intuitively
develop your***

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programming skills through sketching in code. This clear introduction provides you with an understanding of the basic framework for developing Arduino code, including the

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***structure,
syntax,
functions, and
libraries
needed to
create future
projects. You
will also learn
how to program
your Arduino
interface board
to sense the
physical world,***

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***to control light,
movement, and
sound, and to
create objects
with interesting
behavior. With
Beginning
Arduino
Programming,
you'll get the
knowledge you
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***fundamental
aspects of
writing code on
the Arduino
platform, even
if you have
never before
written code. It
will have you
ready to take
the next step:
to explore new
project ideas,***

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***new kinds of
hardware,
contribute back
to the open
source
community, and
even take on
more
programming
languages.
Bring your
ideas to life
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***Arduino
hardware and
software
Arduino is an
affordable and
readily
available
hardware
development
platform based
around an open
source,
programmable***

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***circuit board.
You can
combine this
programmable
chip with a
variety of
sensors and
actuators to
sense your
environment
around you and
control lights,
motors, and***

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designer or
tinkerer.***

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incredible
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become familiar
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involves, and
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diagrams in***

***addition to new
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chapters •

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examples to
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***fundamentals
needed to move
onto more
advanced
topics • Helps
you grasp
what's possible
with this
fantastic little
board Whether
you're a
teacher,
student,***

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***programmer,
hobbyist,
hacker,
engineer,
designer, or
scientist, get
ready to learn
the latest this
new technology
has to offer!***
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You Can Create Yourself Raspberry Pi User Guide Create Interactive Art with Code

The Arduino is a
cheap, flexible,
open source
microcontroller
platform designed

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to make it easy for hobbyists to use electronics in homemade projects. With an almost unlimited range of input and output add-ons, sensors, indicators, displays, motors, and more, the

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Arduino offers you countless ways to create devices that interact with the world around you. In Arduino Workshop, you'll learn how these add-ons work and how to integrate them into your own projects. You'll

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start off with an overview of the Arduino system but quickly move on to coverage of various electronic components and concepts. Hands-on projects throughout the book reinforce what you've

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learned and show you how to apply that knowledge. As your understanding grows, the projects increase in complexity and sophistication. Among the book's 65 projects are useful devices like:

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- A digital thermometer that charts temperature changes on an LCD
- A GPS logger that records data from your travels, which can be displayed on Google Maps
- A handy tester that lets you check the

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voltage of any
single-cell battery
– A keypad-
controlled lock that
requires a secret
code to open You'll
also learn to build
Arduino toys and
games like: – An
electronic version
of the classic six-
sided die – A

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binary quiz game
that challenges
your number
conversion skills –

A motorized
remote control
tank with collision
detection to keep it
from crashing

Arduino Workshop
will teach you the
tricks and design

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principles of a
master craftsman.
Whatever your skill
level, you'll have
fun as you learn to
harness the power
of the Arduino for
your own DIY
projects. Uses the
Arduino Uno board
Join Barton
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chef and National Geographic Explorer—on a year-round culinary adventure as he explores what it takes to create the ultimate dish. Barton provides mouthwatering recipes, the ins

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and outs of healthy eating, awesome crafts and activities, and food-focused challenges, proving once and for all that cooking can be a blast. Follow along as he teaches you to plant a kitchen

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garden, host a dinner party for your friends, and pack the perfect school lunch.

Other highlights include ways to play with your food, festive holiday meals, snow day snacks, and family cooking

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competitions. With fascinating sidebars, profiles on real people, and cool facts, the National Geographic Kids Cookbook will have you ruling the kitchen in no time! Where will you be when the zombie

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apocalypse hits?
Trapping yourself
in the basement?
Roasting the family
pet? Beheading
reanimated
neighbors? No
way. You'll be
building fortresses,
setting traps, and
hoarding supplies,
because you,

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savvy survivor,
have snatched up
your copy of The
Maker's Guide to
the Zombie
Apocalypse before
it's too late. This
indispensable
guide to survival
after Z-day, written
by hardware
hacker and zombie

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anthropologist
Simon Monk, will
teach you how to
generate your own
electricity, salvage
parts, craft
essential
electronics, and
out-survive the
undead.,p>Take
charge of your
environment:

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– Monitor zombie movement with trip wires and motion sensors – Keep vigilant watch over your compound with Arduino and Raspberry Pi surveillance systems – Power zombie defense devices with car

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batteries, bicycle
generators, and
solar power

Escape imminent
danger:

- Repurpose old
disposable
cameras for
zombie-distracting
flashbangs
- Open
doors remotely for
a successful sprint

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home – Forestall
subplot disasters
with fire and
smoke detectors

Communicate with
other survivors:

- Hail nearby
humans using
Morse code – Pass
silent messages
with two-way
vibration walkie-

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talkies – Fervently scan the airwaves with a frequency hopper For anyone from the budding maker to the keen hobbyist, The Maker's Guide to the Zombie Apocalypse is an essential survival tool. Uses the

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Arduino Uno board
and Raspberry Pi
Model B+ or Model
2

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imagination. You
will learn
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illusions,

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circuits, origami,

greeting cards,

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- and pop-ups
- Dodgeball, mazes, and other interesting Scratch games
- Organs, guitars, and percussion instruments
- Sewed LED bracelets, art cuffs, and Arduino stuffie
- Makey Makey

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and littleBits

gadgets •

Programs for plug-
and-play and

Bluetooth-enabled

robots • 3D design

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A Beginner's

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researcher, or a hobbyist, and you are interested in robotics and want to build your own robot, this book is for you.

Readers are assumed to be new to robotics but should have experience with Python.

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**Provides
information on
creating a variety
of gadgets and
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Arduino.**

**With Arduino,
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hardware project
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explore
electronics, and
with its easy-to-
learn
programming
language, you can
collect data about
the world around
you to make
something truly
interactive. The
Arduino**

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**Inventor's Guide
opens with an
electronics
primer filled with
essential
background
knowledge for
your DIY journey.
From there, you'll
learn your way
around the
Arduino through
a classic**

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hardware entry point—blinking LEDs. Over the course of the book, 11 hands-on projects will teach you how to:

- Build a stop light with LEDs**
- Display the volume in a room on a warning dial**
- Design and build**

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a desktop fan

**-Create a robot
that draws with a
motor and pens**

**-Create a servo-
controlled
balance beam**

**-Build your own
playable mini**

**piano -Make a
drag race timer
to race toy cars**

against your

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friends Each project focuses on a new set of skills, including breadboarding circuits; reading digital and analog inputs; reading magnetic, temperature, and other sensors; controlling servos

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and motors; and talking to your computer and the Web with an Arduino. At the end of every project, you'll also find tips on how to use it and how to mod it with additional hardware or code. What are you

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**waiting for? Start
making, and
learn the skills
you need to own
your technology!**

**Uses the Arduino
Uno board or
SparkFun
RedBoard**

**How do you start?
How should you
build a plan for
cloud migration**

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for your entire portfolio? How will your organization be affected by these changes? This book, based on real-world cloud experiences by enterprise IT teams, seeks to provide the answers to these

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**questions. Here,
you'll see what
makes the cloud
so compelling to
enterprises; with
which
applications you
should start your
cloud journey;
how your
organization will
change, and how
skill sets will**

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**evolve; how to
measure
progress; how to
think about
security,
compliance, and
business buy-in;
and how to
exploit the ever-
growing feature
set that the cloud
offers to gain
strategic and**

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