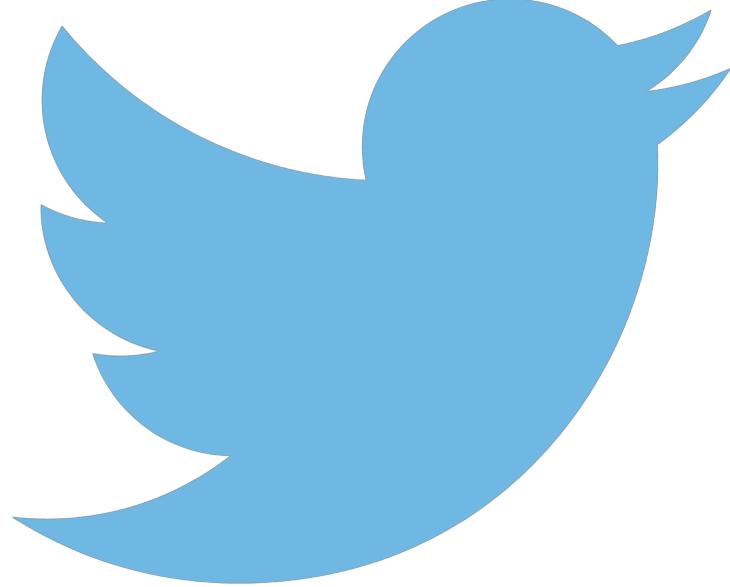


Social Interaction with & through technology

Lecture 8
Adam Girard



Social tech-ing

Facebooking

Instant messaging

Emailing

Texting

Do the same norms & mechanisms apply in face to face as in CMC?

Face to Face Conversation

Introduction/Greeting

- A. “Hi there”
- B. “Hi, How are you?”

Turn Taking

- A. “Not too bad,
you?”

Termination

- Implicit
- Explicit

- B. “Pretty good. Just
going to hand in
my report”

Farewell

- A. “Oh ok, see you
later”

Rules to turn taking (Sacks et al., 1978)

Rule 1: Current speaker chooses next speaker by asking a question, making request

Rule 2: Another person decides to speak

Rule 3: the current speaker continues talking

Rules to turn taking

Assumed to be in that order

If person doesn't take floor after rule 1,
moves to rule 2

If no one decides to speak current
speaker continues talking

Indicators of turn taking

Explicit request

- “Don’t you think so?”, “What’s your view?”

Tone of voice

- E.g. increasing tone at end of question

Body language

- Gesturing to partner, pointing body towards other party

Indicators of turn taking

Backchannels

- “uh-huh”, “oh right”

Gaze

- Tend to look at our partners when coming to end of our turn

Adjacency pairs

- First part sets up expectation for next utterance

Communication Breakdown

Repair is common in communication

Used to:

- Correct misinterpretations
- Reduce common ground uncertainty

Need to understand cause of breakdown

- A. “If you head two blocks to your left and then head to the swimming pool...”
- B. “Ok two blocks on the right...”
- A. “No, two blocks on the left”

Communication Breakdown

Hyperarticulation or
higher voice
intonation

Used to emphasise
error repair

Backchannelling (uh-
huh)

- A. “If you head two blocks to your left and then head to the swimming pool...”
- B. “Ok two blocks on the right...”
- A. “No, two blocks on *the left*”

Communication Breakdown

Clarification requests

- A. “If you head two blocks to your left..”
- B. “How many blocks?”
- A. “Two blocks”
- B. “Huh?”

What about CMC (Email, Facebook, Twitter)?

What would the issues be in comparison to face to face communication?

