

TEKNOLOGI KOMPUTASI KOLABORATIF

- Pengambilan keputusan kelompok, komunikasi dan kolaborasi
- Dukungan komunikasi
- Dukungan kolaborasi
- Sistem pendukung kelompok
- Teknologi pendukung kelompok

Referensi lihat SAP : [5] Bab 7,
[7] Chapter 7, [8] Marakas-05

Collaborative Computing Technologies: Group Support Systems

People

- Perform *groupwork*
- Need to collaborate
- Need to communicate

Solution

- Lotus Notes Application
- Extended Enterprise System
- Incentives for suppliers to contribute
- Vendor relationship system
- Provides a competitive advantage

Groupwork Characteristics

- Group performs a task
- Different places
- Different times
- Same or different organizations
- Permanent or temporary
- Span managerial levels
- Synergy or conflict
- Productivity gains / losses
- Quick response may be required
- Hard to meet in one place
- Multiple sources of knowledge
- External expertise

Anytime / Anyplace Collaboration

- Enabled by Web
- Low cost PCs

Meetings

- Joint activity
- Equal or near equal status
- Outcome depends on participant's knowledge, etc.
- Outcome depends on group composition
- Outcome depends on decision-making process

Groupware

- To support groupwork / meetings ...
- Computer-supported cooperative work (CSCW)
- Software that provides collaborative support to groups

Communication Support

- Vital
- Needed for collaboration
- Modern information technologies provide inexpensive, fast, capable, reliable means of supporting communication
- Internet / Web

Supporting Communication

- Word of mouth
- Delivery persons
- Horseback
- Snailmail
- Telegraph
- Telephone
- Radio
- Television
- Videoconferencing
- Internet / Web

Nonverbal Communication

- Important issue
- Not captured by most communication systems

Supporting Collaboration (CSCW)

- People work together
- Group Support Systems (GSS)
- Groupware:
 - Electronic meeting systems
 - Electronic conferencing systems

A Time/Place Framework

- Same Time / Same Place
Decision Room
- Same Time / Different Place
Video Conference
- Different Time / Same Place
via Internet
- Different Time / Different Place



Time/Place Communication Framework

	Same Time	Different Time
Same Place	<p>GSS in a Decision Room Web-based GSS Multimedia Presentation Systems Whiteboard Document sharing</p>	<p>GSS in a Decision Room Web-based GSS Workflow management system Document sharing Email, Vmail</p>
Different Place	<p>Web-based GSS Whiteboard Document sharing Videoconferencing Audioconferencing Computer conferencing Email, Vmail</p>	<p>Web-based GSS Whiteboard Email, Vmail Workflow management system Document sharing Computer conferencing with memory</p>

Groupware

- Lotus Notes / Domino Server
 - Includes Learning Space
- Netscape Collabra Server
- Microsoft NetMeeting
- Novell Groupwise
- GroupSystems
- TCBWorks

Group Support Systems

- Goal: to support groupwork
- Increase benefits / decrease losses of collaboration
- Based on
 - Nominal Group Technique
 - Delphi Method
- Electronic Meeting System (EMS)

Important Features

- Parallelism
- Anonymity
- Lead to process gains and task gains

GSS Process Gains

- Parallel information processing / flow
- Larger groups can participate
- Rapid computer discussions
- Quiet people can participate equally
- Noisy people can't strongly drive meeting
- Saves travel time (millions \$ / year)

GSS Process Losses

- Free-riding
- Flaming

GSS Technologies

- Decision room
- Multiple use facility
- Web-based

The Decision (Electronic Meeting) Room

- 12 to 30 networked personal computers
- Usually recessed
- Server PC
- Large-screen projection system
- Breakout rooms
- Need a Trained Facilitator for *Success*

