INTERACTION DESIGN

SHARP • ROGERS • PREECE

beyond human-computer interaction

5th Edition

Chapter 5
SOCIAL INTERACTION

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- Are F2F conversations being superseded by social media interactions?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

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

See a team in a meeting, sharing screens and viewing documents in a room

Name a room to reflect the topic of a meeting in progress

Search for colleagues across the workspace to see status or instantly chat

Instantly "Get" colleagues to spontaneously collaborate

Knock on a door to join a meeting or just pop in

Send a link for a guest to join you in your Sococo office

Blinking avatars are colleagues collaborating

Scale instantly with unlimited floors to your Sococo space

Share documents or links on a desk for immediate access to anyone in the room

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
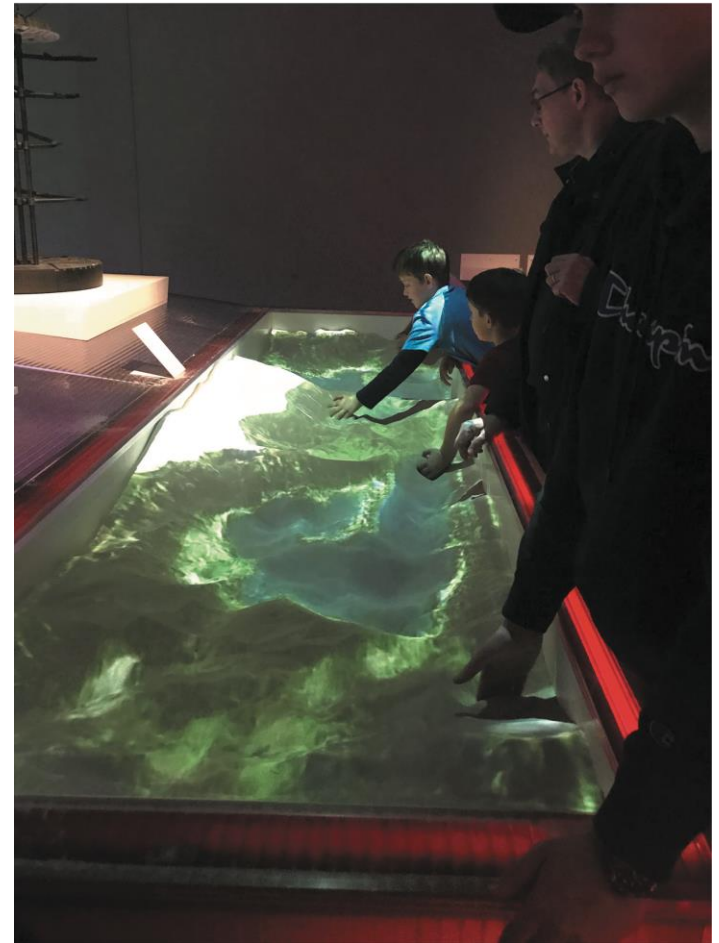
Social engagement

- 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