

customer care solutions from Nuance

The experience speaks for itself™



Nuance Care Solutions :: SmartListener™ Technology

- **Enhanced application accuracy.** Dramatically decrease retries and confirmations through an immediate error rate reduction of up to 30% out of the box.
- **Deploy quickly.** Raise your automation rate without redesigning your application's call flow, prompts, or business logic.
- **Immediate cost savings.** Improve your application's performance right away by converting dialogs to adaptive grammars.

the high speed, low risk boost to speech solution accuracy

For the past several years, contact centers have reduced costs by automating calls with speech recognition solutions. When callers provide responses for which the application has been designed – when they provide in-grammar responses – accuracy rates are high.

But when the application's grammars (i.e. the expected words and phrases) don't exactly match what callers say, these rare and hard-to-predict caller inputs cause out-of-grammar errors which affect the system's overall automation rate.

Example:

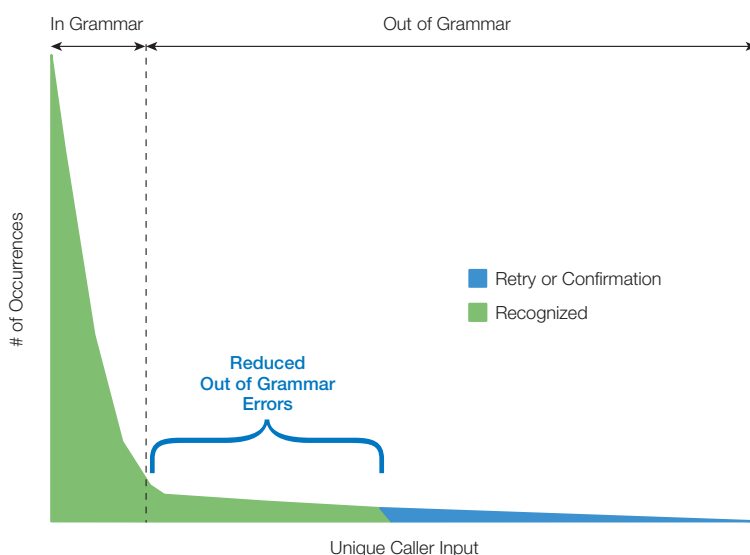
System: Please say Yes or No

Caller: Yes I think so ... yes, yes.

These out-of-grammar issues outstrip in-grammar accuracy issues by a factor of 5 to 1. They therefore represent the greatest opportunity for a profound improvement in solution performance.

"No amount of normal professional services tuning could achieve these gains."

Krishna Govindarajan
Global Discipline Leader, Speech Science,
Nuance Communications



These errors have frustrated researchers for years. If there were a way in which applications could more actively listen to what the caller meant, rather than be bound by a strict adherence to recognition grammars, a large proportion of out-of-grammar issues – affecting even the most tuned applications – could be eradicated.

Figure 1. Out-of-grammar responses are not recognized as well as more common, in-grammar responses. SmartListener technology uses adaptive grammars to eradicate a significant number of these out-of-grammar errors.

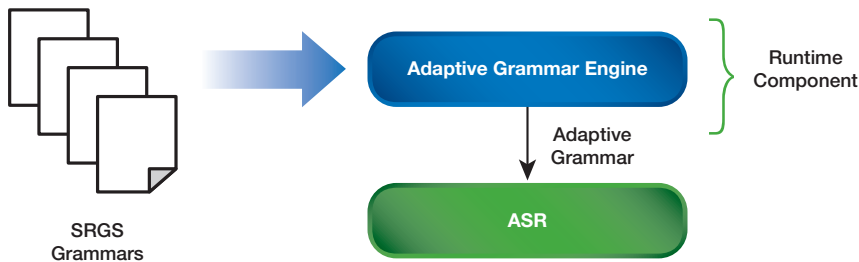


Figure 2. The Adaptive Grammar Engine converts existing SRGS grammars into adaptive grammars that improve the out-of-grammar recognition capabilities of the ASR engine.

"This is the largest single improvement in application accuracy that I have seen in 20 years of working in speech technology research."

Mark Fanty
Director, Core Research,
Nuance Communications

SmartListener™ technology can help. Based on the robust parsing capabilities of Nuance's speech recognition engines, SmartListener technology meaningfully improves application automation with no call flow changes. It allows speech solutions to correctly recognize a large proportion of out-of-grammar inputs with high confidence, drastically improving application accuracy.

At the heart of SmartListener technology is the Adaptive Grammar Engine. The Adaptive Grammar Engine modifies existing SRGS grammars using real-world data from Nuance applications. It converts these SRGS grammars into late-binding adaptive grammars that are used by the ASR engine. Adaptive grammars can be applied across every dialog in the application to improve recognition accuracy by augmenting the existing grammars.

SmartListener technology can be applied to an existing speech solution with just a few days' services effort, meaning you can deploy a more accurate, easier to use speech solution with low effort, low cost and rapid time to market.

System Requirements

- Tier 4 licenses of Nuance Recognizer 9 or OpenSpeech Recognizer (version 3.0.9 or newer)
- Optionally – Nuance Adaptive Dialog Modules 5.0 on Nuance Recognizer 9

about Nuance communications

Nuance is the leading provider of speech and imaging solutions for businesses and consumers around the world. Its technologies, applications, and services make the user experience more compelling by transforming the way people interact with information and how they create, share, and use documents. Every day, millions of users and thousands of businesses experience Nuance's proven applications and professional services. For more information, please visit www.nuance.com.