9807-11 Multilingual Conversational System Research
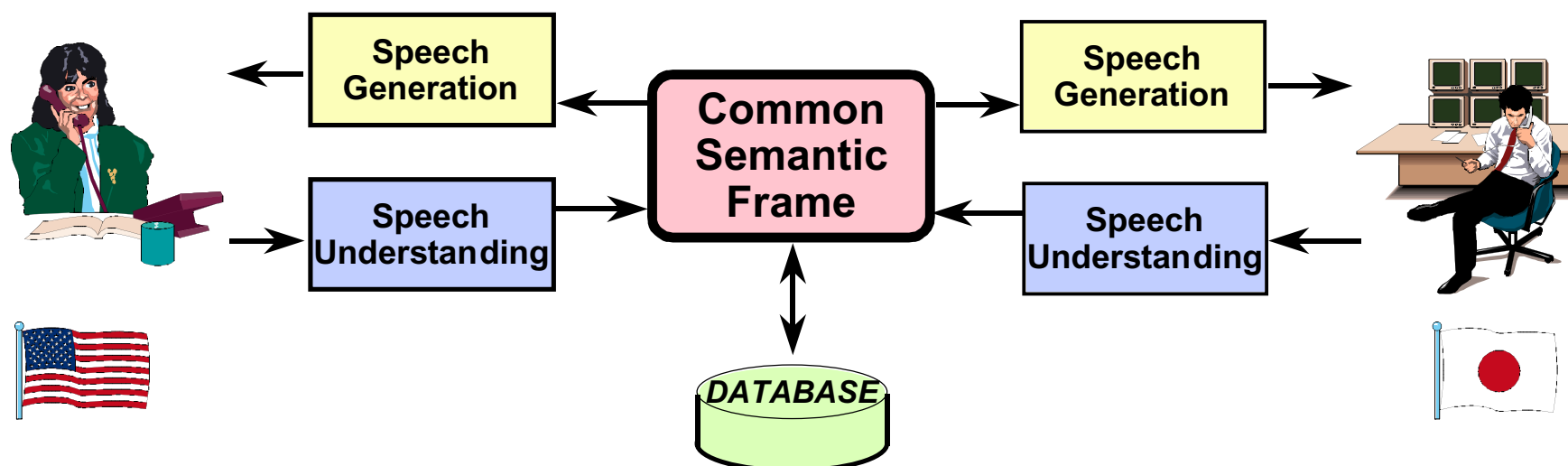
James Glass and Stephanie Seneff

ntt&mit

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

Progress Through June 2000

- Developed prototype weather information system (Mokusei) using MIT human language technology

- Initiated data collection from NTT employees
  - Appropriate answers to approximately 60% of queries

- Ongoing system refinement:
  - Upgrade of language generation component for more natural sounding Japanese output
  - Reduce vocabulary inconsistencies among recognizer, parser, database, and generation components

Research Plan for the Next Six Months

- Collect spontaneous speech data from more speakers interacting with the Mokusei system

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

- Refine system component capabilities:
  - More robust acoustic and language models for ASR
  - Improved coverage for language understanding

- Expansion of weather content for Japan