

Computer Supported co-operative Work (CSCW)

# Revision Lecture



# Learning Outcomes

- Revision & Consolidation of previous lectures
  - Summary
  - Reflection
  - Interaction
    - Your chance to ask questions

# Lecture organisations

- Main topic review
  - Group work
  - Groupware
  - Evaluation of Group-ware
  - Issues in Groupware Design
  - On-line communities
  - Usability and Sociability
  - Global communication

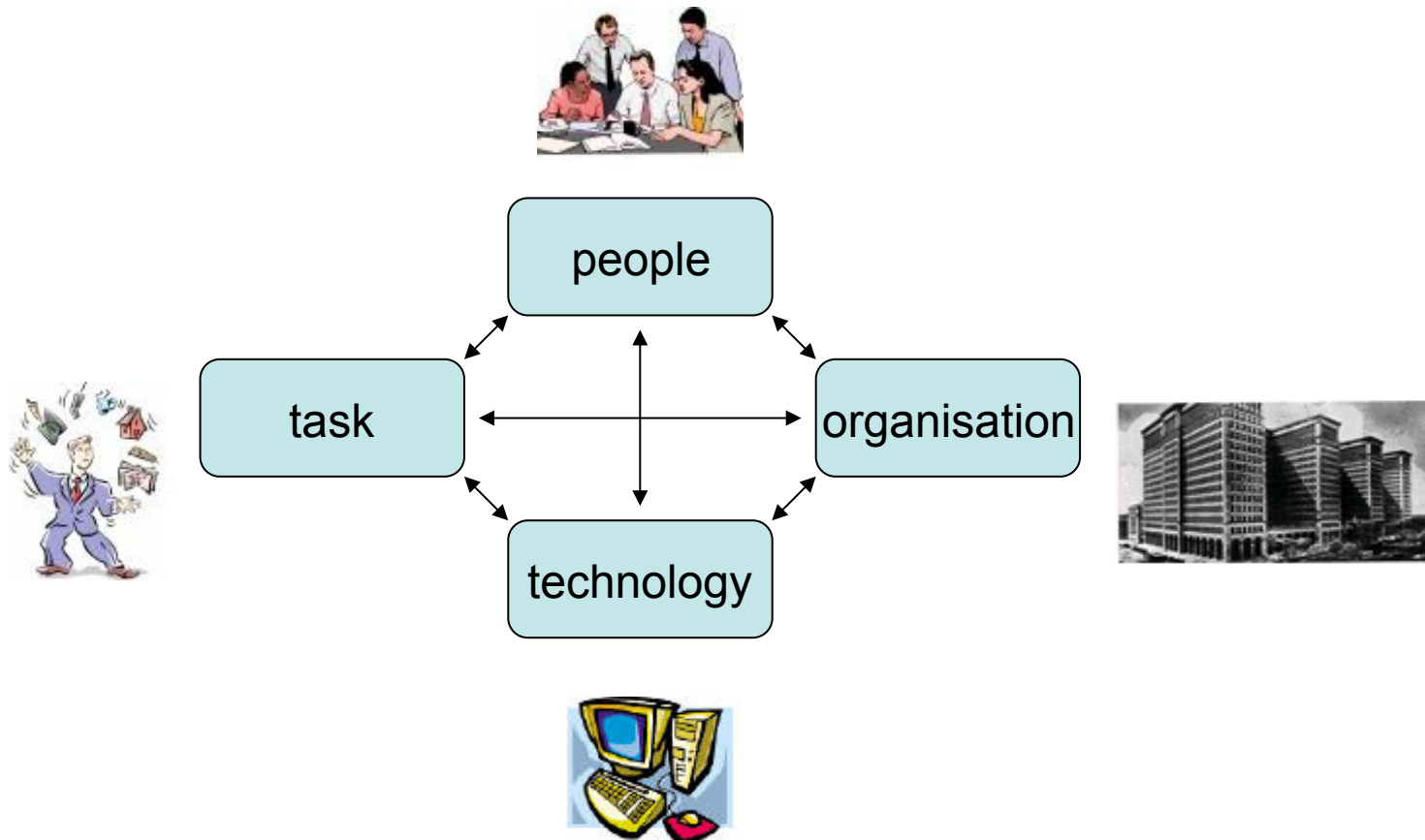
# How to study?

