

# The Unofficial LEGO MINDSTORMS NXT Inventor's Guide (Textbook)

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## Book Information



Author(s): David J. Perdue Publisher: No Starch Press Copyright: 2007 ISBN-10: 1-59327-154-9 ISBN-13: 978-1-59327-154-1 Buy the book Official Companion Website Errata Page How NI Technology is Used: This book demonstrates how to use National Instruments Mindstorms NXT to program sample robots.

The LEGO<sup>™</sup> MINDSTORMS<sup>™</sup> NXT set includes a variety of powerful electronic parts (motors, sensors, and the programmable NXT microcomputer) and lots of building elements. With these parts you can create thousands of unique, intelligent robots. *The Unofficial LEGO MINDSTORMS NXT Inventor's Guide* helps you to harness the capabilities of the NXT set and effectively plan, build, and program your own NXT robots.

The first part of the book contains a brief introduction to the NXT set. You'll then examine the pieces in the NXT set and the roles they play in construction. Next, you'll learn practical building techniques, like how to build sturdy structures and work with gears. Then it's time to learn how to program with the official NXT-G programming language (and learn a bit about several unofficial programming languages). You'll also learn what author David J. Perdue calls the MINDSTORMS method: a strategy for creating your own robots. Finally, you'll follow step-by-step instructions for building, programming, and testing six sample robots (all of which can be built using only the parts found in one NXT set). These six robots include:

- Zippy-Bot, a two-wheeled vehicle with a ball caster
- Bumper-Bot, a version of Zippy-Bot that explores your room and avoids objects
- Claw-Bot, a version of Zippy-Bot that searches for objects and pushes them away with its claw
- Tag-Bot, a four-wheeled steering vehicle that dashes around while you try to "tag" it with a flashlight
- Guard-Bot, a six-legged walking robot that launches a ball at intruders
- Golf-Bot, a stationary robot that finds a target and then hits a ball into the target

You'll also find an NXT-G Quick Reference, which provides information on the 30 types of standard programming blocks, and the LEGO MINDSTORMS NXT Piece Library, which features detailed information and images of the more than 80 types of LEGO pieces in the NXT set.

So go ahead. Grab your NXT set, fire up your creative mind, and see what you can invent with *The Unofficial LEGO MINDSTORMS NXT Inventor's Guide*.

Application Software: LabVIEW Full Development System Development Topic: Programming Fundamentals, Programming Techniques