

VUI Visions

Applying best practices to VUI design using a vertical market approach

Mike Moore and Jim Milroy, West Interactive Corporation

*In this guest column, we ask designers skilled in creating Voice User Interface to highlight a particular aspect of VUI design inspired by actual deployments. In this issue, Mike Moore, Business Design Analyst, **West Interactive Corporation**, and Jim Milroy, Creative Services Manager, West Interactive Corporation, discuss how using vertical market knowledge can improve a VUI design. Mike is a senior member of the West Professional Services team. His responsibilities include speech application analytics, VUI design, usability analysis and testing, and designing integrated applications that incorporate speech/touch-tone and live operator support. In addition to his expertise in call automation, Mike also has 8 years of call center experience and has been involved in virtually every aspect of call center management. As manager of professional services, Jim is responsible for dialog design, persona development, voice recordings, usability testing, and focus groups. Before joining West, he was a professional radio announcer, copywriter, and producer. Jim holds a BS in Mass Communications and Political Science from the University of South Dakota.*

Speech recognition technology continues to improve every day. As the voice revolution moves forward, Voice User Interface (VUI) design and development will focus less on the technological restraints of speech and shift to usability and customer satisfaction. In fact, this is already happening today. The purpose of this article is to review some of the common best practices for VUI design and demonstrate how to apply them using a vertical market approach.

Common Best Practices

Help callers achieve their objectives quickly and easily

Most automated systems offer a variety of options for callers to select. Unfortunately, many systems include virtually all the available options in one long menu and cause caller confusion in the process. The reality is that two or three call types most likely comprise the bulk of the call volume.

What is the best way to handle this challenge? Here are a couple of recommendations: First, apply the 80/20 rule when designing initial prompts and menus—i.e., cover the primary subjects that a majority of callers will be inquiring about. An easy way to do this, (and simplify the VUI) is to break up the menu structures. Start by building a main menu that lists out the top two or three most frequently selected options plus an option to hear more choices. From there, drop the remaining callers into submenus. The benefit of this approach is that instead of having every caller listen to a lengthy menu, most callers only hear a couple of items before they find the option they want. This is especially helpful for infrequent callers who do not know they can barge out. An even better way to make the system easy for callers is to place a statistical-model-based (SLM) natural-language speech prompt at the VUI main menu. Natural language allows callers to speak freely in a natural sentence to the automated system. A natural language main menu, integrated with a set of point applications, collapses the menu structure and is more like human-to-human interaction.

Avoid the use of jargon and industry terminology

Usability must be the overriding goal when designing a VUI. Many vertical markets like healthcare and others have their own set of vocabulary or jargon that is specific and known to most in the vertical. However, it is easy to forget that many callers are probably not familiar with the common jargon or terminology of the company they are calling. For example, healthcare patients, unlike providers, *do not know* the industry jargon. Do not force them to learn it by either making patients use the provider application or by using the same industry terms in the patient and provider

application. For example, some health insurance payer applications allow patients to call in to check and see if their hospital bill was paid. Payers typically refer to this as “claims status” in their IVRs, yet who’s to say that patients like you and I would ever know exactly what “claims status” means—all we know is that we received a bill from the hospital in the mail! Usability studies conducted by our human factors team at West Interactive underscore this point—that patients who want to “check on a bill” are often unsure what the term “claim status” means. Few relate the claim status IVR option to the bill or statement they recently received. This is but one example of many that illustrate how using jargon can be confusing for callers and cause dissatisfaction.

Design prompts that are brief, clear and easy to understand

Avoid adding unnecessary instructions for data that most callers already know how to provide. For example, in the financial services market, if a person is calling to apply for a credit card and the application asks for their date of birth, most callers will intuitively know how to respond. Yet many automated systems think that they must tell callers *how to say their date of birth* using prompts like this: “Please tell me your date of birth. For example, January 2, 1965”. Adding instructions makes the prompt longer than it needs to be and can actually confuse callers because they start thinking about *how to say their date of birth* instead of just saying it naturally.