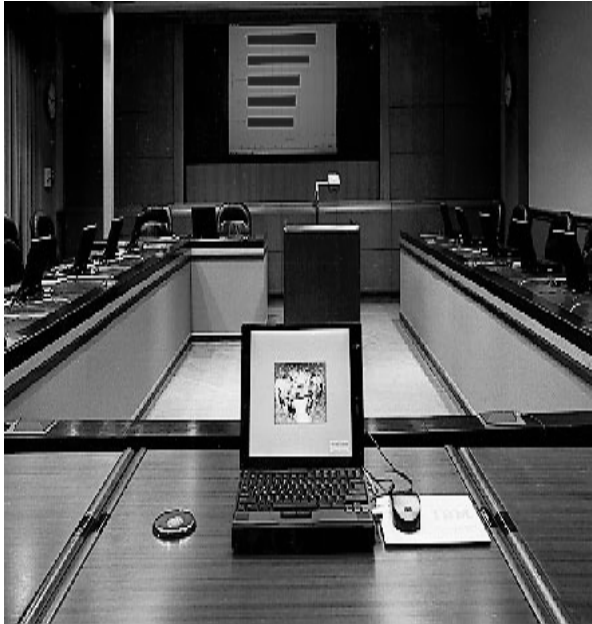


Cool Rooms

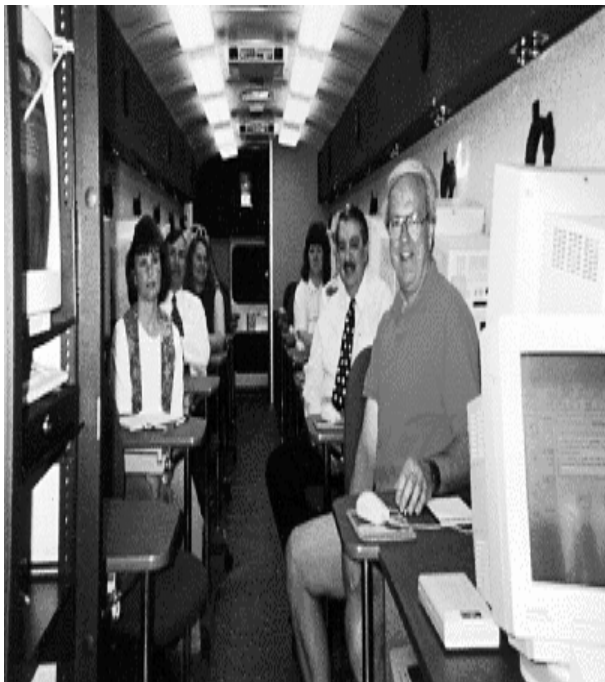
US Air Force

Source: *Groupsystem.com, Tuscon, AZ, www.groupsystems.com*

Cool Rooms



IBM Corp.



***Murraysville School
District Bus***

Source: Groupsystem.com, Tuscon, AZ, www.groupsystems.com

Few Organizations Use Decision Rooms

- High Cost
- Need for a Trained Facilitator
- Software Support for Cooperative Tasks, NOT Conflict Issues
- Infrequent Use
- Different Place / Different Time Needs
- May Need More Than One

Other Technologies

- Multiple Use Facility
 - Cheaper
 - Still need a facilitator
- Web-based
 - Cheaper: no extra hardware needed
 - Still need facilitator

GroupSystems

- From Groupsystems.com, Tucson, AZ
- Comprehensive groupware
- Windows & Web versions
- Leading software

GroupSystems Activities

- Agenda
- Electronic Brainstorming
- Group Outliner
- Topic Commenter
- Categorizer
- Vote

GSS Meeting Process

- Idea generation
- Idea organization
- Prioritizing
- Idea generation

Iterate until solution is reached

Why GSS?

- Successful
- Need
 - Organizational commitment
 - Executive sponsor
 - Operating sponsor
 - User-seductive interface
 - Dedicated well-trained facilitator
 - Good planning

Distance Learning (DL)

- Nontraditional classroom
- CSCW / GSS / Groupware
- Requires technology
- *Not new*
- Effective
- Growing fast
- Corporate, too

Distance Learning Courseware

- Lotus Notes
- Microsoft NetMeeting
- Novell GroupWise

- Learning Space (Lotus Notes)
- WebCT
- LearnLinc Virtual Classroom

Advantages

- Just as effective or more
- Flexible time
- Student can keep job
- Student can travel in job
- Access anywhere / anytime
- Can present new technology cheaply
- Can focus on specific skills
- Can cost less
- Expand classroom size easily
- Add breadth and depth to course
- More one-on-one interaction with instructor (e-mail)
- Student/faculty contact time increases
- For continuous learners
- Attendance is flexible (Careful!)
- Discussion technologies
- Student attitudes evolve and improve
- Impacts (scores) are higher

Disadvantages

- Fewer social interactions
- Less or no on-campus interaction
- Communications problems
- Students **MUST** be highly motivated
- Students **MUST** be highly disciplined
- Students **MUST** have effective time management skills
- Students **MUST** be extremely dedicated
- Takes more faculty and staff time
- Learner must be more responsible
- Students **MUST** work hard!

Issues and Research

- GSS/EMS methods
- Web groupware
- Distance learning
- Virtual organization