9807-11: Multilingual Conversational Speech Research

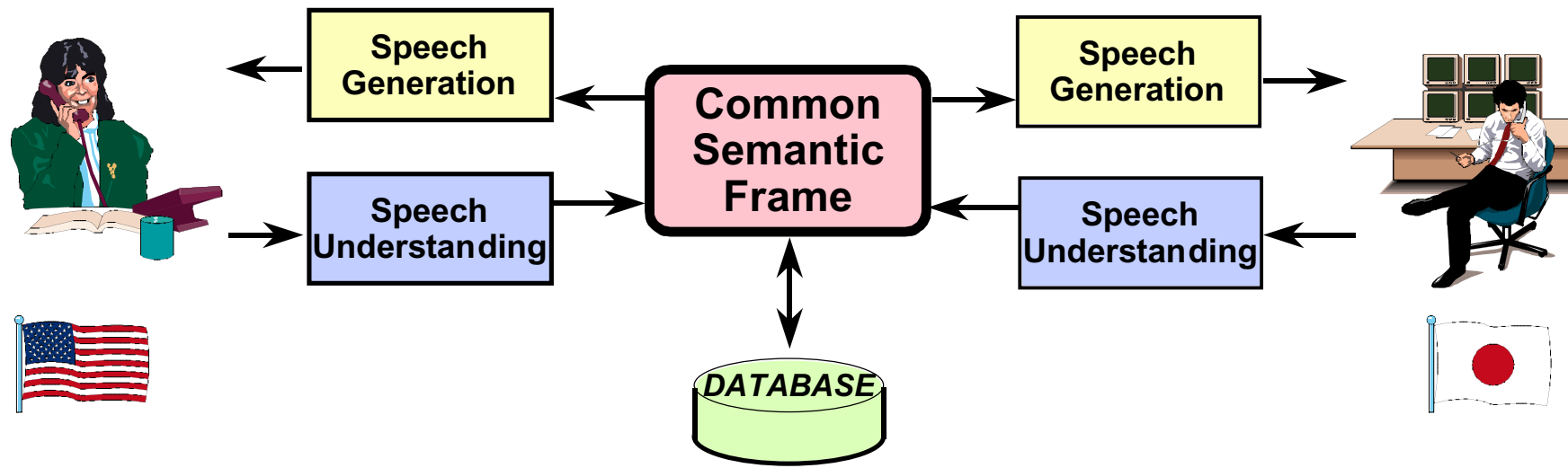**James Glass and Stephanie Seneff**

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Project Overview

- Explore language-independent approaches to speech understanding and generation

- Develop necessary human-language technologies to enable porting of conversational interfaces from English to Japanese

- Use existing Jupiter weather-information domain as test case

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Progress Through December 2000

- Refined Mokusei weather information system
  - Retrained speech recognizer obtains 9.4/34.9% word/sentence error rates on in-vocabulary data
  - Rewritten natural language grammar obtains 12/44% concept/sentence understanding error rate, while performing 10xfaster than previous grammar

- Continued data collection and transcription effort
  - Transcribed 2,500 (expert) & 8,400 (novice) utterances
  - Created morphological analyzer for Bunsetsu sequences which processes 96% of segmented sentences

Research Plan for the Next Six Months

- Deploy Mokusei system at NTT in Japan for continuous data collection from novice users

- Transcribe data for evaluation and refinement of speech recognition and language understanding components

- Develop natural sounding corpus-based concatenative synthesis for Mokusei domain

- Expand weather content for Japan