Computer Mediated Communication (CMC)

Generally asynchronous (apart from IM)

Lacks dynamics of spoken dialogue

Difficult to repair

Hard to read non-linguistic cues

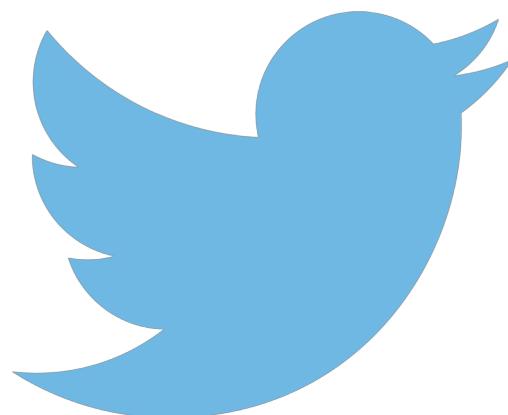
Number of participants problem

Facebook & Twitter

One to many
communication

One way
communication
(lurking)

Offline to online links
vs pure projection



IM/Texting

Frequent use of shorthand

Emoticons

Asynchronous



Behaviours in videoconferencing

People project themselves more

Take longer conversational turns

Interrupt each other less

Less backchannels

Turn taking more explicit/formal



O'Connaill, Whittaker & Wilbur (1993)

Behaviours in videoconferencing

Causes:

- Absence of speaker switching cues
- Basic communication processes disrupted



O'Connaill, Whittaker & Wilbur (1993)

Telepresence



What about talking to a
machine as a partner?

Verizon 3G

8:00 PM



“ I love you ”

Oh, stop.

“ Do you love me back ”

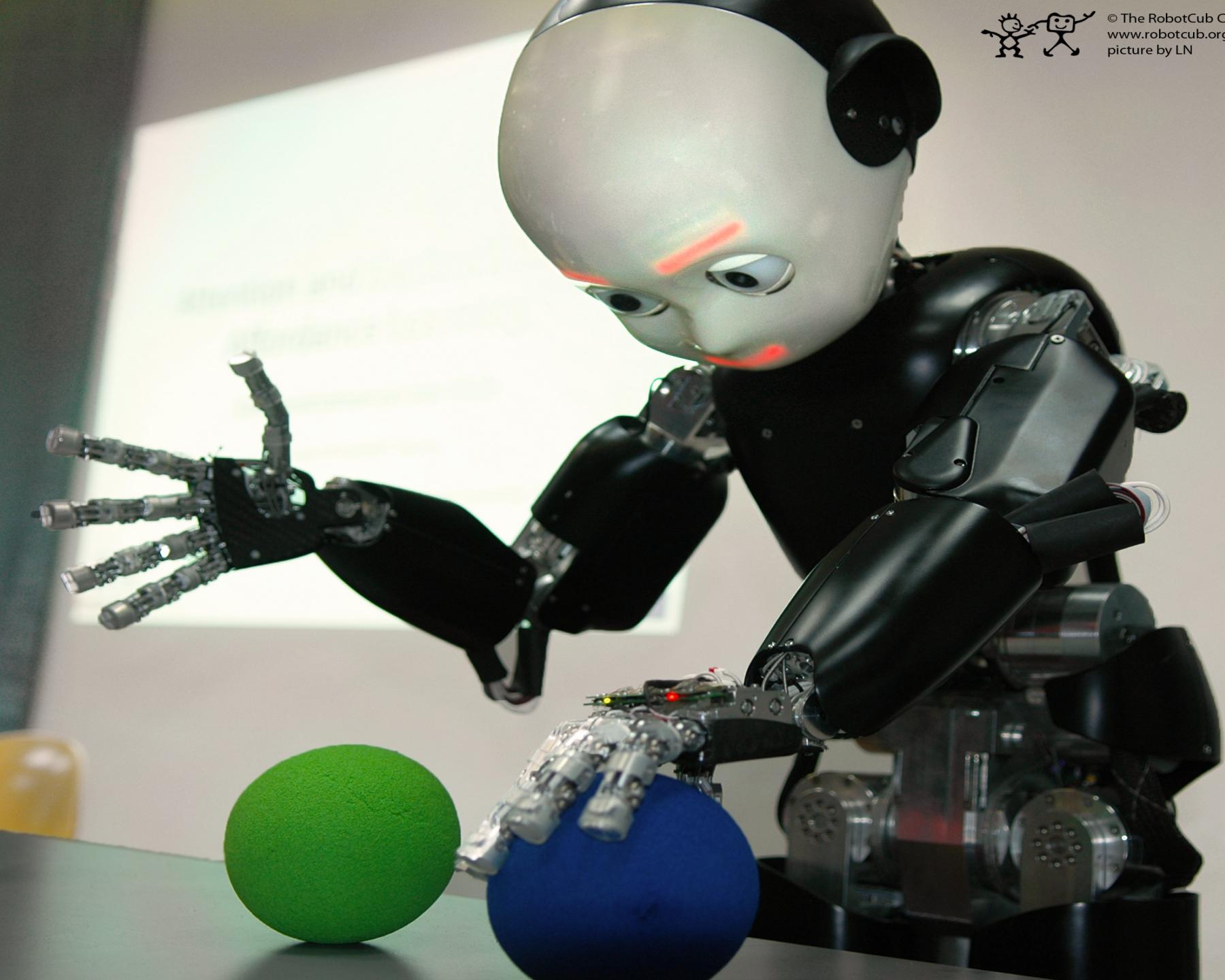
I'm not capable of love.