- Revise handouts & your notes
- Reading:
  - Preece J. (2000) *Online communities: Designing Usability, Supporting Sociability*. John Wiley & Sons.
  - Additional reading
    - Suggested readings at the end of each unit
- Think-consolidate-critique
  - Coursework – group experience – communication –
- Ask
  - If /after all this/ something is still unclear ask for clarification

# Exam style

- 50% course-work
- 50% oral: discuss workshop in the context of lectures

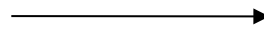
# The Context



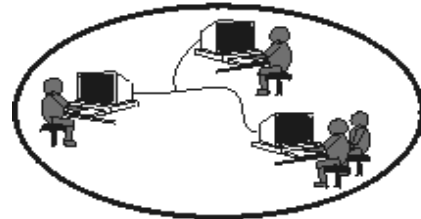
# Definitions



Human-Computer Interaction (HCI)



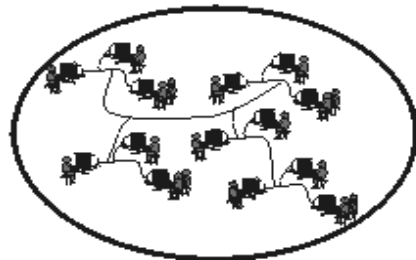
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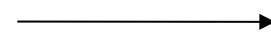
Computer Supported Collaborative Work (CSCW)



Small group



Virtual Community



Large societies

# People

- Group → two or more individuals that influence each other
  - Interdependence-common identity and structure
  - Differences between personal and social identity
- Different types of groups
  - Group formation spaces



# Social-identity theory

**Tajfel & Turner, 1986**

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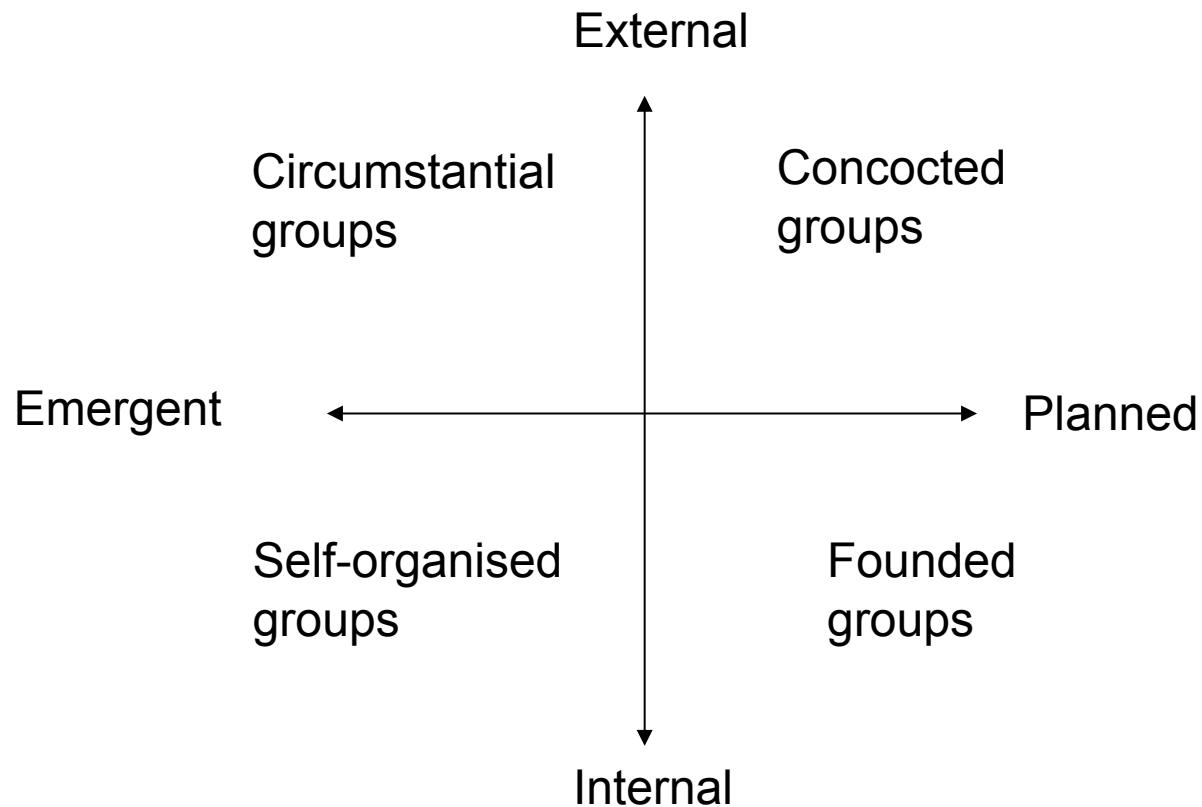
## Personal Identity

Representation of the self in terms of the unique individual, different from relevant others

## Social Identity

Representation of the self according to social categories to which people identify - women vs. men; students vs. lecturers; Manchester United supporters vs.