Understanding Vertical Markets

A solid awareness of the vertical markets can help you to design and build caller-centric voice self-service applications. In addition to being well-versed in the core best practices of VUI design, such as those cited earlier in this article, and in many other industry best practices, dialog designers should also pay close attention to the specific needs of individual vertical markets. Three verticals rapidly adopting speech automation are the media and communication, health insurance, and financial services verticals. The section below includes examples of some key vertical market VUI best practices. The list is not exhaustive, but illustrates the critical role that vertical market knowledge plays in designing a good voice user interface.

Media and Communication Vertical Best Practices

- **Play a proactive outage message.** If a customer is calling from an area where there is currently an outage, there is a high likelihood the caller is experiencing an issue related to the outage. There is a simple way to handle this; provide the caller with the necessary information immediately. When the outage is resolved, place an automated callback to notify the customer.
- **Notify callers of scheduled service appointments.** Use automated callbacks to remind customers of scheduled appointments. Allow callers to reschedule or cancel appointments in the VUI.
- **Allow automated pay-per-view ordering.** A large number of calls in this vertical are from customers wishing to order pay-per-view movies. It is also a good idea to play a message at the start of the call to notify customers of the most popular special events that will drive high call volume. This will help minimize average handle time during call spikes related to the special event by getting the callers who are ordering the event in and out of the system very quickly.

Health Insurance Vertical Best Practices

- **Separate call flows for patients and providers.** As discussed earlier in this article, healthcare patients and providers have different user profiles and characteristics. Patients are infrequent callers who are usually unfamiliar with the jargon of the vertical and they require very helpful dialog. Providers tend to be frequent users of the automated system. They are

familiar with the jargon and seek a fast, efficient call flow. For this reason, health payers should have separate call flows for patients and providers.

- **Automatically play member eligibility information to providers.** When calling to check benefits for a patient, providers also need to know if the patient is covered and for what amount. Automatically offering eligibility information to providers is easier for providers to use than breaking eligibility and benefits information into separate call paths.
- **Fax a temporary member ID card.** It is helpful for providers to receive a temporary member ID card when they have a patient who either forgot or does not have their member ID card.
- **Find a doctor or hospital.** Offer functionality to patients that will help them locate a provider in their area.

Financial Services Vertical Best Practices

- **Design prompts that are quick and to-the-point.** This rule applies in every vertical market, including financial services. Today, many credit card companies offer prospective cardholders the ability to call into an automated system to apply for a credit card. Credit card applications require callers to provide a large amount of information, and calls can take a long time to complete. Dialog must be clear so callers understand exactly what they need to provide and also needs to be efficient to keep the call as short as possible.
- **Avoid lengthy sales messages at the beginning of the call.** The fact that a customer called shows that the marketing worked. They do not need to hear the sales pitch again.
- **Set the context and tell caller why they must provide sensitive information.** For example, “The information gathered on this call will be used for credit processing only and will not be used for any other purposes.” In addition, some callers may be calling from work or some other public place so *offer touch-tone as an option for confidential data entry prompts.*
- **Capture the most important information first.** The primary goal of the caller is to secure a credit card. Prompt the caller for the information that is required for them to complete their objective first. Do not offer up-sell opportunities or balance transfer functionality until after the caller’s initial desired task has been completed.

Concluding Remarks on Dialog Design and Jargon

As discussed in this article, formal dialog and the use of jargon may be acceptable if an automated system is communicating with someone who is a member of a defined, known set of callers where there is a set of broadly understood industry terms, e.g., healthcare providers. Contrarily, a casual dialog style, using common, well-known terms is recommended for a system that deals with a relatively open, broad-based group of callers who are not likely to be familiar with industry-specific terms, e.g., healthcare patients and plan members. In our speech industry’s effort to continually build outstanding voice user interfaces, we should tailor our dialogs to the specific caller group that will be using the application and incorporate vertical market knowledge and best practices in our design of call flows, dialogs, and applications.