Technology Focus with Paul Kowal

Speech Recognition Evolving into a Preferred Self-Service Option

Speech recognition is surpassing touchtone IVR systems as an automated self-serve option that customers like.

Customers often experience a tradeoff when trying to satisfy their needs using automation. What they gain in convenience is often lost through common annoyances associated with self-service technology. Yes, you can check your savings account balance 24 hours a day – but first you have to work your way through five rounds of touch-tone, multiple-choice questions. Today, it’s easy enough to order clothing online, but if there are delivery problems, emailing customer service can be frustrating – especially if you have to wait hours, or days, for a response.

For years, the idea of using speech recognition technology as a self-service option was critically viewed. A decade ago, the technology was considered clumsy. Callers were required to over-annunciate or speak loudly – and, in many cases, the technology simply didn’t work properly.

Today, speech recognition receives high marks for its high completion rate, accuracy and large vocabulary. According to Gartner analysts, “Speech recognition technology finally works. [It is] an emerging ‘self-serve’ technology that will enhance customer service while reducing personnel costs.”

Many retailers are so confident of its reliability, speech recognition technology now manages many inbound customer contact services – no small task in a culture where consumers expect next-day delivery and the ability to conduct business at any time of day or night.

Customer Service Benefits

Speech recognition software and hardware have the capability to change the way we think of customer service. Automated phone service is currently dominated by dual-tone multifrequency (DTMF) systems that rely on the often tedious use of touchtone keypads.

Speech recognition offers an easy-to-use, efficient, cost-effective alternative that is well-suited for customer service. For instance:

- **It’s easy to use.** A company using DTMF customer service would provide the following typical outline to customers who wish to change a personal identification number (PIN) using a touchtone phone:
  
  **Press 1, then 4, then wait for the dial-in welcome, then press 2 and the star key. Then press 1 and the star key. Enter personal code, followed by star key, then key in PIN number, followed by star key. Then press 6, followed by star key.**
  
  After all this, the caller can then begin the procedure to change his or her PIN number. In other words, customers would have to endure six rounds of button-pushing before even beginning to do what they want. Is it any wonder that a large percentage of customers who use these systems hang up before completing their task?

  DTMF systems are also notorious for their tedious routing. Tasks that generally take less than a minute with a live person often become frustrating and time-consuming ordeals as customers are subjected to several layers of multiple-choice options.

  Speech recognition technology simplifies telephone self-service by cutting through unnecessary options. Instead of choosing from a menu, which may not list their specific needs, customers simply state what they want.

  With the proper programming, a customer using speech recognition could have completed the previously mentioned procedure by simply stating, “I want to change my PIN number.” Furthermore, unlike DTMF systems, speech technology works with either touchtone or rotary phones.

- **It’s what customers want.** When it comes to service, customers want efficiency, speed, accuracy, convenience, a friendly interaction and a system that is easy to understand. With the exception of “friendly interaction,” speech recognition technology fulfills all these needs. (While speech recognition is certainly cordial and professional, we’re assuming that it’s impossible to achieve friendly interaction without a live call center agent.)

  Unlike DTMF, consumers also appreciate using speech recognition technology. In an annual survey tracking attitudes toward speech recognition technology conducted by Nuance Communications, 83 percent of consumers said they were at least somewhat satisfied with speech, and 74 percent claimed that using a speech recognition system is as good as dealing with a live agent or better. Finally, 60 percent of those surveyed said that they actually preferred being handled by speech technology to agents.

- **It’s cost-effective.** Companies prefer speech recognition software and hardware for the same reasons they appreciate DTMF – it is cost-effective, it enables their customers to use it at any time and it delivers a consistent message.

  Here is an example: A CSR costs an estimated $34,800 a year – which is a combination of salary, recruitment and management costs, as well as the expenses of the facilities and benefits. With a speech port, the installation, maintenance and overhead costs a total $3,333 a year. Broken down by call, customer service would cost $1.47 per call using a CSR vs. $.09 for a speech recognition port – 16 times less expensive. So using these figures, when implemented, a speech recognition program can cost 94 percent less than a human

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It simplifies the customer identification process. One of the biggest limitations of DTMF technology is weak security. In many cases, callers only need an account number and a few social security digits to gain full access to a customer’s account. In addition, because of its structure, DTMF systems must rely on PIN numbers, which can be easily forgotten or stolen.

Speech recognition, on the other hand, offers highly advanced security. Customers only have to “register” once using their voice. Their voice patterns are recorded on file for any future transactions. When the customer calls the system again, he or she only needs to say a few key words (usually a natural element of the call) to gain full access to the account. Each voice pattern is unique and can’t be duplicated or changed. Even if the customer has a sore throat or sounds hoarse, his or her voice pattern will still be recognized.

Speech recognition eliminates the need for tedious, extra steps in the identification process that are unreliable to begin with. In fact, speech recognition systems can be used as a two-tiered security system, prompting users to speak their account or name, then simultaneously checking the validity of both the information and the voice. If there are any discrepancies, the caller is routed to a live agent.

When it comes to customer service, customers want efficiency, speed, accuracy, convenience, a friendly interaction and a system that is easy to understand.

Beyond the Theory

Speech recognition is currently being used in companies today with phenomenal results. Fortune 1,000 companies, such as Sears, Hewlett-Packard and Federal Express, use the technology to offer customers technical help with computer problems, give stock quotes and provide 401K account information. In fact, at Federal Express the technology has been so useful in helping customers track packages, it is now being used to schedule package pick-ups and for ordering supplies.

United Airlines is one organization where speech recognition technology has truly left its mark. The airline, which handles approximately 1.5 million calls each year for flight and destination information, has become a true test of the technology’s capabilities.

After a four-month development period, United Airlines launched a speech recognition program at the end of 1997. The system was designed to provide immediate service, 24 hours a day, seven days a week, and to answer callers’ queries with direct dialogue and natural language.

Before implementing the speech technology, customers calling to check on the status of certain airline flights were asked to press 1 for flight information, then were required to choose between pressing 1 for arrivals or 2 for departures. After that, they were asked to key in the day of the flight they were checking. Then customers had to punch in the flight number. If they didn’t know the flight number, they then had to press a different key, and on and on.

Customers using the speech recognition system have had a far easier time. They simply say, “I want to check an arrival flight for today. I don’t have the flight number,” and already four rounds of Q&A are eliminated. The result? The system has a completion rate of 97 percent. It has been so efficient that more than 70 percent of customers voluntarily choose to deal with the speech recognition system when prompted.

Consider the Type of Application Being Used

Despite its attractive price tag, ease of use and popularity among consumers, speech recognition cannot replace every possible DTMF application. For instance, applications with very short startup times or very short lifespans are not good fits for speech recognition.

However, when the elements are right, organizations may come to view speech technology as the answer to their customer self-service needs. For companies willing to take the gamble, speech recognition promises to be a rare breed of technology— one that enhances customer service with virtually none of the trade-offs that have made DTMF technology a modern-day annoyance.

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