# Group Formation Space



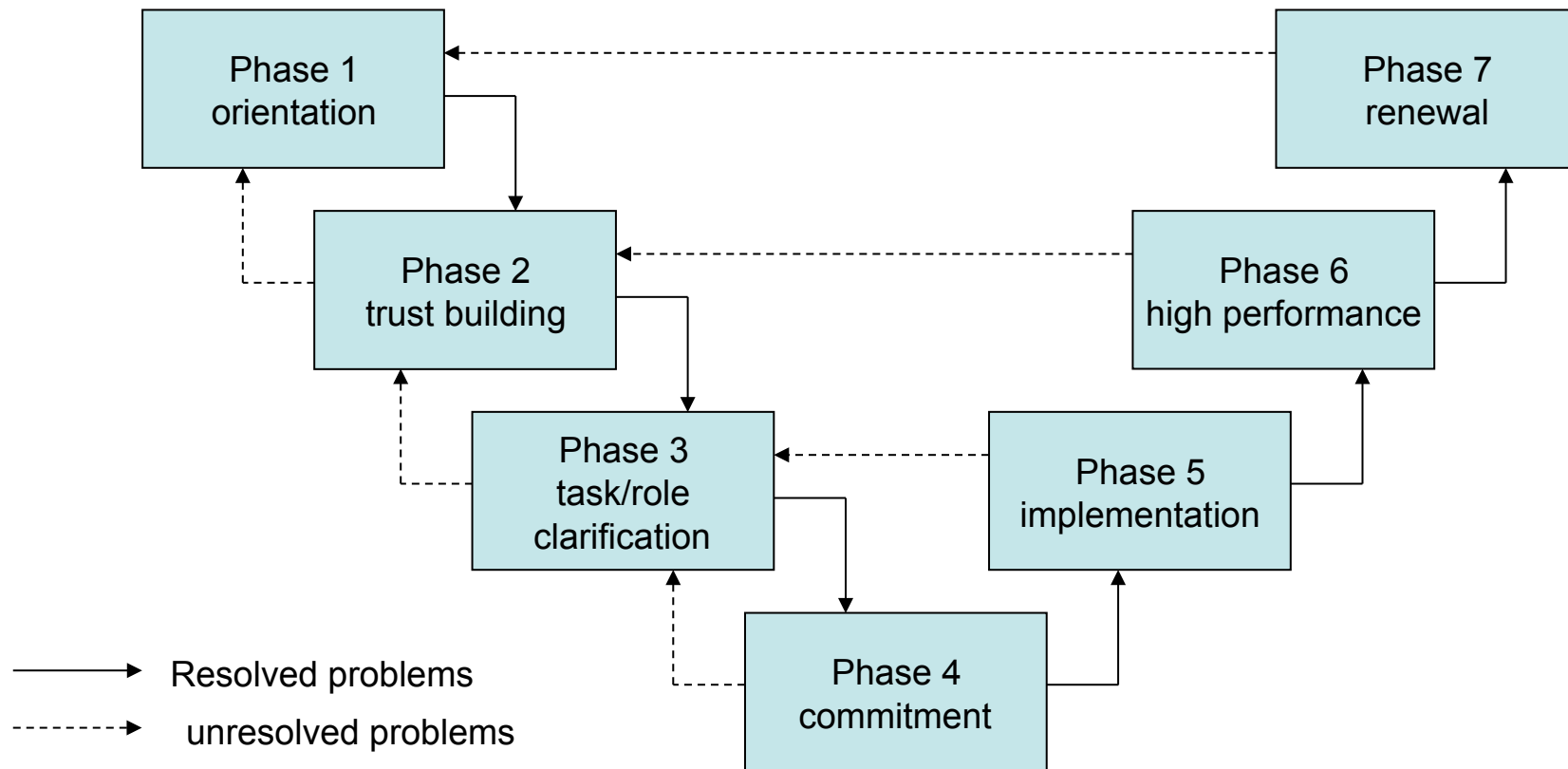
# Group work

## Social Loafing

- tendency of individuals to reduce their work effort in a group
- Diffusion of responsibility
  - the presence of others makes one less responsible for the events that occur in that situation
- De-individuation
  - Loss of a sense of individuality and a consequent weakening of social norms and constraints
- Group-polarisation
  - The group tend to enhance shared pre-existing views (more extreme attitudes, opinion)
- Conflicts
  - Resources, misunderstandings, cultural difference

