

Amtrak's Julie gets callers on board.

Intuitive self-service delivers results,
increases customer satisfaction.

Challenge

- Many of the 84,000 daily passengers call with questions about schedules, fares, train status and to make a reservation
- Extensive grammar requirements to support over 500 destinations in 46 states

Solution

- Speech-enabled self-service IVR applications
- Integration to computer telephony integration (CTI) and Web Services
- Re-architected the company's custom reports

Results

- Julie answers an average of 50,000 calls a day (up to 95,000 during peak travel times)
- Increased customer satisfaction by 53% over the old touch-tone system
- Julie completes more calls per day than one human agent handles per year

About the company

Amtrak is a blending of the words "America" and "track" which embodies who the company is and the customers they serve. They strive to provide a great customer experience, welcoming aboard over 31 million passengers per year with travel service to 500 destinations in 46 states on 21,000 miles of rails across America. They have achieved six consecutive years of growth both in number of passengers and revenue – a testament to their dedication to customer service. Many of their 84,000 daily passengers call with questions about schedules, fares, train status and to make a reservation.

“Julie is widely regarded by people in the speech technology business as one of the first and best standard-bearers for how speech recognition computers should interact with customers. Amtrak Julie has become a guiding light of sorts for the thousands of automated voices that companies use as first responders to customers’ inquiries all over the world.”

Emily Yellin, Author of “Your Call Is (not that) Important to Us”

Customer service goals and solutions

In 2000, Amtrak needed to enable their customers to quickly and easily access information over the phone in a more user-friendly way. Although the company provided an automated, self-service system using touch tone, roughly 70 percent of customers would exit that system to speak with an operator.¹ Their goal was to create a new system customers would want to use: one that would be easy and intuitive to use through the use of speech recognition. With speech, Amtrak could provide both a great self-service experience and reduce calls to agents, enabling them to spend more time assisting callers who have more complex questions.

Phase 1: Launching Speech-Enabled Self-Service

Amtrak engaged with Nuance Communications to help develop a customer-preferred, speech-enabled system. Amtrak decided to name their automated agent to enable positive conversations for callers and develop a recognized brand when customers contacted them. “We intentionally wanted to do something that was a little more lively and engaged than the typical voice response

system, to make it a little less mechanical,” said Matt Hardison, Amtrak’s chief of sales distribution and customer service.²

In 2001, Amtrak launched “Julie”, an automated customer service representative who answers every call that comes in to their 800 number lines. Julie cheerfully speaks to Amtrak customers and recognizes callers’ spoken requests to provide assistance. Nuance’s extensive experience in developing IVR personas helped in building prompts with human qualities that create trust and confidence between Julie and the callers. The new intuitive, conversational dialog flow empowers callers to get the information they need, without having to wait to speak with an agent.

When first launched in 2001, Julie could help callers look up train schedules, including departure and arrival times. Over the next year, the two other main menu capabilities, making reservations and getting a train status update, were also speech-enabled. By June of 2003, over 10 million calls had been answered by Julie. The automated speech system had increased customers satisfaction by

Customers Embracing Self-Service

Even in their other customer-facing interactions, Amtrak recognized that self-service is an important aspect of a positive customer experience. Matt Hardison, Amtrak's chief of sales distribution and customer services, states that 75 percent of the train travelers in New York City who buy their tickets at the station use the self-service kiosks even when live agents are available at nearby ticket counters.³ It's about speed, convenience, and choice – and customers are choosing it.

53% over the touch-tone system.⁴ The statistics showed that customers were choosing self-service.

Julie's success was due in part to Amtrak's focus on delivering a great customer experience, which included the ability to reach an agent at any time. "A key aspect of our user interface is to make it easy for a caller to bypass the VRU if they don't want to use it or exit the VRU if it's not helpful to them," says Vince Zagorski, Amtrak's Telephony Director. "We tell people at the main menu and many other places in the automated interaction that you can say 'agent' or press 0."

