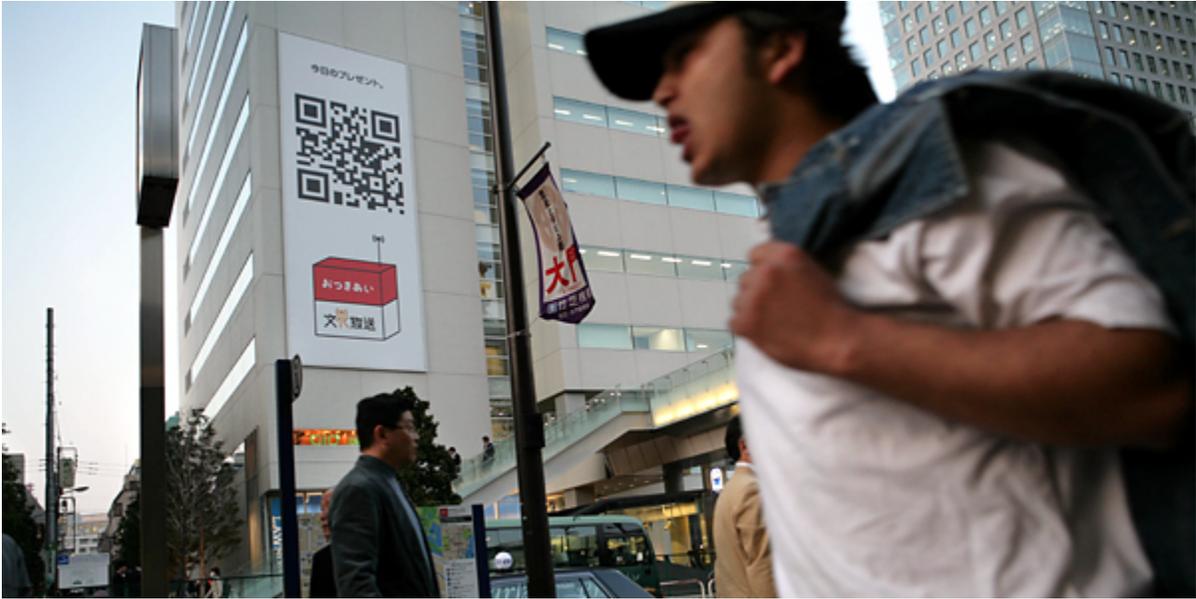


New Bar Codes Can Talk With Your Cellphone



Ko Sasaki for The New York Times

The pattern on a building in Tokyo is filled with information that can be read by a properly programmed cellphone with a camera. The technology can also be used for many other things, like buying airline tickets.

By LOUISE STORY
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It sounds like something straight out of a futuristic film: House hunters, driving past a for-sale sign, stop and point their cellphone at the sign. With a click, their cellphone screen displays the asking price, the number of bedrooms and baths and lots of other details about the house.

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[Demonstrating the Cellphone Code Reader](#) (April 1, 2007)



NYTCODE

Media experts say that cellphones, the Swiss Army knives of technology, are quickly heading in this direction. New technology, already in use in parts of Asia but still in development in the United States, allows the phones to connect everyday objects with the Internet.

In their new incarnation, cellphones become a sort of digital remote control, as one [CBS](#) executive put it. With a wave, the phone can read encoded information on everyday objects and translate that into videos, pictures or text files on its screen.

“The cellphone is the natural tool to combine the physical world with the digital world,” that executive, Cyriac Roeding, the head of mobile-phone applications for CBS, said the other day.

In Japan, [McDonald’s](#) customers can already point their cellphones at the wrapping on their hamburgers and get nutrition information on their screens. Users there can also point their phones at magazine ads to receive insurance quotes, and board airplanes using their phones rather than paper tickets. And film promoters can send their movie trailers from billboards.

Advertisers say they are interested in offering similar capabilities in the United States, but cellphones in the States do not come with the necessary software. For now, consumers have to download the technology themselves.

Still, big advertising and technology companies like [Hewlett-Packard](#) and the [Publicis Groupe](#), an advertising conglomerate, are pushing to popularize the technology here.

Until now, in most parts of the world, Web surfing has been separate from everyday activities like riding the train, watching television and driving. But the new technology may erode that distinction.

“You’ve picked up this product, and you don’t want to go back to your PC,” said Tim Kindberg, a senior research at the Bristol, England, lab of Hewlett-Packard. “Or you’re outside this building, and you want more information. We call it the ‘physical hyperlink.’”

In much the same way that Web publishing took off because of the ability to link to other people's sites, cellphone technologies linking everyday objects with the Web would reveal the digitally encoded attributes of tangible things on grocery shelves or newsstands.

“Everything in the physical world has information related to it somewhere electronically, including yourself and the desk you're sitting in,” said Chas Fritz, chief executive of [NeoMedia Technologies](#), a company developing these cellphone capacities.

The most promising way to link cellphones with physical objects is a new generation of bar codes: square-shaped mosaics of black and white boxes that can hold much more information than traditional bar codes. The cameras on cellphones scan the codes, and then the codes are translated into videos, music or text on the phone screens.