- Combine a number of areas of expertise, competencies, view-points
- Split a large task up into smaller parts
- Individual members perform different roles
- Presence of others is emotionally arousing
- Group may motivates to think harder and more creatively than we do by ourselves
- Satisfy socio-emotional needs

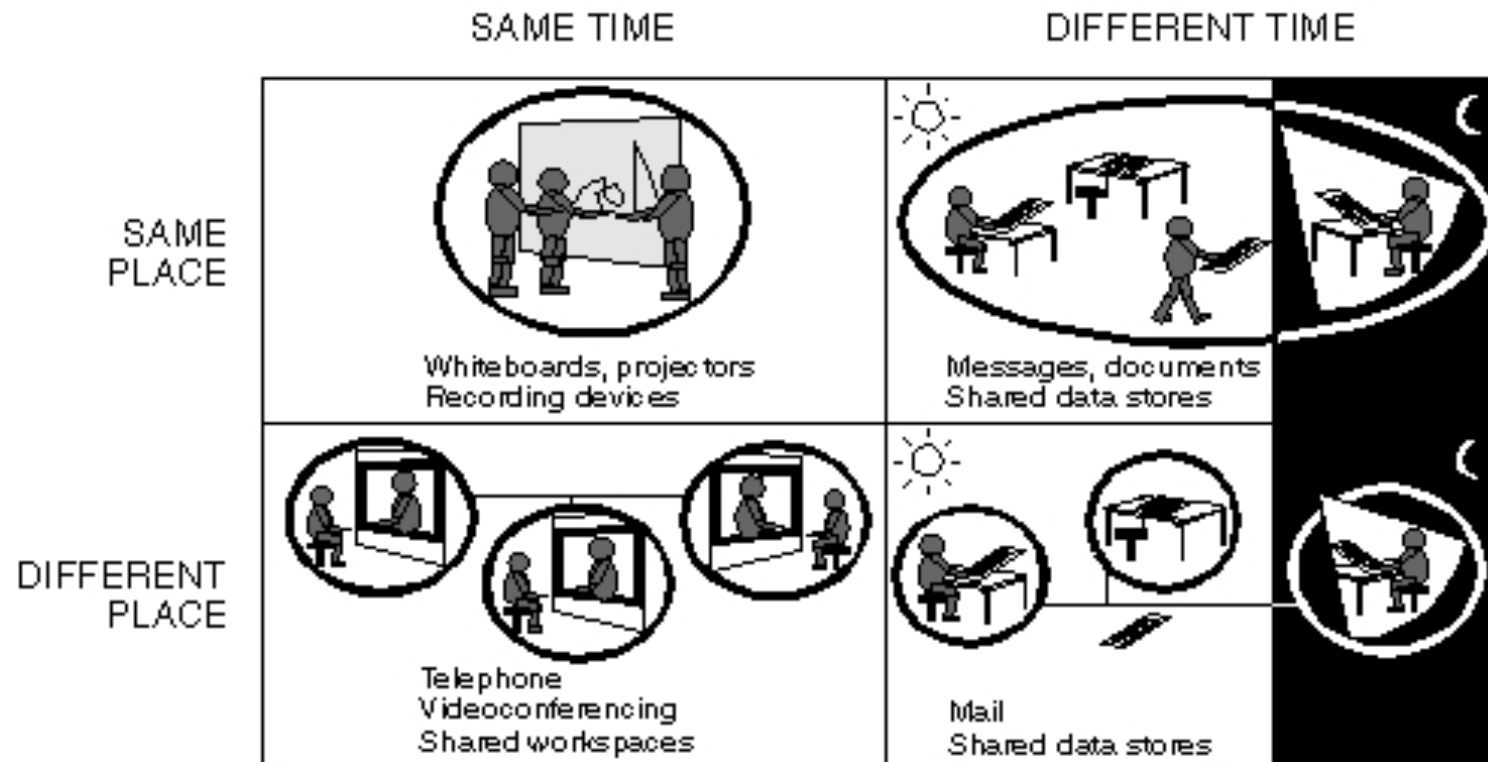
# Team Life-cycle



# Groupware

- Provide **communication** between group members
- **Collaboration**
  - Coordinate and control shared objects
  - Provide organisation and common understanding of the work processes and other people
  - Support decision making and problem solving

