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Does your IVR need Natural Language Understanding?

Having your customer service line answered in the most life-like way possible – “Thank you for calling. How can I help you today?” -- should be a no brainer. But is using a Natural Language Understanding (NLU) solution the way to get there? NLU is certainly an attractive option, but it may not be the *best* option for you. So before you embark on a costly NLU journey, let’s take a moment to think through your options.

NLU Basics

In order to appreciate how intensive (and expensive) creating an NLU grammar can be, let’s go over all the steps involved.

NLU uses machine learning (aka Artificial Intelligence) to train the speech recognizer to understand that many different phrases can mean the same thing. And how does this happen?

Data Collection: A data collection module is created that asks callers the reason for their call. These tens of thousands of “utterances” are transcribed by human beings.

Semantic Tagging: Once the utterances are transcribed, human beings need to decide which utterances mean the same thing. These categories are called semantic tags. This work should be done by people who understand the automated tasks in your IVR, your products, any jargon particular to your business vertical as well as your business rules. This is always an iterative process that includes many reviews with your Business teams.

Application Tagging: Next step is to take these different semantic tags and create application tags for the IVR to act upon.

Disambiguation states: No matter how carefully you design your semantic and application tags, sometimes callers don’t give you enough information to act upon. For these instances, you need to craft follow-up (disambiguation) questions to get the right amount of detail for IVR actions. For example, some callers will say checking account balance, others will say savings account balance. If they have both accounts and only say balance, then you need to follow that up with “For checking or savings?”

So at its core, this artificial intelligence rests on inherently imperfect, very human and time consuming tasks. Given that, here are questions that must be answered to help you decide if an NLU solution makes sense for you.

NLU Decision Checklist

1) How complex is your current IVR?

Natural Language Understanding technology was initially introduced to help streamline the caller experience by replacing a series of long menus with a single question. This is still the most compelling reason to implement an NLU and the one that gives the greatest bang for the buck. It saves time in the IVR; is a customer delighter; and, if you also can pass the caller intent to an agent, it can even save agent handle time.

The companies who have had the most success with NLUs are those who have many automated tasks and account types with layer upon layer of nested menus. Unfortunately, NLUs have been sold to many companies who do not have complex IVRs. These companies have paid for expensive technology that doesn't provide their callers any added benefit. Needless to say, they are less delighted with the effectiveness of their NLUs and its impact on their bottom line. If your self-service tasks fit comfortably within a single menu or two, then NLU might not be worth the effort or expense.

2) How numerous are your products?

Since NLUs can handle hundreds of semantic tags, companies with a large number of products often think that an NLU collection will work best for them. Unfortunately, this is not always the case. If the self-service tasks are largely the same across your products, then adding an NLU might actually be counterproductive. There's a simple fact that isn't always shared: NLUs are not as good at recognition as standard grammars. So if you are trying to cover a large number of products, the best speech science solution would be to use a product collection grammar. And then there's the issue of adding products, which is more time-consuming (and expensive) with an NLU collection than standard menus.

3) How important is the latest technology to your brand?

Customer Service publications and conferences are full of mentions of artificial intelligence, machine learning. Amazon's Echo. Apple's Siri. Google Assistant. Microsoft's Cortana. Soon, they claim, we'll all be talking to our refrigerators or even our toasters (shades of Battlestar Gallactica anyone?). NLUs are still considered the bright and shiniest toy in the IVR world and there is a lot of pressure to keep up with the big boys. Most callers, however, do not expect the whole world to be Siri- or Echo-ized. In fact, even though NLUs have the ability to react to long and complicated sentences, the majority of callers tend to speak in short and simple utterances and end up using NLUs just like they would a standard menu. So if a key component of your ROI is greatly shortening your IVR time by shortening the caller paths, you might not hit your targets. This is one reason companies who were early NLU adopters are now deciding to remove the NLUs and return to standard menus.

4) Do you have long-term budget to maintain an NLU?

A more complex and expensive solution means more complex and expensive maintenance.

All speech applications need to be tuned in order to maximize performance but your tuning budget will need to be doubled to support an NLU. And you really should plan on yearly updates to keep the NLU current with how your callers are speaking.

Conclusion

Making a decision to deploy a Natural Language Understanding design is an important one. Getting the most out of an NLU involves understanding this technology's strengths and weaknesses. It is critically important to see past the bells and whistles in order to determine whether or not an NLU solution is right for your unique IVR. Be sure to evaluate other ways to streamline the caller experience, such as leveraging the customer's use of other channels or call history to provide proactive prompting.

Still think an NLU is right for you? Successful deployments require analysis of NLU placement (the top of the call isn't always the best choice), careful semantic tagging and informed designs to really capitalize on this power of the technology and get the full benefit from your investment. Speech-Soft Solutions has a strong track record of NLU deployments and we love to do an NLU the *right* way, using our VUI designers – who understand your caller profiles, your IVR tasks and your business rules – to create the semantic tag building blocks which are the key to a successful NLU.

Speech-Soft Solutions' teams of elite professionals have been helping companies design and deploy cost effective, customer serving IVR speech applications in broad vertical markets since 2003. We work closely with your team to tailor applications to your customer vision and internal business requirements. We leverage our experience and best practices to quickly design and deploy speech applications that improve customer experience and reduce operating cost. From customer interaction and Omni-channel strategies to contact center integration and voice biometrics, Speech-Soft is a great partner to work with on your new or evolving customer care interactions.

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Speech-Soft Solutions, LLC is a global systems integrator, providing multi-channel strategies for Contact Center, speech-enabled Interactive Voice Response (IVR), Computer Telephony Integration (CTI) solutions, and professional services using state-of-the-art technologies and industry-leading business partners, to meet the needs of virtually any industry.

Our industry expertise in Cisco, eGain, Avaya, Nuance, VXML, CCXML, IP/VOIP and CTI technologies will help you keep your customer connected, while your business can focus on growth and increase its competitive advantage.



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