Julie became popular with callers and even garnered national acclaim through blogs, YouTube videos, and as an answer on the TV quiz game show *Who Wants to Be a Millionaire?* Her persona was even featured on *Saturday Night Live*. "I've been surprised about how attached people have gotten to Amtrak Julie," says the woman who provides the voice of Julie, Julie Stinneford. "I find it funny. Because they're not really talking to me. They're talking to a computer."⁵

Phase 2: Extending Self-Service Capabilities

With Julie having proved her value in providing customer service, Amtrak increased her capabilities during 2003 in order to assist more callers and provide additional helpful information.

First, the company expanded the self-service functionality, adding Amtrak's entire rail system including Acela Express trains and long-distance train service with connections. They also let Julie service callers who were entitled to Amtrak's special, discounted fares, such as senior citizens, students and AAA members. As an added convenience, travelers were given the ability to pay for their ticket over the phone using their credit card. Finally, when callers were making reservations, important information was provided, such as seating availability, carry-on baggage policy and where to pick up tickets.

These additional services ensured that Julie could help more callers complete their transaction and get the

Meet Julie...

Julie, Amtrak's automated agent, is known for her natural and conversational style. Here's a sample call, in which a caller wants to look up train schedules from New York City to Boston.

Julie: "Hi, I'm Julie, Amtrak's Automated Agent. To check if a particular train is running on time, say 'train status.' Or to get schedule and price information, say 'schedules'. To make ..." <Caller interrupts Julie>

Caller: "Schedules"

Julie: "Great, let's look up schedules and fares. And if you find something you like, we can make a reservation, too. Let's get started. What city are you departing from?"

Caller: "New York"

Julie: "And what's the arrival city?"

Caller: "Boston"

Julie: "I think you said Boston, Massachusetts. Is that correct?"

Caller: "Yes"

Julie: "Got it. There are two stations in Boston, Massachusetts. Which one is it? You can choose from Boston Back Bay Station or Boston South Station."

Caller: "South Station"

Julie: "If you know the date you'd like to depart, go ahead and say it now. For example, 'Friday' or 'October 9'. You can also say 'I'm not sure yet'."

Caller: "I'm not sure."

Julie: "That's fine. Let's use Sept. 26th for now, and we can change it later. Hold on, I'll look up trains..."

information they needed for a hassle-free trip. Customers took advantage of these new self-service capabilities; In the month the new services were released, Amtrak handled more than \$2 million in credit-card transactions for reservations.⁶

Phase 3 – Upgrades to Expand Capacity

Over the next few years, more and more callers were using Amtrak's self-service system. Consistent reliability was important to maintain caller confidence, and Amtrak also wanted the ability to expand its capacity for the future. In 2006, they once again selected Nuance's

Professional Services team to help them deploy upgrades to ensure reliability and scalability.

With the upgrade to the hardware and software environment, Amtrak would realize better reliability, easier system maintenance and an increase in the company's call handling capability rate.

Amtrak customers also received benefits during this phase of upgrades. The number of North American cities that Julie could recognize was increased from 1,000 to 45,000. Previously, callers needed to know the exact name of the city in which a station was located, which was sometimes a less-known town near a major, familiar city. Now, Julie could recognize more requests and then help callers identify the nearest station. This more "understanding" Julie reduced caller frustration and also reduced the number of calls having to be transferred to agents.

Phase 4 – Building a Service Roadmap for the Future

During 2008, various market-environment changes began to impact Amtrak's customer service operations. First, gas prices were increasing rapidly. This was causing a significant shift in the company's customer base, adding more complicated research-oriented callers. In addition, more customers were using the Amtrak website to make reservations. As a result, the call center was receiving more requests to make changes to reservations, which required an agent's assistance. Amtrak needed a roadmap to address these issues so they could ensure all customers continued to have a positive customer service experience. Amtrak also needed to boost agent efficiency by improving partial automation capabilities, since many callers were still saying "Agent" at the main menu before hearing the menu options.

