



## Collaborative Dialogue

### Intelligent User Interfaces

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## Readings

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- 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

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- **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

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- 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

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- 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

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- 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