Lecture 16
Chapter 10 Collaboration

Collaboration

- Goals of Cooperation
  - Focused partnerships
  - Lecture or demo
  - Conference
  - Structured word processor
  - Meeting and decision support
  - Electronic commerce
  - Tele-democracy
  - Collaboratories
  - Telepresence

Time/space matrix

<table>
<thead>
<tr>
<th></th>
<th>Same Time (synchronous)</th>
<th>Different Times (asynchronous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same Place (co-located)</td>
<td>face to face (classrooms, meeting rooms)</td>
<td>asynchronous interaction (project scheduling, coordination tools)</td>
</tr>
<tr>
<td>Different Places (distributed)</td>
<td>synchronous distributed (shared editors, video windows)</td>
<td>asynchronous distributed (email, listservs, conferences)</td>
</tr>
</tbody>
</table>
Asynchronous distributed interfaces: Different place, different time

• Electronic mail:
  – can be too loosely structured
  – sometimes overwhelming
  – transient
  – tools
    • filtering
    • archiving
    • mailing lists
    • discussion groups
  – typically text-only, but increasingly includes other structured objects
    • graphics
    • sounds
    • animations
    • web pointers
    • video

Asynchronous distributed interfaces: Different place, different time (cont.)

• Electronic mail (cont.):
  – In 2003, AOL reported 80% of email that entered its system was spam suppressed by filters
  – Online directories
  – Web services with E-mail
    • E.g. Hotmail, and Yahoo! Mail
  – Email on mobile devices
Asynchronous distributed interfaces: Different place, different time (cont.)

- Newsgroups, listservers, discussion boards, conferences, blogs, and wikis
  - Focused electronic discussions by group of people
  - Listserv
    - Individual must subscribe to receive e-mail notices
    - May be moderated by a leader
    - May be mail reflector
    - Users can get flooded with listserv e-mails
    - Server machine keeps searchable archive or past notes and subscriber list
  - USENET newsgroups
    - Each group dedicated to one or more topics
    - Move around posting on bulletin board
    - Users read as many previous notes and related comments as they wish
    - Open to all
  - Online conference
    - In addition to listserv tools, may also include additional facilities
      - Voting
      - Online directories of documents
      - Online directories of users
      - Online directories of organizations
      - Online magazines and newsletters
      - Web-logs/blogs and wikis

Synchronous distributed interfaces: Different place, same time

- Synchronous distributed applications
  - Group editing
  - Shared screens for customer assistance
  - Give demonstrations simultaneously at multiple sites
  - Allow sharing of information for various applications
  - Interactive games

Synchronous distributed interfaces: Different place, same time (cont.)

- Conversational Interaction
  - Two-person
    - Chat, Internet Relay Chat (IRC), and TALK
  - Texting and Instant Messaging
  - Problems
    - Cell phones: Small screen and lack of keyboard
    - Abbreviations not understood (LOL etc.)
### Synchronous distributed interfaces:
**Different place, same time (cont.)**

- **Multi-person conversation**
  - MOOs (multi-person chat)
  - Example
    - LambdaMoo at Xerox PARC, founded early 1990’s
    - [http://www.lambdamoo.info/](http://www.lambdamoo.info/)
  - Problems
    - Synchronizing action when visual display of other persons not available
    - Flamers
    - Other misbehavior

- **MUDs and MMORPGs** (massively multi-player online role-playing games)
  - Examples:
    - The Society [www.societygame.com](http://www.societygame.com)
    - Industry Player [www.industryplayer.com](http://www.industryplayer.com)
  - Problems
    - Game addiction

### Women over 40 biggest online gamers!

- **AOL survey Feb 10 2004**
  - U.S. women over 40 spend nearly 50% more time each week playing online games than men and are more likely to play online games daily than men or teens
  - Of those women over 40 who had formed online friendships, more than 20% converted those virtual connections into real-life relationships
  - Prefer to play puzzle and word games
    - [games.yahoo.com](http://games.yahoo.com)
Synchronous distributed interfaces: Different place, same time (cont.)

- **Audio and video conferencing**
  - Videoconferencing problems
    - slow response times for entering and leaving session
    - distracting background audio
    - difficulty in determining who is speaking
    - inadequate lighting
    - difficulty in making eye contact
    - changed social status
    - small image size
    - potential invasion of privacy
    - need for convenient turn taking
    - need for document sharing

Synchronous distributed interfaces: Different place, same time (cont.)

- **Audio and video conferencing (cont.)**
  - Issues of ownership and control
    - private and public workspaces
    - identity of participants
    - location of actions
    - care with updating
  - Whether audio or video conferencing is more appealing than chat, IM, and texting, or more effective than asynchronous text, depends on the goals and the task environment
    - For example, if it is impossible to travel to Paris for a seminar, a video conference might work even with the limitations

Discussion: Online and networked communities

- **Discussion: Online and networked communities**
  - Provide virtual community where f2f doesn’t exist
  - Distance education courses
  - Impact on offline communities
  - Group identity
    - Patient support groups
  - Need critical mass for synchronous (example: chat room)
  - Community policies & freedom of speech
  - Network communities can be controversial
    - hackers
    - hate groups
    - para-military groups
  - Reputation managers for online stores
Face-to-face interfaces: Same place, same time

- Innovative approaches to work and learning include:
  - Shared display from lecturer workstation
  - Audience response units
  - Text or photo submission workstations
  - Brainstorming, voting, and ranking
  - Public spaces facilitate sharing
    - File sharing
    - Shared workspace
    - Group activities
    - Notification systems

Face-to-face interfaces: Same place, same time (cont.)

- Colab and Liveboard
- SMART Board

- Sharing photos is very popular

Benefits of Face-to-face electronic meeting systems

- Parallel communication promotes broader input into the meeting process and reduces the chance that a few people dominate the meeting.
- Anonymity mitigates evaluation apprehension and conformance pressure, so that issues are discussed more candidly.
- The group memory constructed by participants enables them to pause and reflect on information and opinions of others during the meeting and serves as a permanent record of what occurred.
- Process structure helps focus the group on key issues and discourages irrelevant digressions and unproductive behaviors.
- Task support and structure provides information and approaches to analyze it.