University of Pennsylvania's PR2 robot learns to read (w/ video)

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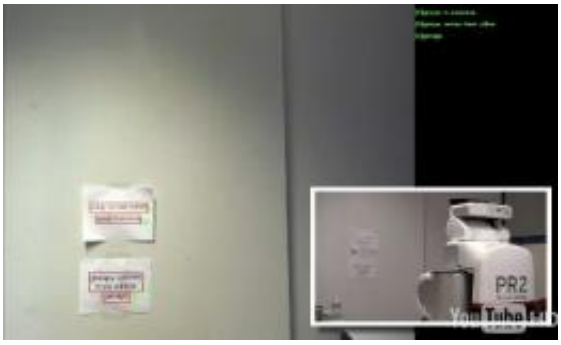

(PhysOrg.com) -- Researchers at the University of Pennsylvania's GRASP Lab have added new functionality to their Robot PR2. The Robot PR2, which has been given the nickname Graspy, has the ability to read for itself. Graspy can read anything from simple signs to full-length warnings. At this point it has yet to work with longer texts, but in time it may be able to read you a bedtime story.

Graspy is learning to read in the same way that a human toddler would learn. It begins by watching the words in order to recognize the shapes that the words take. Then it attaches a meaning to the shapes, associating the sound of the letter with its look. Then the process of sounding out the words begins. As new and less familiar words are brought into the mix, Graspy will try to match them to known words. Far from the simple

word recognition of the current generation of text to speech systems, this system has the capacity to learn.

One robot specific issue to deal with is the font. An average person can encounter hundreds of fonts during their lifetime as a reader. For a human the ability to distinguish the same letter in different fonts is innate, for all but the most ornate or obtuse fonts. A robot is a bit more literal, and requires more processing power and learning time to keep track of 200 different ways to write the letter L or Z.

If you happen to have an ROS platform robot you can download the software for the upgrade from the school for free.

More information: www.ros.org/wiki/literate_pr2