Speech Tuning: Practical Tips to Improve Performance

Stephen Keller
www.lumenvox.com
1–877–977–0707
+1–858–707–7700 (international)
stephen@LumenVox.com
Tuning Defined

• Speech tuning is the process of making changes to a speech application post-deployment

• Different than traditional QA
  – Requires data from actual callers, not just internal testers
  – Is a form of analytics for speech applications

• Tuning should be a holistic approach to improving applications
Benefits of Tuning

- Tuning grammars increases recognition accuracy
- Good tuning also increases the overall success rate of an application
Tuning requires you identify trends. Be wary of making changes based on one or two incidents.

- Limited time means you should concentrate on big problems first.
- Speech applications are sensitive to minor changes. Accommodating a minority of users can make the experience worse for the majority.
  - E.g. lengthening prompts.
Types of Misrecognitions

• Unexpected responses
  – Things you don’t expect callers to say

• Variations on expected responses
  – “Customer care” instead of “technical support”
  – Alternative pronunciations

• Misrecognized expected responses
  – In-grammar, but Engine misrecognized
Fixing Misrecognitions

• Unexpected Responses
  – Do you want to support this response? Increasing grammar size can increase misrecognitions.
  – Modify grammar and application
  – Modify prompts
Fixing Misrecognitions

• Variations on expected responses
  – Modify grammars

• Misrecognized expected responses
  – Adjust ASR settings
  – Check hardware
  – Modify grammars, changing similar sounding options
Caller Frustration

• Fix call flow
• Make it clear where the caller is within the application
  – Callers want to feel progress toward goals
• Don’t waste a user’s time
  – Trim overly verbose prompts
  – Allow for shortcuts
Caller Confusion

• Clarify prompts
  – Good prompts give a user a clear mental model of the application

• Add new options if appropriate
  – Context-sensitive “help” commands
  – Global commands, e.g. “main menu”