“ Why not ”

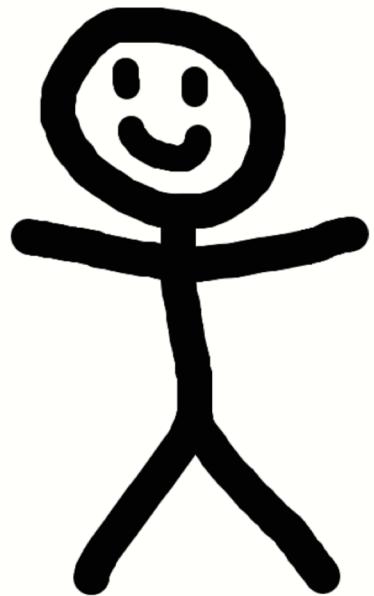
I don't know. Frankly, I've
wondered that myself.

“ Oh Siri ”





Data Source



to reduce error rates
in system

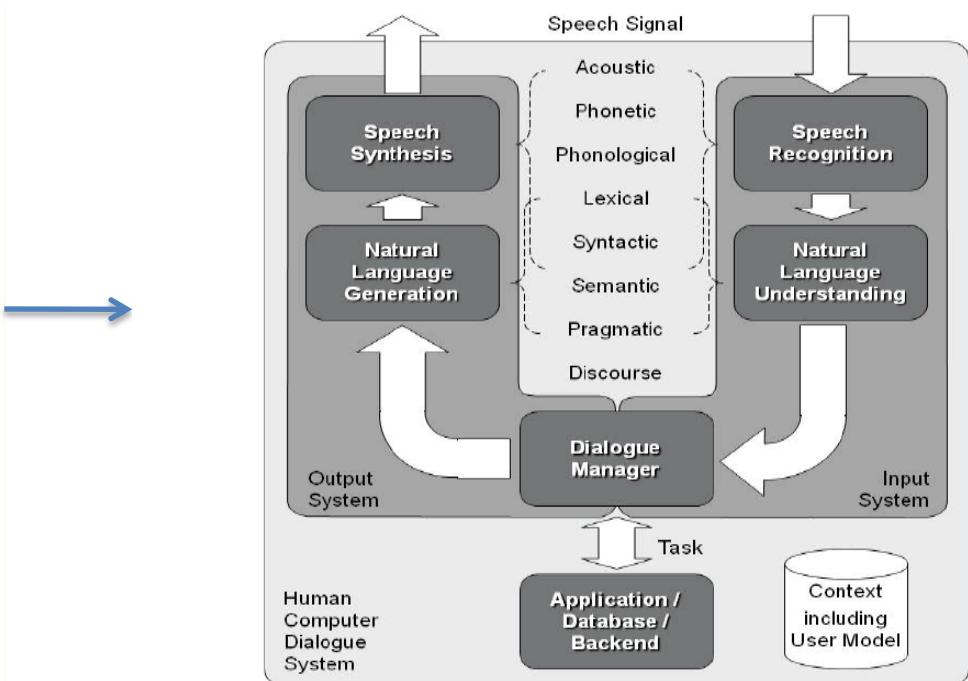
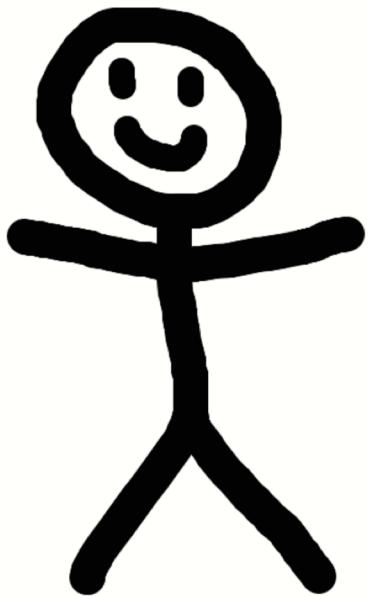


