INNOVATIONS

Voice Commerce Promises Exciting Possibilities

By KATE REYNOLDS

Imagine you're in your car, lost in a seamy part of town. It used to be you would have to get out to ask directions. Now you don't even have to roll down the window. Just dial any one of several speech-enabled interfaces, say where you are, and get instant directions.

It's called voice commerce (v-commerce), and it's hotter than habañero peppers. Stated simply, it's the union of several technologies that have come of age at a propitious moment: automated speech recognition (ASR), voice authentication, and a language called VoiceXML (Extensible Markup Language). Already a handful of voice-enabled companies are live. The question is this: Is v-commerce the next best thing or another fading star?

"Voice commerce is a melting pot of almost every meaningful technology in use today," said Mark Robinson, director of business development at Sunnyvale, Calif.-based BeVocal, Inc., a consumer voice portal. By dialing BeVocal's 800 number, customers can get driving directions, stock quotes, or traffic updates—and that's just the first-generation service. Experts envision something called a voice tone. Instead of a dial tone, you'll hear a prompt asking for the name of the person to call. You'll be able to hear restaurant reviews, make plane reservations, and transfer funds between accounts.

But is v-commerce safe?

"Your voiceprint is as unique as your fingerprint," said Matt Keowen, director of marketing at Menlo Park-based Nuance Communications, Inc., which offers natural language speech-recognition software. Several studies have indicated that voice authentication is superior to other technologies for securing telephone-based transactions. One common question is, can someone record your voice and use the recording to misauthenticate? The answer: Voiceprints are altered by the mechanics, or physics, of being recorded; the signature changes. "The system can distinguish between the imposter—the recorded signature—and your actual spoken words," said Keowen.

There are other methods to ensure voice authentication security. Software engineers can require users to answer random questions that cannot be anticipated and recorded in advance.

Yet nothing about voice authentication is easy. To identify someone, verification software must choose between false acceptance and false rejection as a default. If security is vital in an application, it's wiser to false-reject users than to accept them falsely. The choice, however, can make the system difficult to use. Users who are continually rejected will stop using the software.

Even if authentication is secure, other problems remain, including the issue of how to share information across platforms. Enter XML, the lingua franca of portability, and its baby brother, VoiceXML, a markup language that allows the creation of Interactive Voice Response (IVR). "XML provides a core mechanism for creating any tag—a tag mechanism for data, a tag mechanism for presentation. You can create a tag mechanism for a user profile or anything else," said Hitesh Seth, chief technical evangelist at SeraNova, Inc., an e-business consulting firm based in Edison, New Jersey.

Automating an employee directory is one case of a simple voice application. When a user calls and asks to speak to the boss, the application can connect to a cell phone number or a direct number. "The key to understanding whether to use voice, WAP [wireless application protocol], or other related standards is to understand the application," said Seth. "It is always important to have the right interface at the right time."

The advantages of voice commerce are many: more availability, better response time, better consistency—and it's less expensive because it can automate repetitive tasks that used to be performed by an agent. And the sight-impaired gain access to services that are available today only with a keyboard.

Some experts are less enthusiastic. Speech recognition software still produces many errors. In "The Web's Speech Impediments," a report by Forrester Research, analysts say that "although vendors cheerlead for a speech-enabled Web, the voice industry faces a legacy of disappointments, uncertain demand, and lackluster reliability."

Not so, said Keowen. "Home Shopping Network has half a million people that use voice authentication every day. It works. Customers wouldn't be using it if it didn't."

In five years, will we speak to our computers? A lot of money and talent is being bet on voice commerce.

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