# Space-Time Matrix



# TIME

## Synchronous

- Advantages
  - Sense of immediacy
  - Real time
  - Newcomers can learn easily
  - Good for brainstorming (generating tasks)
- Disadvantages
  - Must be on-line at specific time
  - No time to reflect
  - Several conversations may appear at the same time and messages can get inter-twined
  - May require special download and configurations

## Asynchronous

- Advantages
  - easy to use,
  - no special equipment needed,
  - time to reflect,
  - registration may create a feeling of community
  - useful in the consolidation of the results from brainstorming, ideas evaluation, intellectual tasks, and judgement tasks
- Disadvantages
  - registration may discourage participation,
  - large number of posting may be overwhelming to users,
  - everything posted come to everybody,
  - context for responses have to be provided by including part of previous messages
  - Difficult to respond to a particular message in a digest

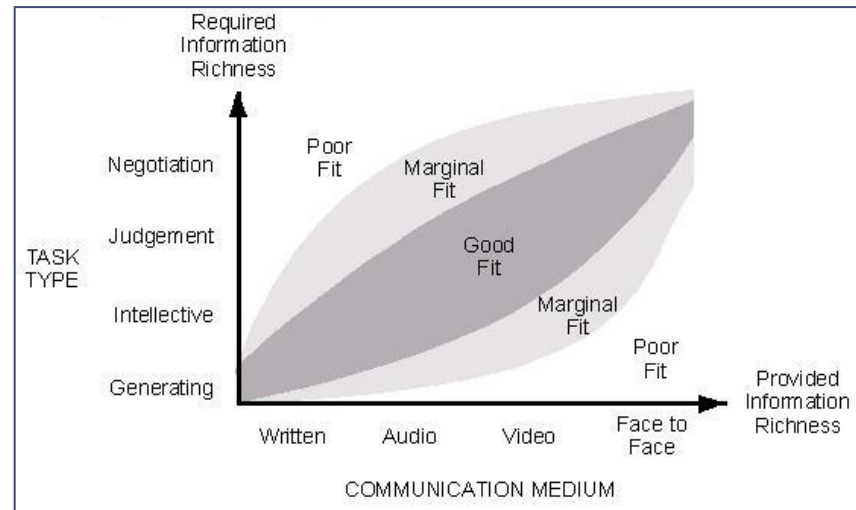
# Media richness

- Daft and Lengel define media richness as a function of
  - the medium's capacity for immediate feedback,
  - the number of cues and channels available,
  - language variety;
  - the degree to which intent is focused on the recipient



# Task taxonomy

- *Generating Tasks*: coming up with alternative solutions to a problem (as in brainstorming) or alternative options for action
- *Intellective Tasks*: solving problems with correct answers
- *Judgement Tasks*: deciding issues where there are no right answers
- *Negotiation Tasks*: resolving conflicts of interests or viewpoints



## 2 Functions of conversation

- Referential part of the message
  - The content of what we say
- Relational part of the message
  - The style of what we say
  - It reflects a perception of “Who I am”, “Who you are” in “what context are we”

