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Radio tags may give consumers more power

By Dan Gillmor
Mercury News Technology Columnist

TOKYO - Ken Sakamura pulls out what looks like a handheld digital organizer and holds it next to a small bottle of single-malt whiskey. Affixed to the bottle is a tiny radio-frequency identification (RFID) tag containing an identification number for the whiskey.

The handheld, which Sakamura calls a Ubiquitous Communicator, takes the identification data and queries a database running on a server computer nearby. The device sounds a metallic ``ding," and on the little screen comes up a slickly produced video showing scenes of the distillery where the alcohol was made and aged.

We're at the Ubiquitous Networking Laboratory, where the University of Tokyo professor is demonstrating what he and many others believe is an inevitable part of our future.

RFID tags, often promoted as an advance on today's bar codes, have raised major questions about customers' privacy and corporate muscle. But putting identification tags on or in everything doesn't have to be entirely one-sided.

It's said that every person has a story to tell. What happens when every object does, too?

People want more information about what they're buying, and what they own. Web discussion sites have already become a major tool for customers, before and after the purchase.

But the increasing power of handheld devices, combined with pervasive wireless data networks, add new elements. Once we can identify what we're looking at or holding, untethered to our personal computers, the information balance shifts further in our direction.

Sakamura and other researchers envision tiny radio tags in just about everything. He offers a scenario: Someone eyes a radish in a supermarket, and by scanning the vegetable with a handheld device -- perhaps one of tomorrow's smart phones -- the customer can learn whether the radish was grown organically and how long ago it was picked.

What Sakamura envisions is some distance in the future. It also assumes that producers of goods will voluntarily tell us more than they tell us today.

That would be helpful. But as Microsoft researcher Marc A. Smith is showing with a project he calls ``Aura," we can arm ourselves with relevant knowledge fairly well today.

Product information

Smith has equipped a handheld computer with a wireless Internet connection and a bar-code scanner that he uses to scan products in stores. His computer then connects to a server that collects data from Google, Amazon and other sources, and shows him the results on the handheld screen.

Actually, as with Sakamura's system, it's a two-step process. The device scans bar codes found on many common products.

``Depending on the type of bar code scanned, Aura asks one or another Internet resource to translate it into a description of the item," Smith says. ``Using those descriptions, Aura can then construct searches into yet other databases and search engines on the Web."

The results can be illuminating. For example, Smith shows a supermarket scan of a box of cereal. The top item in Google reveals that the maker had at one point recalled the product because a significant ingredient wasn't on the label.

That might be interesting information, to put it mildly, Smith observes. Some people are hyper-allergic to certain foods.

If every object can tell a story, ``One of the more profound stories is `If you eat me I will kill you,' " Smith says.

Sakamura offers a related demonstration. He scans medicines from a drugstore. One bottle's contents, the communicator informs him, are almost past their appropriate sell-by date. The second, he's told, could create a dangerous interaction if taken with another drug.

Shared knowledge

The possibilities, when objects can tell their own stories, go far beyond simply learning what's out on the Web or in other databases.

Smith is working a system in which we can annotate, privately and publicly, what we've bought or are considering purchasing. Sharing our knowledge is part of the game.

For all the potential of tagging everything, we have to recognize and avoid pitfalls.

RFID could become the handmaiden of surveillance by government, business, family and who knows what other parties. I don't know about you, but I don't want someone to scan my house and discover what I own -- only one scenario that should raise alarms.

We'll need a combination of law and technology to avoid a privacy meltdown from this and all the other snooping that grows worse by the year. With enough action before the technology is ubiquitous, we can minimize the damage.

But the potential for helping ourselves, and each other, is enormous. If information is clout, something important is happening.

Almost a century ago, Walter Lippmann, in his book ``Drift and Mastery," warned that civilization was becoming so complex that ``the purchaser can't pit himself against the producer, for he lacks knowledge and power to make the bargain a fair one." The knowledge equation is shifting back toward the purchaser, and the power is following.

Dan Gillmor's column appears each Sunday and Wednesday. Visit Dan's online column, eJournal (www.dangillmor.com/blog). E-mail dgillmor@mercurynews.com; phone (408) 920-5016; fax (408) 920-5917.