



Internet of Things with Arduino Blueprints

By Pradeeka Seneviratne

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Internet of Things with Arduino Blueprints By Pradeeka Seneviratne

Develop interactive Arduino-based Internet projects with Ethernet and WiFi

About This Book

- Build Internet-based Arduino devices to make your home feel more secure
- Learn how to connect various sensors and actuators to the Arduino and access data from Internet
- A project-based guide filled with schematics and wiring diagrams to help you build projects incrementally

Who This Book Is For

This book is intended for those who want to learn more about Arduino and make Internet-based interactive projects with Arduino. If you are an experienced software developer who understands the basics of electronics, then you can quickly learn how to build the Arduino projects explained in this book.

What You Will Learn

- Make a powerful Internet controlled relay with an embedded web server to monitor and control your home electrical appliances
- Build a portable Wi-Fi signal strength sensor to give haptic feedback about signal strength to the user
- Measure water flow speed and volume with liquid flow sensors and record real-time readings
- Secure your home with motion-activated Arduino security cameras and upload images to the cloud
- Implement real-time data logging of a solar panel voltage with Arduino cloud connectors
- Track locations with GPS and upload location data to the cloud
- Control a garage door light with your Twitter feed
- Control infrared enabled devices with IR remote and Arduino

In Detail

Arduino is a small single-chip computer board that can be used for a wide variety of creative hardware projects. The hardware consists of a simple microcontroller, board, and chipset. It comes with a Java-based IDE to allow creators to program the board. Arduino is the ideal open hardware platform for experimenting with the world of the Internet of Things. This credit card sized Arduino board can be used via the Internet to make more useful and interactive Internet of things projects.

Internet of Things with Arduino Blueprints is a project-based book that begins with projects based on IoT and cloud computing concepts. This book covers up to eight projects that will allow devices to communicate with each other, access information over the Internet, store and retrieve data, and interact with users?creating smart, pervasive, and always-connected environments. It explains how wired and wireless Internet connections can be used with projects and the use of various sensors and actuators. The main aim of this book is to teach you how Arduino can be used for Internet-related projects so that users are able to control actuators, gather data from various kinds of sensors, and send and receive data wirelessly across HTTP and TCP protocols.

Finally, you can use these projects as blueprints for many other IoT projects and put them to good use. By the end of the book, you will be an expert in the use of IoT with Arduino to develop a set of projects that can relate very well to IoT applications in the real world.

Style and approach

Every chapter in this book clearly explains how to assemble components through easy-to-follow steps on while laying out important concepts, code snippets, and expected output results so that you can easily end up with a successful project where you can also enhance or modify the project according to your requirements.

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Editorial Review

About the Author

Pradeeka Seneviratne

Pradeeka Seneviratne is a software engineer with over 10 years of experience in computer programming and systems designing. He loves programming embedded systems such as Arduino and Raspberry Pi. Pradeeka started learning about electronics when he was at primary college by reading and testing various electronic projects found in newspapers, magazines, and books. Pradeeka is currently a full-time software engineer who works with highly scalable technologies. Previously, he worked as a software engineer for several IT infrastructure and technology servicing companies, and he was also a teacher for information technology and Arduino development. He researches how to make Arduino-based unmanned aerial vehicles and Raspberry Pi-based security cameras.

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