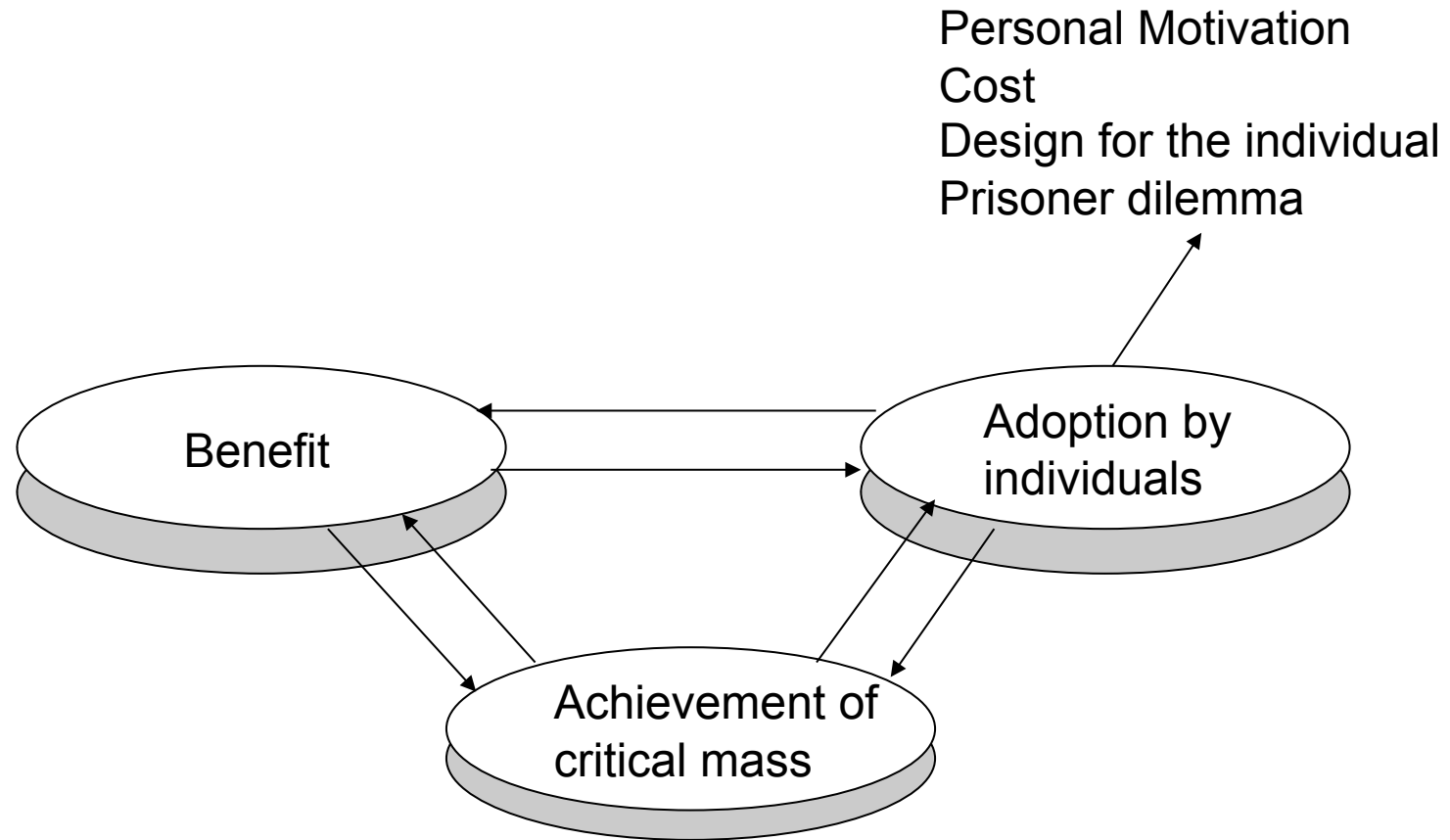
# Conversational rules

- Farewell
- Turn taking
- Break-downs
- How do they translate in CMC?

# Analysis of different media

- Telepresence
- Conference System
- Skype
- Second Life

# The 'Vicious circle'



# Design principles

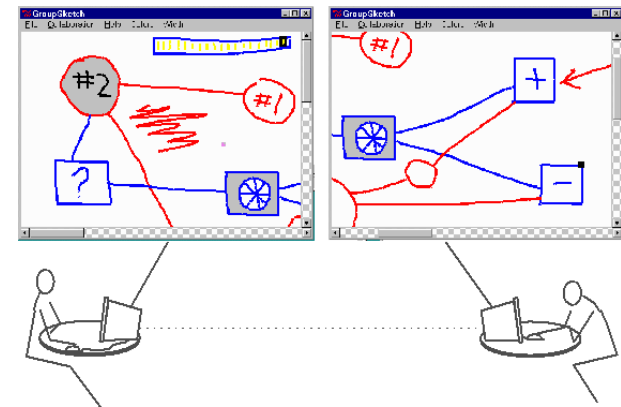
- Maximise Personal Acceptance
- Minimise Requirements
- Minimise Constraints
- Increase external integration

# Awareness

- What's going on?
  - Activity/Workspace awareness
    - Synchronous
    - Asynchronous
  - Informal awareness
    - Who is around and what are they doing?
  - Group-structural awareness
    - Organisation/ Workflow etc.
  - Social awareness
    - giving group members information helpful for making sense of others' actions, such as background on team members belief and knowledge'

