Priority Research Theme 3: Socially-Aware Interactive Assistants

Noisy environments, any speaker, open vocabulary

Error recovery, self-assessment

Multilingual capabilities

Interacting naturally with and in groups

Include human-computer, human-artificial agent and computer-mediated human-human communication

Learning and forgetting information

Adaptable to the user's needs and preferences and the environment

Services and Technologies:

- Robust, accurate, incremental speech recognition
- Natural, incremental speech generation and synthesis, providing expressive voices
- Robust dialogue systems
- From speech recognition to speech understanding
- Develop methods for the support of incremental conversational speech
- Context-aware semantic and pragmatic models of human communication
- Parsing with support for temporal inter-dependencies
- Strong connections to the other two priority themes

Applications:

- Generalised and specialised interactive dialogue systems
- Support people interacting with their environment
- Use language in connection with other modalities (visual, tactile, haptic)
- Education, language training, e-learning
- Provide access to knowledge
- Robust analysis of user's age, gender, verbal/non-verbal behaviour, social context
- Question answering

Proactive, self-aware, user-adaptable

Interacts naturally with humans, in any language and modality

Can be personalised to individual communication abilities including special needs

Can learn incrementally from all interactions and other sources of information