

# Willow Garage's PR2 robot learns to play pool (w/ Video)

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Image credit: IEEE.

(PhysOrg.com) -- A Willow Garage "Poolshark" team has programmed one of its robots - in under a week - to play pool, and to play it quite impressively.

Willow Garage is a Silicon Valley startup that likes to push the limits for its developers and their robots, while having fun at the same time. The pool-playing [robot](#) project was one of the company's "hackathons" or week-long endurance sessions. Early projects have taught the robot, PR2 ([Personal Robot 2](#)), to fold towels, open office doors, and plug itself into wall outlets to recharge its batteries.

The robot's [high resolution camera](#) locates and tracks the balls and helps the robot orient itself with respect to the table via diamonds marked on the rails. A bottom laser sensor enables it to identify the pool table legs. The robot executes its shots with the aid of FastFiz, an open-source pool physics program developed by Alon Altman, and a specially designed grip and bridge that enables the robot to position the cue.

The PR2 platform uses a powerful [open-source software](#) library known as ROS, which the team was able to use to quickly adapt FastFiz for their own use.

There are two more week-long hackathons to come in June. The first is to train the PR2 to push a cart, and the second is to go and fetch a drink from the refrigerator.

Willow Garage recently donated 11 of their PR2 robots to research institutions around the world, which they hope will encourage rapid growth in robotics research and development. Founder of Willow Garage, Scott Hassan, has a vision of bringing robots into our everyday lives, rather than seeing them confined to use in industry.

The pool-playing software has been made available for the use of other developers via the billiards stack on the [ROS.org](#) website .

**More information:** Willow Garage post:  
[www.willowgarage.com/blog/2010 ... 06/15/pr2-plays-pool](http://www.willowgarage.com/blog/2010-06-15/pr2-plays-pool)

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