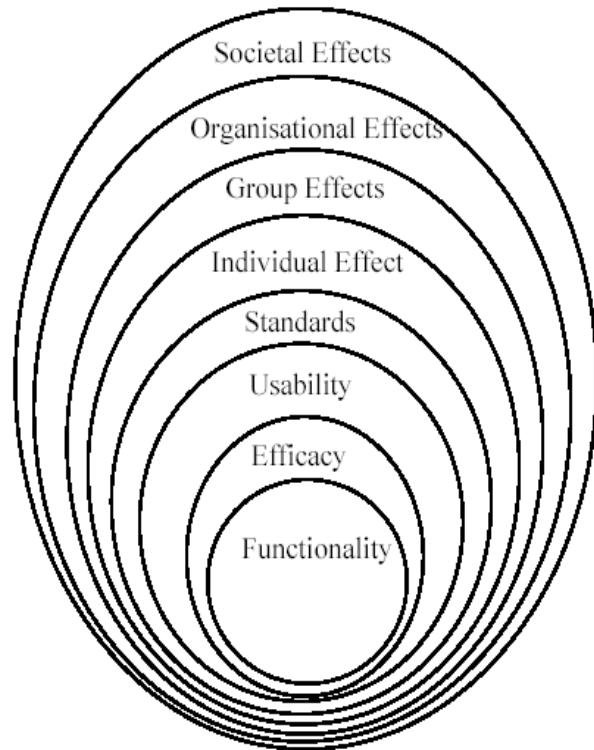
# WYSIWIS

- What You See Is What I See:
  - Consistent presentation of shared information
    - Strict form
      - Scroll wars
      - Window wars
    - Relaxed forms
      - Separation of workspaces
      - Personalised layouts and views
      - Time divergence





# What to evaluate?



1. Does it work? (*functionality*)
2. Does it work well enough? (*efficacy*)
3. Is it workable with? (*usability*)
4. Does it follow the *standards* laid down by various bodies? (*standards*)
5. What does it do to those who work with it? (*individual effect*)
6. What does it do to their work? (*group effects*)
7. What does it do to those they work with and for? (*organisational effects*)
8. What does it do to the world beyond work? (*societal effects*)

# When to evaluate?

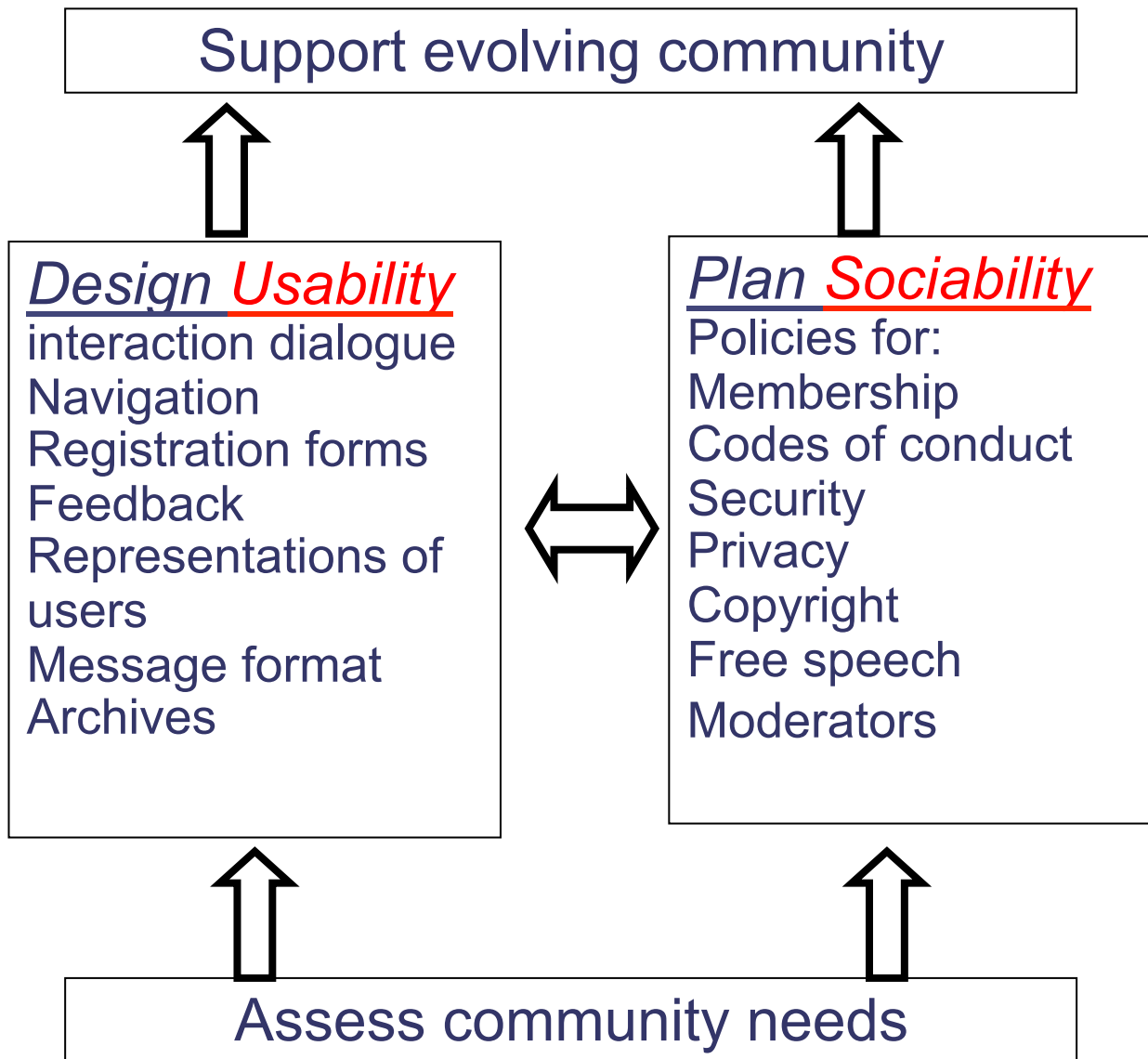
- **Concept evaluation**
  - Analyse potential impact of new socio-technical system on the basis of scenarios
  - Before implementation -> requirements (four principles of groupware design)
- **Prototype evaluation**
  - Test if the applications function as they were planned and whether user-interfaces are usable
  - During implementation -> grounded design decisions
- **Operational evaluation**
  - Evaluate impact of technology on work setting: communication, social interaction, quality of work and organisational efficiency
  - After implementation -> adoption knowledge & requirements for new technology