Nuance Business Consulting was engaged to perform an analysis of Amtrak's objectives and create a three-year

Self-Service Environment Upgrade At-a-Glance

In 2007, Amtrak upgraded its existing IVR environment to the Intervoice MTC 3.0 VoiceXML Browser System. They also upgraded the speech recognition software from Nuance's SpeechWorks v6.5 to OSR 3.0, OSDM 2.0, and RealSpeak 4.0 to take advantage of advanced speech capabilities. Nuance Professional Services rewrote the applications in VXML (Voice Extensible Markup Language), a standard format that helps ensure future flexibility and investment protection. Nuance also integrated the system with Aspect CTI, completely re-wrote the back-end integration to use the travel company's Web Services and re-architected the company's custom reports.

Amtrak's Optimization Goals

Improve caller experience: Callers should be able to easily access the information they need through self-service.

Increase self-service usage: Fully-handled call statistics must show a positive trend.

Boost agent efficiency: Automate more functions, enable more partial automation, and give agents the intelligence needed to bypass steps in the booking process.

Take advantage of new technology: State-of-the-art speech recognition to handle more complex conversations and allow for more flexible user interface design strategies.

Gain more intelligence: With better reporting and analytics, the company will have more data to understand the drivers behind trouble spots and trends.

IVR Enhancement Roadmap. Amtrak knew that through a positive self-service caller experience, more customers would complete the call through automation and use it again and again. Through this they could achieve a greater return on their investment.

To develop the Roadmap, the Nuance Business Consulting team first collaborated with the Nuance Professional Services teams to review detailed performance data, including live monitoring of customer calls, application reports and performance metrics. They then worked hand-in-hand with Nuance's User Interface (UI) experts to evaluate the automated interaction dialogs. Conducting interviews with key Amtrak stakeholders

Julie Today

Julie answers about 20 million calls a year, an average of about 50,000 calls a day. Call volume can vary significantly, though, with as many as 95,000 calls a day coming in during peak travel times. She completely handles an average of 25% of all calls placed to the 800 number, which is approximately 5 million calls a year. Of those who attempt to use the self-service system (for example, those that don't hang up or ask immediately to be transferred to an agent), Julie fully handles, on average, an impressive 54% of calls. In fact, Julie completes more calls in a day than one human Amtrak customer service agent handles in a year.

Julie can be reached at 800-USA RAIL.

was also an important step in the information-gathering process.

Using this data, the Consulting team evaluated the IVR automation opportunities, compared against industry benchmarks and created custom financial models for full automation and partial automation gains. The resulting three-phase Roadmap outlines a prioritized list of enhancements with associated benefits and level of difficulty. This Roadmap is currently being rolled out, which includes the ability to retrieve a passenger's reservation made on Amtrak's website.

¹ Eisenzopf, Jonathon. "Updating Your System – Is VoiceXML right for your customer service strategy?" Dr. Dobb's Digest. Retrieved September 1, 2009, from <http://www.ddj.com/architect/184413221>

² Emily Yellin. *Your Call Is (not that) Important to Us*. New York: Free Press, 2009, 79

³ Emily Yellin. *Your Call Is (not that) Important to Us*. 94

⁴ "Amtrak Passengers Use SpeechWorks Solution to Purchase Tickets from America's Favorite Speech..." Business Wire. Retrieved September 28, 2009 from <http://www.allbusiness.com/company-activities-management/operations-customer/5729097-1.html>

⁵ Emily Yellin. *Your Call Is (not that) Important to Us*. 80

⁶ "Amtrak Passengers Use SpeechWorks Solution to Purchase Tickets from America's Favorite Speech..." Business Wire. Retrieved September 28, 2009 from <http://www.allbusiness.com/company-activities-management/operations-customer/5729097-1.html>

About Nuance Communications, Inc.

Nuance Communications is reinventing the relationship between people and technology. Through its voice and language offerings, the company is creating a more human conversation with the many systems, devices, electronics, apps and services around us. Every day, millions of people and thousands of businesses experience Nuance through intelligent systems that can listen, understand, learn and adapt to your life and your work. For more information, please visit nuance.com.
