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your robot; Basic path planning; Avoiding obstacles; Summary; Chapter 4: Vision and Image Processing; Connecting a webcam to the BeagleBone Black; Using OpenCV; Finding colored objects in your vision system; Following colored objects with your vision system; Finding movement in your vision system; Following movement with your robot; Summary; Chapter 5: Building a Robot that Can Walk; Building robots that can walk; Working of servomotors Building the quadruped platform Using a servo controller to control the servos; Communicating with the servo controller via a PC; Connecting the servo controller to the BeagleBone Black; Creating a program on Linux to control your quadruped; Issuing voice commands to your quadruped; Summary; Chapter 6: A Robot that Can Sail; The BeagleBone Black and robots that can sail; Building the sailboat platform; Controlling servos with the BeagleBone Black; Controlling the servos on the sailboat from a program; Remote control of the sailboat; A ZigBee tutorial; Summary Chapter 7: Using GPS for Navigation Beginning with a GPS tutorial; Connecting GPS to the BeagleBone Black; Communicating with the GPS; Parsing the GPS information; Calculating distance and bearing; Summary; Chapter 8: Measuring Wind Speed - Integrating Analog Sensors; Connecting an analog wind speed sensor; Getting sensor data from the wind speed sensor; Some basics of sailing; Summary; Chapter 9: An Underwater Remote Operated Vehicle; Building the hardware for the ROV; Controlling brushless DC motors using the BeagleBone Black; Program to control DC motors using the BeagleBone Black Connecting to the BeagleBone Black via a long LAN

Sommario/riassunto

If you want a simple guide to building complex robots, then this book is for you. You'll need some programming knowledge and experience working with mechanical systems.