Fig. 1. General architecture of a human-computer dialogue system

A Person



Dialogue Partner

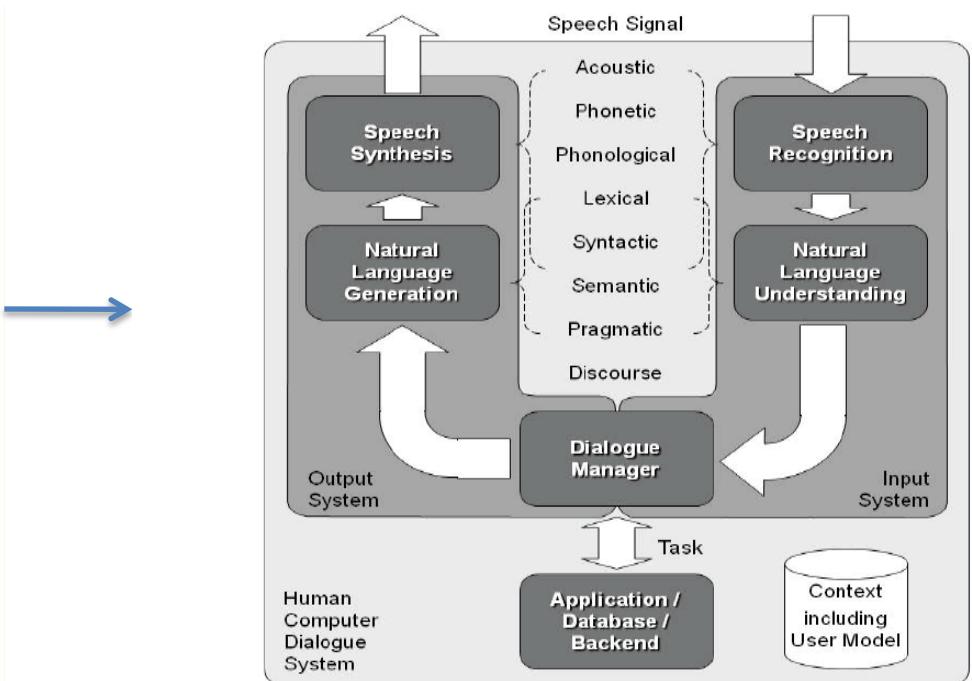


Fig. 1. General architecture of a human-computer dialogue system

Why is studying this important?

Speech interfaces growing in popularity/importance

Natural way of interaction

- No practice needed

Device independent

- No need for changes of interface
- No need to get used to new interfaces

Human-Computer Dialogue

Assumed mediated/adaptive

Users pay more attention to expressions, use simpler utterances

Speakers use strategies used in human-to-human dialogue for dialogue with computers

Mental model crucial

Amalberti et al., 1993; Le Bigot et al., 2007; Bell, 2003; Bell & Gustaffson, 1999 Brennan, 1998



What is a mental model?

