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SERVO

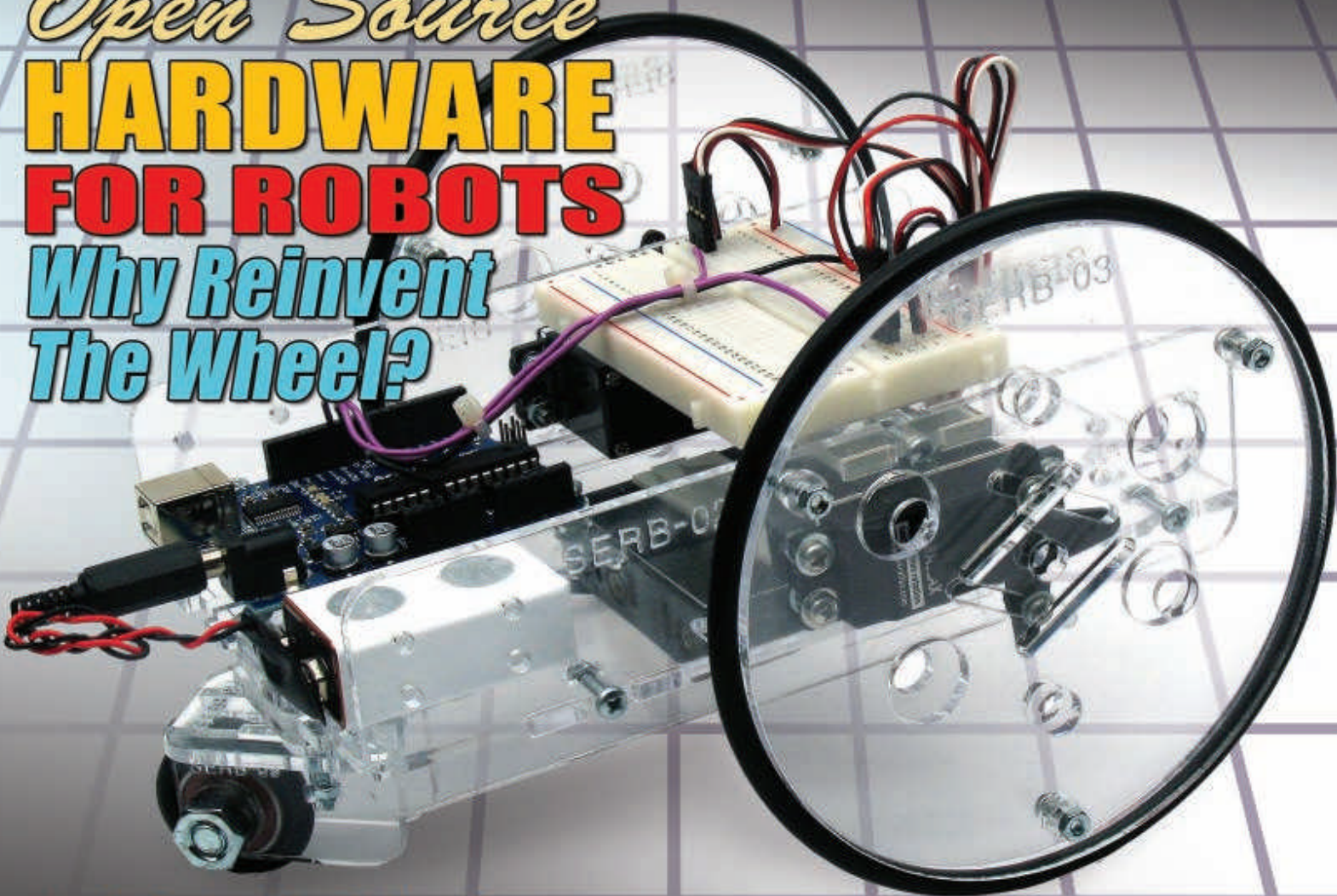
FOR THE ROBOT INNOVATOR

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MAGAZINE

June 2013

Open Source
HARDWARE
FOR ROBOTS
*Why Reinvent
The Wheel?*



- ◆ Robots And The Law
 - ◆ 2013 VEX World Championships
 - ◆ Designing JRover
- Part Curiosity - Part Self Driving Car

Mini-Skybot

Date: 2011

Hardware License: CC BY SA v3.0

Software License: GNU GPL

Mini-Skybot is a differential drive robot with two RC servo-driven wheels and a castor. The robot lacks motor encoders and only has a single sensor — an ultrasonic rangefinder. The robot is designed to be 3D-printable and uses open source mechanics and electronics. Of particular note about the Mini-Skybot is that it was designed using only open source tools. The design was created for educational use. The primary goals were minimal expense and a simple design useful for teaching students programming. The design was a collaboration between the Carlos III University of Madrid Robotics Lab and Universidad Autónoma de Madrid.