# How to evaluate?

- **Inspection methods:** evaluators ‘inspect’ an interface according to a set of criteria
  - Heuristics (HCI)
- **User observations:** evaluators observe users performing tasks within a semi-controlled setting
  - User testing (HCI)
  - Laboratory experiments (cognitive/social psychology)
- **Verbal methods:** evaluators ask users their opinion
  - Interviews, Questionnaires, Focus Groups and Customer Feedback (social psychology & marketing)
- **Field studies:** evaluators study people interacting within their world
  - Ethnography (HCI)
  - Conversation Analysis and Interaction Analysis (Ethnomethodology)
  - Breakdown Analysis (Breakdown Analysis)

# On-line communities

- have a purpose are supported by technology and are guided by policies
  - Where does the community exist?; Why does it exist?; How does it exist?; What is its history?
- **Technical + Social definition**
  - On-line communities are social congregations of individuals which meets and Interact on the Internet.
  - Members have a shared goal, interest, need or activity which provides the primary reasons for belonging to the community.
  - Members engage in repeated active participation and there may be strong emotional ties between participants.
  - Members have access to shared resources and there are policies for determining access to those resources.
  - There is a shared context of social conventions, language and protocols.



## Community-centered development approach

1. Assessing community needs and analysing user tasks: requirements analysis
2. Selecting technology and planning sociability: community needs are mapped to technology. Sociability is planned at this level.
3. Designing implementing and testing prototypes: in this stage the overall conceptual design is planned. Communication tools are incorporated within web-pages in an iterative design.
4. Refining and tuning sociability and usability: usability and sociability testing
5. Welcoming and nurturing the community: this stage involves seeding the community.

# Culture & the internet

- Global medium: but users and designers have different backgrounds, live in different environments, and belong to different cultures.
- Different styles of communication can lead to misunderstandings and problems
  - Standards for writing time, dates, addresses, and numbers can also cause confusion
  - Differences in symbols, colors, and metaphors.
  - Style of writing may be considered friendly in one culture and offensive in another
- Awareness of cultural values is fundamental for the success of e-business
- 2 models to understand cultural differences
  - Hofstede cultural values
  - Independent / interdependent self

# Cultural differences

- Hofstede's cultural value dimensions
- Power distance
  - the extent to which the members of a society accept inequality in power
- Individualism vs. collectivism
  - Individualistic cultures consider individuals as core of the social structure and expect individuals to look after themselves. Collective cultures stress the importance of groups and expect members of a group to support each other
- Masculinity vs. femininity
  - Masculinity stands for a society where gender roles are clearly distinct (e.g. men are competitive and tough; women are caring and social orientated). Femininity stands for a society where social gender roles overlap
- Uncertainty avoidance
  - the extent to which a society feels uncomfortable with unknown situations, ambiguity and uncertainty
- Long vs. short term orientation
  - Long-term orientation encourages virtues oriented towards future rewards. Short-term orientation promotes virtues related to rewards at the present time.



# Differences in Communication

- Low-context
  - Direct meaning in words
- High-context
  - Meaning distributed in several verbal and non-verbal cues