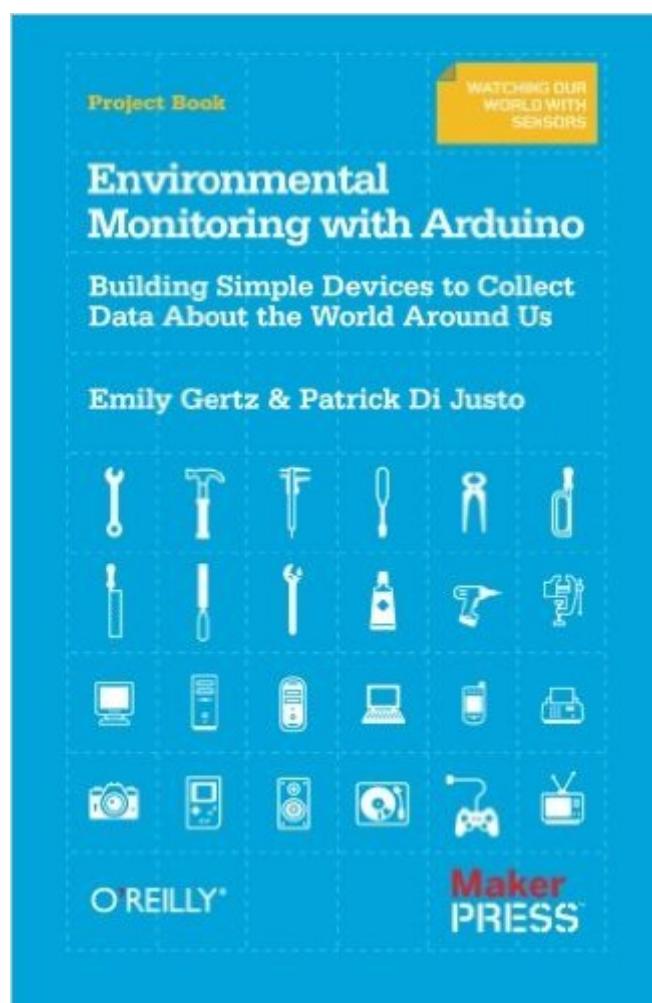# Environmental Monitoring With Arduino: Building Simple Devices To Collect Data About The World Around Us

Synopsis

After the devastating tsunami in 2011, DYIers in Japan built their own devices to detect radiation levels, then posted their finding on the Internet. Right now, thousands of people worldwide are tracking environmental conditions with monitoring devices theyâ ™ve built themselves. You can do it too!This inspiring guide shows you how to use Arduino to create gadgets for measuring noise, weather, electromagnetic interference (EMI), water purity, and more. Youâ ™ll also learn how to collect and share your own data, and you can experiment by creating your own variations of the gadgets covered in the book. If youâ ™re new to DIY electronics, the first chapter offers a primer on electronic circuits and Arduino programming.Use a special microphone and amplifier to build a reliable noise monitorCreate a gadget to detect energy vampires: devices that use electricity when theyâ ™re â œoffâ •Examine water purity with a water conductivity deviceMeasure weather basics such as temperature, humidity, and dew pointBuild your own Geiger counter to gauge background radiationExtend Arduino with an Ethernet shieldâ ”and put your data on the InternetShare your weather and radiation data online through Pachube

Book Information

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Customer Reviews

I am an electronics hobbyist and have been one for years. Bought this book with the hopes of teaching some basic uses of Arduino to some high school students. I was totally disappointed. There's very little to recommend this book other than it has a cool title. If the book hadn't been so inexpensive to begin with, I'd have asked for my money back. Here are my main objections.1. There

