

# Week 5:

## Understanding Users (Part 2)

# Overview

- What is meant by social interaction
- The social mechanisms used in conversations
- What is meant by social presence
- Overview of technologies for supporting social interaction
- How has social media changed how we keep in touch
- New social phenomenon arising from being able to connect online

# Social interaction

- We live together, work together, play together, talk to each other, and socialize
- Social technologies developed to enable us to persist in being social when apart
  - They differ in how they support us
  - Some encourage social interactions (for example, family games with Alexa)
  - Others have a negative impact on everyday conversations (Turkle, 2015)...

# Are we spending too much time in our own digital bubbles?



# Questions raised by social tech

- Are F2F conversations being superseded by social media interactions?
- How many friends do you have on Facebook, LinkedIn, WhatsApp, and so on versus real life?
- How much do they overlap?
- How are the ways that we live and interact with one another changing?
- Are the established rules and etiquette still applicable to online and offline?

# Conversational mechanisms

Various mechanisms and 'rules' are followed when holding a conversation face to face, such as mutual greetings

A: Hi there

B: Hi!

C: Hi

A: All right?

C: Good, how's it going?

A: Fine, how are you?

C: OK

B: So-so. How's life treating you?

# Conversational rules

Sacks et al. (1978) conversation analysis of conversations propose three basic rules:

**Rule 1:** The current speaker chooses the next speaker by asking an opinion, question, or request

**Rule 2:** Another person decides to start speaking

**Rule 3:** The current speaker continues talking

# More conversational rules

## Turn-taking used to coordinate conversation

A: Shall we meet at 8:00?

B: Um, can we meet a bit later?

A: Shall we meet at 8:00?

B: Wow, look at him?

A: Yes what a funny hairdo!

B: Um, can we meet a bit later?

## Back channeling to signal to continue and following

- Uh-uh, umm, ahh



# Further conversational rules

## Farewell rituals

- Bye then, see you, yeah bye, see you later....

## Implicit and explicit cues

- For instance, looking at watch or fidgeting with coat and bags
- Explicitly saying, “Oh dear, look at the time, I must go, I’m running late...”

# Breakdowns in conversation

When someone says something that is misunderstood:

- Speaker will repeat with emphasis:

A: “This one?”

B: “No, I meant that one!”

- Also use tokens:

Eh? Quoi? Huh? What?

# What happens in online conversations?

- Do the same conversational rules apply?
- Are there different kinds of breakdowns?
- How do people repair them for:
  - Email?
  - Instant messaging?
  - Texting?
  - Skype or other videoconferencing software?

# Remote conversations

- Much research on how to support conversations when people are 'at a distance' from each other
- Many applications have been developed
  - For example, email, videoconferencing, instant messaging, and chatrooms
- Do they mimic or move beyond existing ways of conversing?

# Early videophone from the 1960s



# VideoWindow system (Bellcore, 1989)

- Shared space that allowed people 50 miles apart to carry on a conversation as if in same room drinking coffee together
- 3 x 8 foot 'picture-window' between two sites with video and audio
- People did interact via the window, but strange things happened (Kraut, 1990)

# Diagram of VideoWindow in use



# Findings of how VideoWindow System was used

- Talked constantly about the system
- Spoke more to other people in the same room rather than in other room
- When trying to get closer to someone in the other place it had opposite effect—participants went out of range of the camera and microphone
- No way of monitoring this



# Videoconferencing and telepresence rooms

- Many to choose from to connect multiple people (for instance, Zoom)
- Customized telepresence rooms for groups



# Telepresence robots

Enable people to attend events who could not do so, such as by controlling their robot remotely

- In places such as schools, conferences, and museums
- Early example: Beam+
- Often dressed up to appear like the person to others at the event
- Positive experience of being there



Susan Lechelt at ACM CHI

# Telepresence and social presence

- *Telepresence* refers to one party being present with another party, who is present in a physical space, such as a meeting room
- *Social presence* refers to the feeling of being there with a real person when in virtual reality

# Facebook's vision of socializing in a 3D world using VR



- Two avatars talking at a virtual table
- Users experience each other through donning VR headsets

# How much realism and immersion are necessary..?

- ...in telepresence to make it compelling?
- *Telepresence rooms* try to make remote people appear to be life-like
  - Use multiple high definition cameras with eye-tracking features and directional microphones
- Does FaceTime have as much presence as more high definition settings?

