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Billboards That Look Back



Hiroko Masuike for The New York Times

Rick Rivera, left, and Nathan Lichon are drawn to an electronic billboard in Manhattan.

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In advertising these days, the brass ring goes to those who can measure everything — how many people see a particular advertisement, when they see it, who they are. All of that is easy on the Internet, and getting easier in television and print.

Billboards are a different story. For the most part, they are still a relic of old-world media, and the best guesses about viewership numbers come from foot traffic counts or highway reports, neither of which guarantees that the people passing by were really looking at the billboard, or that they were the ones sought out.

Now, some entrepreneurs have introduced technology to solve that problem. They are equipping billboards with tiny cameras that gather details about

passers-by — their gender, approximate age and how long they looked at the billboard. These details are transmitted to a central database.

Behind the technology are small start-ups that say they are not storing actual images of the passers-by, so privacy should not be a concern. The cameras, they say, use software to determine that a person is standing in front of a billboard, then analyze facial features (like cheekbone height and the distance between the nose and the chin) to judge the person's gender and age. So far the companies are not using race as a parameter, but they say that they can and will soon.

The goal, these companies say, is to tailor a digital display to the person standing in front of it — to show one advertisement to a middle-aged white woman, for example, and a different one to a teenage Asian boy.

“Everything we do is completely anonymous,” said Paolo Prandoni, the founder and chief scientific officer of Quividi, a two-year-old company based in Paris that is gearing up billboards in the United States and abroad. Quividi and its competitors use small digital billboards, which tend to play short videos as advertisements, to reach certain audiences.

Over [Memorial Day](#) weekend, a Quividi camera was installed on a billboard on Eighth Avenue near Columbus Circle in Manhattan that was playing a trailer for “The Andromeda Strain,” a mini-series on the cable channel A&E.

“I didn't see that at all, to be honest,” said Sam Cocks, a 26-year-old lawyer, when the camera was pointed out to him by a reporter. “That's disturbing. I would say it's arguably an invasion of one's privacy.”

Organized privacy groups agree, though so far the practice of monitoring billboards is too new and minimal to have drawn much opposition. But the placement of surreptitious cameras in public places has been a flashpoint in London, where cameras are used to look for terrorists, as well as in Lower Manhattan, where there is a similar initiative.

Although surveillance cameras have become commonplace in banks, stores and office buildings, their presence takes on a different meaning when they are meant to sell products rather than fight crime. So while the billboard technology may

solve a problem for advertisers, it may also stumble over issues of public acceptance.

“I guess one would expect that if you go into a closed store, it’s very likely you’d be under surveillance, but out here on the street?” Mr. Cocks asked. At the least, he said, there should be a sign alerting people to the camera and its purpose.

Quividi’s technology has been used in Ikea stores in Europe and [McDonald’s](#) restaurants in Singapore, but it has just come to the United States. Another Quividi billboard is in a Philadelphia commuter station with an advertisement for the Philadelphia Soul, an indoor football team. Both Quividi-equipped boards were installed by Motomedia, a London-based company that converts retail and street space into advertisements.

“I think a big part of why it’s accepted is that people don’t know about it,” said Lee Tien, senior staff attorney for the Electronic Frontier Foundation, a civil liberties group.

“You could make them conspicuous,” he said of video cameras. “But nobody really wants to do that because the more people know about it, the more it may freak them out or they may attempt to avoid it.”

And the issue gets thornier: the companies that make these systems, like Quividi and TruMedia Technologies, say that with a slight technological addition, they could easily store pictures of people who look at their cameras.

The companies say they do not plan to do this, but Mr. Tien said he thought their intentions were beside the point. The companies are not currently storing video images, but they could if compelled by something like a court order, he said.

For now, “there’s nothing you could go back to and look at,” said George E. Murphy, the chief executive of TruMedia who was previously a marketing executive at DaimlerChrysler. “All it needs to do is look at the audience, process what it sees and convert that to digital fields that we upload to our servers.”

TruMedia’s technology is an offshoot of surveillance work for the Israeli government. The company, whose slogan is “Every Face Counts,” is testing the

cameras in about 30 locations nationwide. One TruMedia client is Adspace Networks, which runs a network of digital screens in shopping malls and is testing the system at malls in Chesterfield, Mo., Winston-Salem, N.C., and Monroeville, Pa. Adspace's screens show a mix of content, like the top retail deals at the mall that day, and advertisements for DVDs, movies or consumer products.

Within advertising circles, these camera systems are seen as a welcome answer to the longstanding problem of how to measure the effectiveness of billboards, and how to figure out what audience is seeing them. On television, Nielsen ratings help marketers determine where and when commercials should run, for example. As for signs on highways, marketers tend to use traffic figures from the Transportation Department; for pedestrian billboards, they might hire someone to stand nearby and count people as they walk by.

The Internet, though, where publishers and media agencies can track people's clicks for advertising purposes, has raised the bar on measurement. Now, it is prodding billboards into the 21st century.

"Digital has really changed the landscape in the sort of accuracy we can get in terms of who's looking at our creative," Guy Slattery, senior vice president for marketing for A&E, said of Internet advertising. With Quividi, Mr. Slattery said, he hoped to get similar information from what advertisers refer to as the out-of-home market.

"We're always interested in getting accurate data on the audience we're reaching," he said, "and for out-of-home, this promises to give a level of accuracy we're not used to seeing in this medium."

Industry groups are scrambling to provide their own improved ways of measuring out-of-home advertising. An outdoor advertising association, the Traffic Audit Bureau, and a digital billboard and sign association, the Out-of-Home Video Advertising Association, are both devising more specific measurement standards that they plan to release by the fall.

Even without cameras, digital billboards encounter criticism. In cities like Indianapolis and Pittsburgh, outdoor advertising companies face opposition from groups that call their signs unsightly, distracting to drivers and a waste of energy.

There is a dispute over whether digital billboards play a role in highway accidents, and a national study on the subject is expected to be completed this fall by a unit of the Transportation Research Board. The board is part of a private nonprofit institution, the [National Research Council](#).

Meanwhile, privacy concerns about cameras are growing. In Britain, which has an estimated 4.2 million closed-circuit television cameras — one for every 14 people — the matter has become a hot political issue, with some legislators proposing tight restrictions on the use and distribution of the footage.

Reactions to the A&E billboard in Manhattan were mixed. “I don’t want to be in the marketing,” said Antwann Thomas, 17, a high school junior, after being told about the camera. “I guess it’s kind of creepy. I wouldn’t feel safe looking at it.”

But other passers-by shrugged. “Someone down the street can watch you looking at it — why not a camera?” asked Nathan Lichon, 25, a Navy officer.

Walter Peters, 39, a truck driver for a dairy, said: “You could be recorded on the street, you could be recorded in a drugstore, whatever. It doesn’t matter to me. There’s cameras everywhere.”

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