

Collaborative Dialogue

Intelligent User Interfaces

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Readings

- Allen et al, Chester: Towards a Personal Medication Advisor, J. Biomedical Informatics 2006 [*long paper*]
- Rich et al, COLLAGEN: Applying Collaborative Discourse Theory to Human-Computer Interaction, AI Magazine 2001

Basic Concepts

- **Collaboration:** A process in which two or more participants coordinate their actions toward achieving **shared goals**.
- **Dialogue:** An extended **communication** between two participants in a shared context, such as a collaboration. (General case with n participants called “discourse”.)

Basic Processes

- Interpretation
 - speech recognition (often)
 - natural language understanding (or artificial)
 - single-sentence semantics
 - extra-sentence phenomena, e.g., reference
 - plan (intention) recognition
- Generation
 - single-sentence realization
 - higher-level presentation planning
 - multimodal (cf. this week’s papers)

Big Issue: Generic Technology

- Domain Independent
 - domain knowledge concentrated in one place
 - vocabulary
 - task models
 - domain-specific reasoning (inference)
 - declarative representation (authoring issues)

- Human-Language Independent
 - practical issue for international products
 - philosophical issue re neutral representations

Readings

- Allen et al, Chester: Towards a Personal Medication Advisor, J. Biomedical Informatics 2006 [*long paper*]
 - multimodal, including speech
 - concentrates on single application and talks about generic

- Rich et al, COLLAGEN: Applying Collaborative Discourse Theory to Human-Computer Interaction, AI Magazine 2001
 - multimodal, usually with GUI
 - concentrates on generic