The Mini-Skybot Wiki provides access to the hardware design files and software, as well as step-by-step assembly instructions with photos. No kits or assembled units are available at this time. The project is still active and a Miniskybot v2 prototype is being developed.

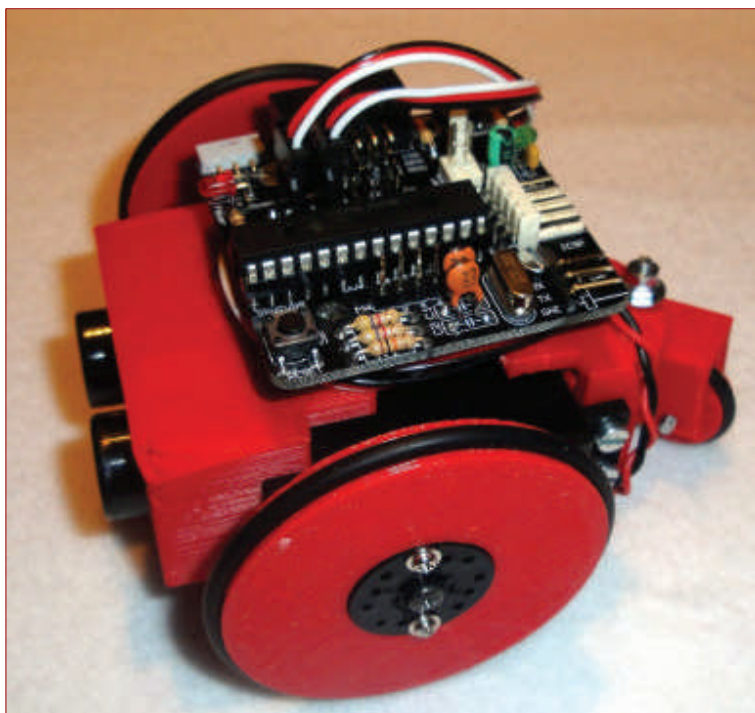


Photo by user leaRobotics wiki user Obijuan, GNU GDFL 1.2

Get the design: www.learobotics.com/wiki/index.php?title=Mini-Skybot

Thymio II Project

Date: 2011

Hardware License: CC BY SA v3.0

Software License: GNU LGPL

Thymio II is an improved version of an earlier robot — not surprisingly called Thymio. The robot was developed as a collaboration between Ecole Polytechnique Fédérale de Lausanne (EPFL) and the Ecole Cantonale d'Art de Lausanne. Goals of the project include minimal cost and wide distribution. Thymio II is a small differential drive robot with a variety of behaviors. It can be programmed using a visual programming language. A fully assembled Thymio II robot can be purchased for \$200 USD. Hardware design files including CAD files and schematics can be found on the Thymio II website. No kits are available at this time.

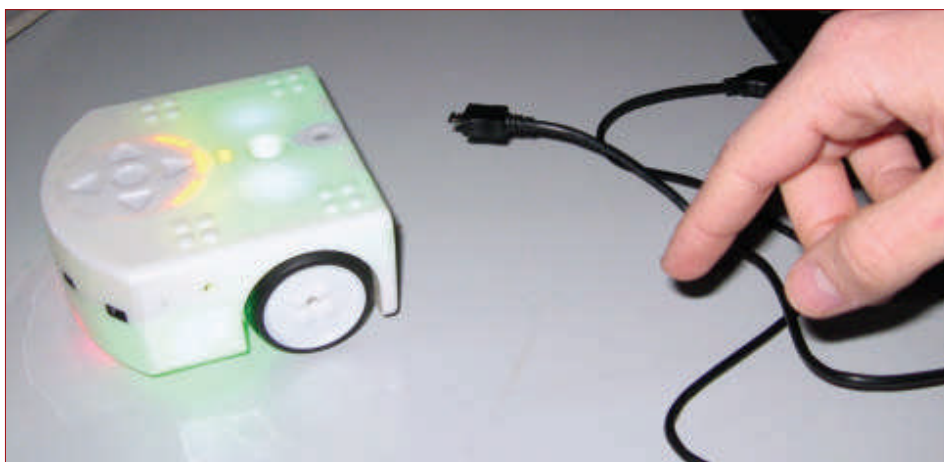


Photo by flickr user colin&claire, CC BY-SA 2.0

Get the design: <https://aseba.wikidot.com/en:thymio>
Buy a complete Thymio II: <https://techykids.myshopify.com/>

Other Free/Open Hardware Robots?

It's almost certain I missed some projects, and new projects will have started by the time this article is printed. You can find an updated version of this article online at the **FreelO.org** website that also includes video of each of the robots in action.