

Three Faces of At-Home AI

They're all robots, but each has a different personality defined by its purpose. A vacuum cleaner, an alarm clock, and an entertainment robot—each is artificially intelligent in its own world, and their world is your home.

Roomba is the least interactive. It's supposed to do its work and then put itself away. For a vacuum cleaner, it's pretty smart. It detects dirt, and when it's gotten itself stuck, it launches preprogrammed escape routines. It will talk to you, if you take the trouble to learn its 15 tones and musical messages. It plays a little tune when it's done, another when it has gone back to its charger, and patterns for when it's stuck, starting up, and so on. You can listen, or you don't have to. As part of the marketing, iRobot Corp. reminds everyone that "Roomba is made by roboticians." It's a robot even though it doesn't look like one.

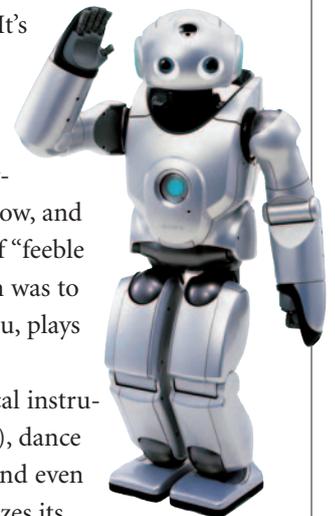


Clocky, on the other hand, insists that you pay attention to it. It's an alarm clock—an experiment from the MIT Media Laboratory. Clocky looks like an egg roll made of carpeting with a digital clock face and two wheels on the ends. When the alarm goes off and the owner hits the snooze button, Clocky rolls off the end table and roams around the floor looking for a place to hide. It rings again, but now the sleeper has to get out of bed to look for the clock. It's programmed, by the



way, to find new hiding places each day—the kind of thing that might inspire the iRobot people to design a special attachment to hunt down and sweep up odd pieces of robotics like Clocky.

QRIO (pronounced curio) is at another extreme. Sony's robot companion is the size of a large walking doll, and it's packed with spooky AI charm. The company says, "QRIO was designed to live with people in their homes. It's perfectly sized for a living space. It's approachable. It's cute. It's safe for children to touch." In fact, one of these robots has been "living" in a child-care center with two-year-olds for a number of months now, and the kids accept him as a kind of "feeble child." Sony says their intention was to create a partner that talks to you, plays with you, and encourages you.



QRIO can play simple musical instruments (hand bells, for instance), dance and sing with a vibrato voice, and even throw a ball. The robot recognizes its environment in three dimensions so it can walk and climb stairs. It has seven microphones in its head and knows tens of thousands of words. It can learn new words and recognizes voices. QRIO even tailors its conversation when talking with people it knows.

As the toys and tools in our homes get smarter, the issue becomes what effect this is going to have on us. We already let television baby-sit our kids—and that's not a very good idea—but what about future robotic systems that will clean and care for the house? I guess we'll have to become in the future what we seldom are today—discriminating consumers. ■