American universities and technology companies have been experimenting with the codes in their labs for several years. Now, as more cellphones come equipped with cameras and the ability to run small computer programs, the codes are beginning to appear on some state drivers' licenses and on some mailing labels, mostly for commercial use.

There are other technologies being developed for consumers to scan objects, including radio waves, computer chips or satellite location systems, but the bar code technology is the most developed — and simple and cheap enough even for individuals to publish them on printed materials or on Web sites.

But Hewlett-Packard and the Publicis Groupe are meeting for the second time with cellphone companies in May to advocate for the technology. Technology companies like [Motorola](#) and [Microsoft](#) have also been researching uses for the codes.

In Japan, the codes did not become mainstream until the largest cellphone companies started loading the code readers on all new phones a few years ago. Now, millions of people have the capability built into their phones, and businesses, in turn, are using them all over — on billboards, street signs, published materials and even food packaging.

In the late 1990s, several dozen start-up companies tried to create devices that would scan print content and ads and then reveal extra information to the reader. But consumers balked at using a special device only to interact with publications.

But now the time seems right for cellphones, ubiquitous and increasingly sold with cameras, to be pressed into service as the scanners.

“There are three things you tend to carry — your keys, your wallet and your phone,” said Rishad Tobaccowala, chief executive of Denuo, a unit of the Publicis Groupe that focuses on emerging and future technologies. “I can see something in advertising in one place, scan it with my phone and recall it later when I am shopping. Or, imagine, I can buy it using my phone.”

About a third of the 84 million households with cellphones in the United States have phones that have cameras on them, according to [Forrester Research](#), and that number is expected to grow as consumers replace their phones. But few people with those phones have downloaded the software to read the codes.

In Japan, some highway billboards have codes large enough for passing motorists to read them with their phones. Hospitals put them on prescriptions, allowing pharmacies to instantly scan the medical information rather than read it. Supermarkets stick them on meat and egg packaging to give expiration dates and even the names of the farmers who produced them.

One of the most popular uses in Japan has been paperless airline tickets. About 10 percent of the people who take domestic flights of All Nippon Airways now use the codes on their cellphones instead of printed tickets.

Yasuko Nishigai, 22, used her cellphone recently to buy a ticket from Tokyo to the Japanese tropical island of Okinawa. To board her flight, she waved the code on her cellphone screen over a scanner.

“I didn’t use a single piece of paper, just my phone,” she said.

The codes are “a natural extension of print,” said Nina Link, the president of the Magazine Publishers Association. “How many times have you engaged with a magazine and you’ve seen something and you’ve said, ‘Boy, I’d really like to remember to get that information.’ And you have to remember to write down the URL.”

The new technology would allow phones to read the codes from computer screens, too. Commuters rushing out the door could scan Web sites on their computer screens with their phones to take the content with them. MySpace users could put a code on their personal pages, so that their friends can quickly transfer the profiles to their phones.

The technology would also allow advertisers to do something they could never effectively do before: monitor the impact of their ads in old media like magazines and billboards by measuring how often their codes are clicked.

In the Philippines, the Daily Philippines newspaper has run ads with the codes. In Britain, News Group Newspapers, the division of the [News Corporation](#) that includes newspapers like The Sun, is testing the codes along with some of its sports articles. Readers can scan the code in the newspaper and then see videos relating to the article. Similarly, *Economie Matin*, a magazine in France, is testing the codes.

In the United States last fall, the Canadian alternative rock band Barenaked Ladies placed the codes on concert posters. The publisher Prentice Hall is including the codes in a new marketing textbook for undergraduates so that they can get updates on case studies using the codes.

Executives at [Verizon](#), [AT&T](#) and [Sprint](#) declined to say whether they were in discussions with the companies that make the code reading technology. Bar code companies said the carriers stood to benefit from the codes because they might encourage consumers to add Internet service plans to their accounts and spend more time on their phones.

The wireless companies have other options to help cellphones interact with the physical world. They could, for instance, adopt image recognition software, which would allow phones to recognize anything — a [Coca-Cola](#) can, for example — and deliver related messages. Or, text messaging, currently the most common way that advertisers interact with consumers on their phones, has many advertiser applications.

Advertisers have also experimented with Bluetooth wireless devices and radio frequency identification to beam messages from billboards to consumers' cellphones, but those technologies are more expensive than the codes.

Even if the wireless companies adopt the bar codes, they will have several formats to choose from. The most widely used ones have names like Semacode, QR Code and Qode.

Getting consumers to use new technologies like these codes takes a lot of marketing by the carriers, said David Oberholzer, associate director of content programming at Verizon Wireless. He said Verizon is just starting to profit from the work it did to create interest in text messaging.

“The consumer needs a reason to do it,” said Jim Levinger, chief executive of Nextcode, a bar code company. “They don’t just wake up and say, ‘Hey, let’s go scan some bar codes.’ ”

Martin Fackler contributed reporting from Tokyo.