IVR / VoiceXML Featured Article

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Q&A With Vestec

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Speech recognition, long a hot technology for its ability to deliver a superior automated customer interaction experience that cuts costs, is becoming an even hotter solution. The applications are improving, becoming more customer-friendly and more affordable with shorter implementation times. At the same time more customers are become familiar with speech rec thanks to their use on customer service front ends and in cars, propelled also by new hands-free driving laws that make older-generation DTMF IVR impractical.

TMCnet.com contacted Vestec, which provides a robust, low-cost, flexible, standards-based speech recognition engine for a wide variety of SOHO, SMB, SME, and enterprise speech deployments to get their insights. Here is the exchange with Fakhri Karray, Vestec's CEO and co-founder.

TMCnet: What trends are you seeing in applying speech rec to contact centers? Are you seeing increasing, the same, or decreasing interest and why?

Fakhri Karray: We think of the contact center market as two distinct groups: (a) Large Enterprise, and (b) SMB/SME. The former typically constitutes Fortune 500 companies. We are seeing the following trends regarding speech recognition in Large Enterprise contact centers:

--Dissatisfaction with routing performance and maintenance costs of 'Say Anything'/'Speak Freely' call-routing applications
--A preference for directed-dialog (as opposed to 'Say Anything') call-routing applications when replacing DTMF menus
--Introduction of directed-dialog self-service speech applications for common tasks typically handled by live agents
--An aversion to high costs of third-party speech application development; strong desire to bring app development in-house
--Postponement of major speech upgrade projects in light of the recessionary environment

We are seeing the following trends regarding speech recognition in SMB/SME contact centers:

--Interest in deployment of speech-based name-dialing corporate directories to replace live agents
--Adoption of standardized, configurable, low-cost, directed-dialog speech applications for call-routing and/or self-service tasks
--Preference for low-cost, monthly-billed outsourced speech hosting infrastructure to reduce speech ownership costs

--Request for hosted speech infrastructure that can be configured online at any time for required capacity
--Interest in hosted turnkey speech applications for common tasks that can be customized online (when deploying speech oneself)
--Strong aversion to paying advertised list prices of speech recognition engines

TMCnet: What purposes are you seeing speech rec deployed?

FK: The primary motivation for deployment of speech recognition in contact centers is to reduce human agent related costs, preferably by replacing them, and if that is not possible, by reducing total work load to cut the number of agents. This basic truth has taken on a special impetus over the past 18 months on account of the severe downturn from the financial crisis.

We are time and again surprised when even companies that have deployed speech recognition ask us if the technology has improved to a point where they can simulate human-like conversational interaction with a speech system to completely replace the customer services agent. Firms are typically thinking of StarTrek and we have to point out that that kind of interaction is still far into the future. What is currently possible is to automate common requests handled by human agents by creating forms that can be filled in speech via caller responses to system questions. These self-service speech applications in turn free the human agent to handle less frequent and more complex customer requests, thereby reducing call center workforce and generating savings.

Following introduction of self-service applications to reduce contact center workforce, companies are interested in increasing efficiency and customer satisfaction by reducing the number of zero-outs and misroutes. Speech recognition helps accomplish these goals by increasing the number of menu options as well as making it easier to access them compared to traditional DTMF systems.

TMCnet: What new developments are you seeing in speech rec technology?

FK: We are seeing three major trends in speech recognition technology: (1) improvement in speech recognition accuracy, (2) increase in ease-of-use of speech recognition software and (3) decrease in cost of speech recognition engines.

Artificial intelligence-based algorithms are significantly improving recognition quality for both native and non-native speakers, which in turn is increasing customer satisfaction with speech applications. Advanced noise-cancellation techniques are also helping improve recognition quality in noisy mobile and VoIP environments. Secondly, adoption of W3C's (News - Alert) standards is reducing the complexity of speech grammar writing while availability of sophisticated tuning software is making it easier to prepare applications for commercial deployment. Finally, there has been a dramatic decrease in prices of speech recognition software. High quality, standards-based speech recognition engines can now be licensed at less than $100 per channel, a figure that makes speech recognition truly affordable for the first time to the vast majority of SMB and SME markets.

TMCnet: Pricing both for the software and total cost of deployment has been a key issue with speech rec deployment. What trends are you seeing there? Are the costs and install time coming down and if so by how much (percentage/months) and if so what is driving them?

FK: Pricing for speech recognition software has come down dramatically over the past twelve months to make speech applications truly affordable to SMB and SME firms for the first time ever.

Consider Vestec. It recently launched a standards-based speech recognition engine for Asterisk (News - Alert) (and other Soft-PBX platforms) that delivers among the highest recognition accuracy in the industry and costs only $99 per channel. With a vocabulary size of 500 distinct keywords per recognition, the engine is capable of handling the vast majority of potential speech applications.

To encourage people to try speech recognition - as well as further reduce the cost of speech recognition for SOHO and SMB deployments that do not require more than 1-2 speech channels - Vestec has introduced a $25 starter kit, a specially priced one channel license of its $99 standard engine. There is no restriction on the number of starter kit licenses that can be purchased by anyone as long as each starter kit is deployed on a separate machine.

Speech recognition software is also becoming easier to install and use. Again, with Vestec speech engine - unlike conventional speech recognition engines - there is no need to install a special licensing server before installation of the speech engine software. No more horror stories of licensing server taking considerably longer to install than the speech software! In addition, support of standardized grammar writing format (SRGS) - including standardized syntax for advanced semantic interpretation constructs (SISR) - has made it a lot easier to develop sophisticated speech applications.

TMCnet: What's new and coming down the pike with your speech tools?

FK: Vestec is working on four major items: (a) larger vocabulary speech engines; (b) free turnkey speech applications for name-dialing and voicemail-navigation; (c) non-English acoustic models; and (d) speech application development tools.

We are nearing completion on a 5,000 vocabulary speech engine and will be launching it shortly at highly competitive pricing similar to our current 500 vocabulary engine. In keeping with our goal of demystifying and popularizing speech recognition - especially in SMB and SME markets - we will be introducing free-of-charge speech applications for popular functions such as name-dialing and voicemail-navigation. These applications will be deployable on a turnkey bases, will use a GUI to facilitate ease-of-use, and will be available in source code form for custom adaptation.

We are also interested in making speech recognition affordable around the world - especially in conjunction with Soft-PBX (News - Alert) platforms such as Asterisk - and so are working on acoustic models for major European and Asian languages. Finally, we want to further simplify speech application development and will be introducing powerful GUI-based tools that hide the complexity of speech grammar writing.

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