are no projects here that have a "gee whiz" factor. The first few chapters don't cover any more than any book about Arduino would.2. The title is somewhat misleading. It's not really about "environmental monitoring." Yes, there is a chapter on how to hook up a temperature/humidity probe, and one chapter on hooking up a Geiger counter to the Arduino. The other chapters are on how to hook up an ethernet shield, how to measure conductivity in water (stick two wires in it), and how to measure sound (use a microphone).3. The projects do not appear to have been designed by people who do electronics or Arduino on a regular basis. There's a chapter on using a "4 character LED display" and then it's never used again. Worse yet, WHO would use a 4 character LED display when a 16 character 2 row LCD display can be purchased for the same price and provide a very nice display? It's no more complicated than the LED display they advocate and has much more functionality.4. There's no explanation on why ANY of the circuits work. It's basically a cookbook that says "hook up these wires, download this code, and run it." So do not expect to understand why the circuits work or why the program is written the way it is.5. I would find it hard to get anyone excited about these projects.

This is a sophisticated and intelligent book describing interesting projects in a way that even newcomers to Arduino, electronics, and programming should be able to create and get running without problems.PROSNo need to have a lot of skill with electronics - the book uses prebuilt modulesNo need to know programming - the book provides working codeUp to date - written to use the recent Arduino 1.0 updateCONSNone that I have found"Environmental Monitoring with Arduino" explains how to use the Arduino to detect or monitor various physical conditions in the environment around you. It is an inexpensive, short, focused, project-oriented book that has a variety of interesting projects, some of which you may find useful as a permanent device. Unlike a certain project-oriented book I reviewed recently, there is no fluff.Some aspects are explained in a modular approach, allowing you to use ideas from the book for other projects you think of, but obviously it does not have as many "recipes" as a book like Arduino Cookbook, Second Edition.I think this book is reasonably well suited to someone with little or now experience with Arduino, programming, or electronics. It builds up the reader's understanding of various components, starting very simply and moving to an implementation of radition monitoring and sharing data on the Internet (all with Arduino) that was inspired by the work of individuals in Japan after the 2011 earthquake and resulting nuclear power plant problems.CONTENTS1. The World's Shortest Electronics Primer2. Project: Noise Monitor / LED Bar Output3. New Component: 4Char Display4. Detecting Electromagnetic Interference (and making bad music)5.

Environmental Monitoring with Arduino: Building Simple Devices to Collect Data About the World Around Us Atmospheric Monitoring with Arduino: Building Simple Devices to Collect Data About the Environment Arduino: Complete Beginners Guide For Arduino - Everything You Need To Know To Get Started (Arduino 101, Arduino Mastery) Starting To Collect Antique Oriental Rugs (Starting to Collect Series) Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World Arduino: The Ultimate QuickStart Guide - From Beginner to Expert (Arduino, Arduino for Beginners) Data Architecture: A Primer for the Data Scientist: Big Data, Data Warehouse and Data Vault Data Analytics: Practical Data Analysis and Statistical Guide to Transform and Evolve Any Business Leveraging the Power of Data Analytics, Data Science, ... (Hacking Freedom and Data Driven Book 2) Make: Sensors: A Hands-On Primer for Monitoring the Real World with Arduino and Raspberry Pi Fetal Heart Monitoring: Principles and Practices (AWHONN, Fetal Heart Monitoring) Big Data For Beginners: Understanding SMART Big Data, Data Mining & Data Analytics For improved Business Performance, Life Decisions & More! The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences US Army Technical Manual, ARMY DATA SHEETS FOR CARTRIDGES, CARTRIDGE ACTUATED DEVICES AND PROPELLANT ACTUATED DEVICES, FSC 1377, TM 43-0001-39, 1991 Controller Area Network Prototyping With Arduino: Creating CAN Monitoring, Diagnostics, and Simulation Applications Microsoft Excel 2013 Building Data Models with PowerPivot: Building Data Models with PowerPivot (Business Skills) Arduino + Android Projects for the Evil Genius: Control Arduino with Your Smartphone or Tablet Arduino for Musicians: A Complete Guide to Arduino and Teensy Microcontrollers Arduino: 2016 Arduino Beginner User Guide Arduino práctico / Practical Arduino (Manual Imprescindible / Essential Manual) (Spanish Edition) Data Hiding: Exposing Concealed Data in Multimedia, Operating Systems, Mobile Devices and Network Protocols