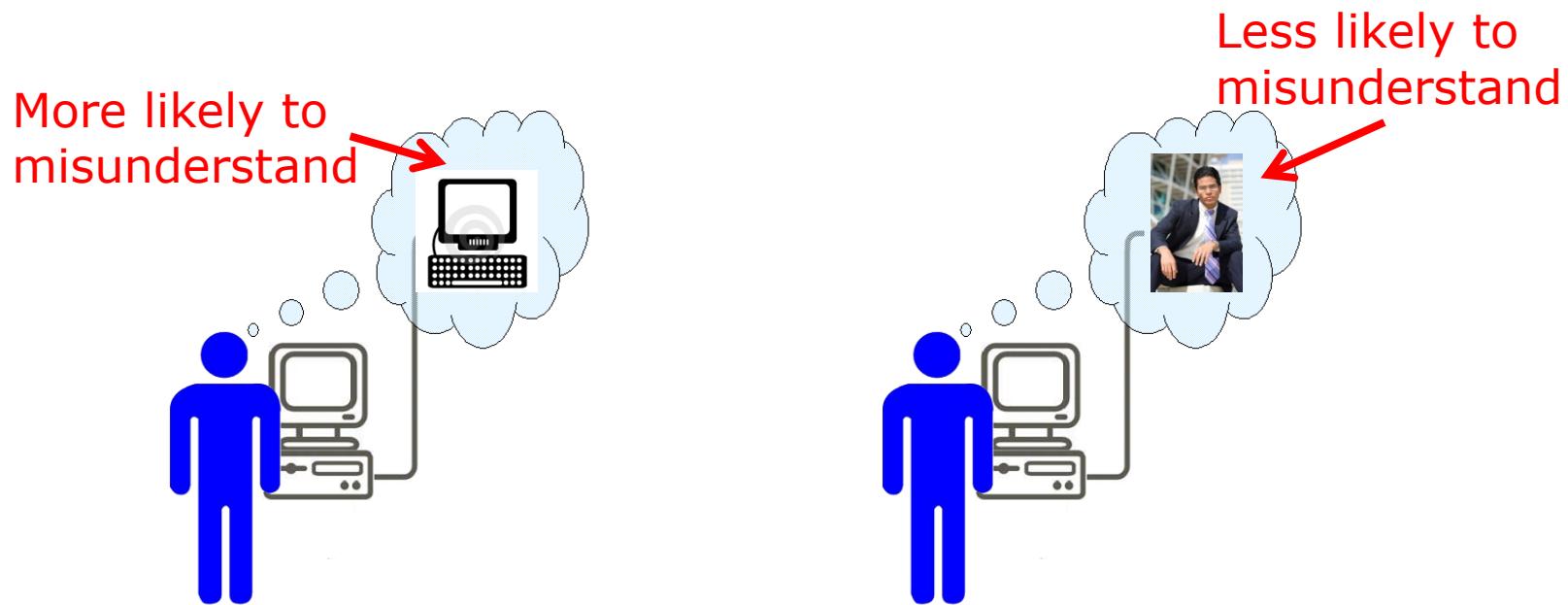
Representation/belief of how to interact
with a system/ how a system works

Used to reason about a system

Used when trying to do something new
with system

Branigan et al., 2011

a priori beliefs



Branigan et al., 2011

Focuses on phenomenon called *lexical alignment*

People copy their partner's word choice to increase likelihood of communication success

If we think computers are dumb interlocutors we should see more of this

Branigan et al.,

Found higher alignment in computer condition than human condition

Found higher alignment in “basic” computer condition against an “advanced computer”

Theoretical view of HCD

Our behaviours are based on our mental model of computer partners

These are seen as more basic than human partners

We adjust our behaviour accordingly

What is a mental model?

Representation/belief of how to interact
with a system/ how a system works

Used to reason about a system

Used when trying to do something new
with system

Computers are Social Actors

We respond to computers in much the same way as we respond to other social beings

We apply social rules to computer interaction situations

Computer –based evaluation system said to be more friendly when computer asked about this itself

Silicon Sycophants

People doing 12 rounds of 20 questions

When computer couldn't' guess, asked user to add question to refine algorithm

After giving this input people either received:

1. Sincere praise- told that they would be evaluated compared to other participants
2. Flattery- told that feedback would have nothing to do with their input
3. Generic- "Go to next round"

Fogg & Nass, (1997)

Silicon Sycophants

In sincere praise & flattery round they got 10 feedback turns like:

“Your question makes an interesting distinction, great job!”; “you have an uncommon ability to structure data logically”

Also given 2 negative feedback turns

Fogg & Nass, (1997)

Silicon Sycophants

When compared to generic condition
those in flattery & sincere conditions:

- felt better about themselves
- enjoyed interaction more
- felt better about their own performance
- Evaluated the computer's performance as better

No difference in flattery or sincere

Fogg & Nass, (1997)