# What is co-presence?

- Co-located groups who want to collaborate
- Many technologies have been designed to:
  - Enable groups to work, learn and socialize more effectively together
  - For example, tabletops, whiteboards, and public displays



# Coordination mechanisms

- When a group of people act or interact together, they need to coordinate themselves
  - For example, when playing football or navigating a ship
- To do so, they use:
  - Verbal and non-verbal communication
  - Schedules, rules, and conventions
  - Shared external representations

# F2F coordinating mechanisms

- Talk is central
- Non-verbal also used to emphasize and as a substitute
  - For instance, nods, shakes, winks, glances, gestures, and hand-raising
- Formal meetings
  - Explicit structures such as agendas, memos, and minutes are employed to coordinate the activity



# Awareness mechanisms

- Involves knowing who is around, what is happening, and who is talking with whom (Dourish and Bly, 1992)
- Peripheral awareness
  - Keeping an eye on things happening in the periphery of vision
  - Overhearing and overseeing—allows tracking of what others are doing without explicit cues
- Situational awareness
  - Being aware of what is happening around you in order to understand how information and your actions will affect ongoing and future events
    - For example, air traffic control or an operating theatre

# Sharable interfaces

- Designed to capitalize on existing forms of coordination and awareness mechanisms
- Several studies investigating whether they help people to work together better, have found:
  - More equitable participation
  - More natural to work around
  - More comfortable sitting around a table than standing in front of a display

# The Reflect Table

- LEDs lit up to reflect how much each member of the group spoke
- Used microphones in front of each individual to do this
- Study showed those who spoke the most changed their behavior the most
- Those who spoke the least did not change their behavior
- Why do you think this is?

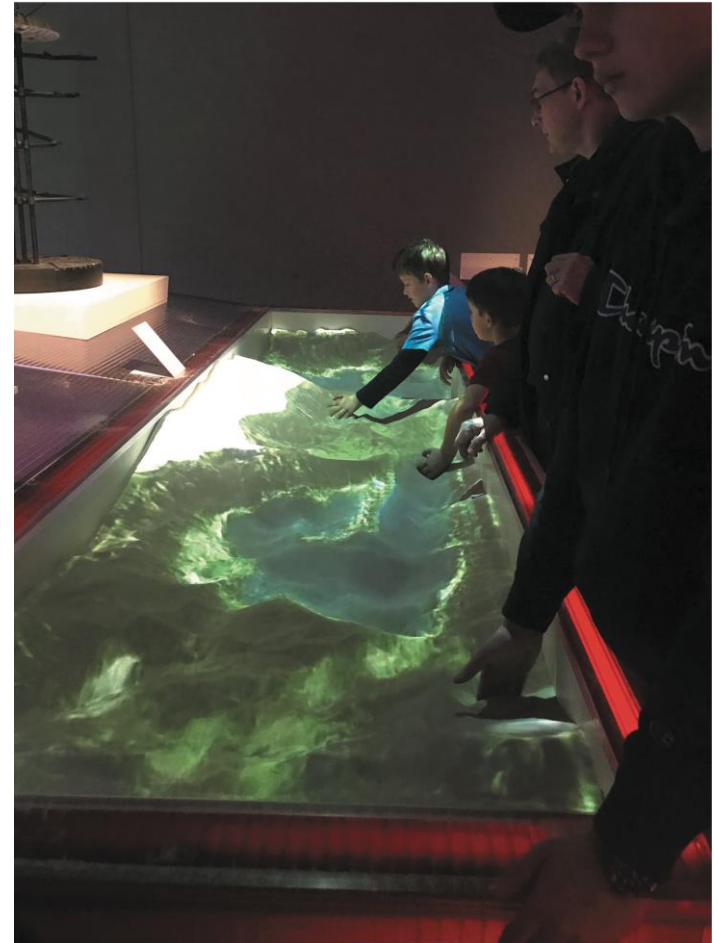


# Sococo floor plan of a virtual office: who is where and who meeting with whom



# Playing together in same space

- Visitors using an AR sandbox at the V and A
- Visitors sculpt landscapes out of sand
- System reacts with changing superimposed digital colored landscape
- Enables creative forms of collaboration



# Social engagement

- Refers to participation in activities of a social group
- Social exchange where people give or receive something from others
- Voluntary, unpaid and often altruistic (in the sense of sharing and doing good for others)
- Websites often used as hub to connect people
- Retweeting is a powerful way of connecting millions of people...

# Retweeting goes viral

- The epic Twitter battle between Ellen DeGeneres and Carter Wilkerson
- Millions retweeted in the space of hours
- Connected millions of people for a fun cause
- Many people found it amusing to join in and watch the numbers grow



# Dilemma: Is it OK to talk with a dead person using a chatbot?

- Eugenia Kuyda lost a close friend in a car accident who was only in his 20s
- She took all his texts sent over the course of his life and made a chatbot using them
- Chatbot responds to text messages so that Eugenia can talk to her friend as if he was alive
- Is this a creepy or comforting way to deal with grief?
  - Is it respectful of the dead person?



# Summary

- Social interaction is central to our everyday lives
- Social mechanisms, like turn-taking, enable us to collaborate and coordinate our activities
- Keeping aware of what others are doing and letting others know what you are doing are important aspects of collaborative working and socializing
- Many technology systems have been built to support telepresence, social presence, and co-presence
- Social media has brought about significant changes in how people keep in touch and manage their social lives