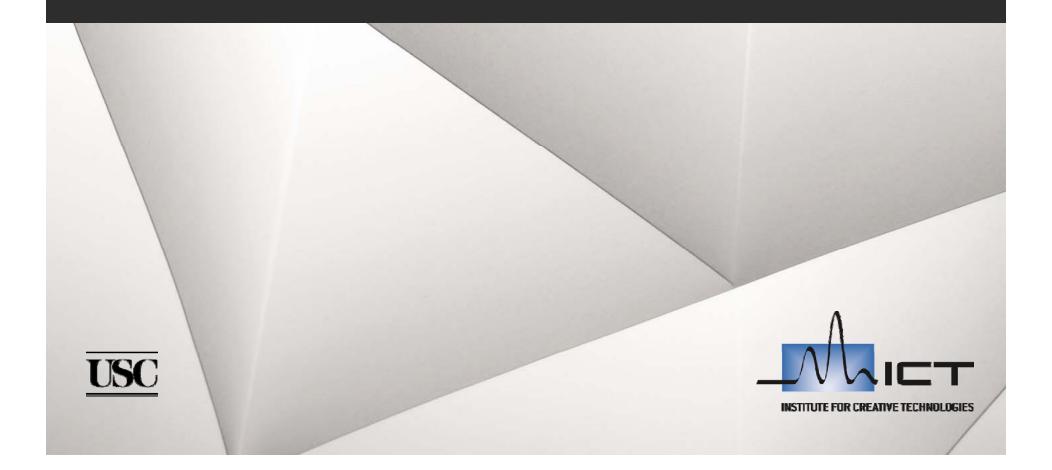
Communication & Relationship Building

Bickmore, Ogan, Sidner, Traum



Communication Issues

Requirements

- Understand all kinds of speakers (e.g. child speech)
- Anything could come up
- Potentially must need to understand anything someone can say

Is it necessary to completely solve the NLU problem in order to have a companion?

- Will probably take a long time if ever
- To what degree can we avoid NLU?
- How well can we do with imperfect understanding?
 - Can we provide the right feedback/interventions without (full) understanding?
 - Can we understand just the important bits to facilitate learning (even without understanding the domain)?
 - How much understanding do you need to facilitate learning?
 - Could we teach Shakespeare?

Positive Role of Misunderstanding/Grounding, especially for learning

Diagnosis, constructive thinking, explanation, critical analysis, collaboration





What is purpose of Companions?

- Aid to help when you want to learn (more tool than person)
 - Knows my best way to learn, under my control
- Hired hand to make us do things we have trouble doing (Fitness coach, language teacher)
 - Delegated short-term control for long-term objective
- Mandated Training (Sexual Harassment or Compliance training)
 - External control/consequences
- Is companion only for learning? Or also non-learning activities?
 - Learning only: is there enough motivation to continue?
 - More than learning: is there enough learning?





Do we need a relationship with companion? Why?

Maybe not if only a tool

Uses of relationships

- We are used to social interactions, relationships help
- Adherence, more attention leads to more compliance
- E.g. Directing disappointment in poor performance to lack of effort rather than lack of ability can lead to greater self-efficacy
- Accountability is important for compliance
 - Need to care what character things to get this accountability
- Relationships can also get in the way (reduce learning & work purely on relationship or activity level)
- Is relationship just like "points" in a game, or different/more basic?





How should companion relate?

- Praise for learning/achievement/effort
- Definitely Socratic arguing (not necessarily "fighting")
- Negative feedback?
 - Scold or act upset?
 - Withhold praise? (passive/aggressive agent)
- Why should person care?
 - Maintain relationship
 - Face model (view self through presumed others' view of self)





What should status of companion be?

- High (traditional teacher-student roles)
- Same (peer-learning)
- Low (learning by teaching to novice/student)
- How does person relate to companion:
 - Perceived face threats based on status





Should a companion have a consistent personality/relationship?

- Yes, to maintain consistency, scrutibility
- But: Different personalities and relationships needed for different kinds of learning interaction
 - Companion Tutoring learner
 - Peer learning
 - Learner tutoring companion
- We probably need different characters to support both consistency and different learning interactions (like Primer?)
- Perhaps story-related interactions between characters
 - Good companion/bad companion
 - Transition to most helpful character for current learning needs



