

Extending SRGS to Support More Powerful and Expressive Grammars

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Current Status

- W3C Recommendation: SRGS 1.0 (2004), SISR (2007)
 - Technical Advances: Speech recognition algorithms, and computer
 - Technology in general, have made significant advances since the Recommendation was published. Available CPU, RAM, and hard drives have improved by at least a factor of 16.
 - Consequently applications are now possible that would not have been possible when SRGS was designed
- Examples:
- Mixing dictation SLM and grammar-based recognition
 - Extending from context-free grammars

➔ Three Areas of Evolution:
SRGS, Natural Language, and Standards Integration

SRGS Use Cases

- Context-sensitive grammars, for example to capture long-distance dependencies:
 - “Set up the meeting.../Set the meeting ... Up”
- Boolean constraints on non-terminals
 - Rule out “I want to go from Boston to Boston”
- Enable and disable branches of grammar
- Mixing DTMF and speech in the same user input
 - “My PIN is <DTMF>1 2 3 4</DTMF>”

Natural Language

- Differential weighting in different parts of the grammar for computing confidence– prefix vs. important semantic content
 - “I want a **pizza with mushrooms and onions**”
 - “I’d like to order a **pizza with mushrooms and onions**”
- Enhanced semantics, provide results to be passed to higher level classification or semantic analysis
- Support for partial results
- Use of SRGS for text input (normalization, spelling, punctuation)

Integration with other Standards

- Better internationalization
e.g. IANA Language Subtag Registry, XML 1.1
- Integration with PLS, including extension to control 'role' attribute
- Integration with EMMA
- Extension of metadata returned by recognition (age, gender, other kinds of scores beside confidence, emotional state, SNR)