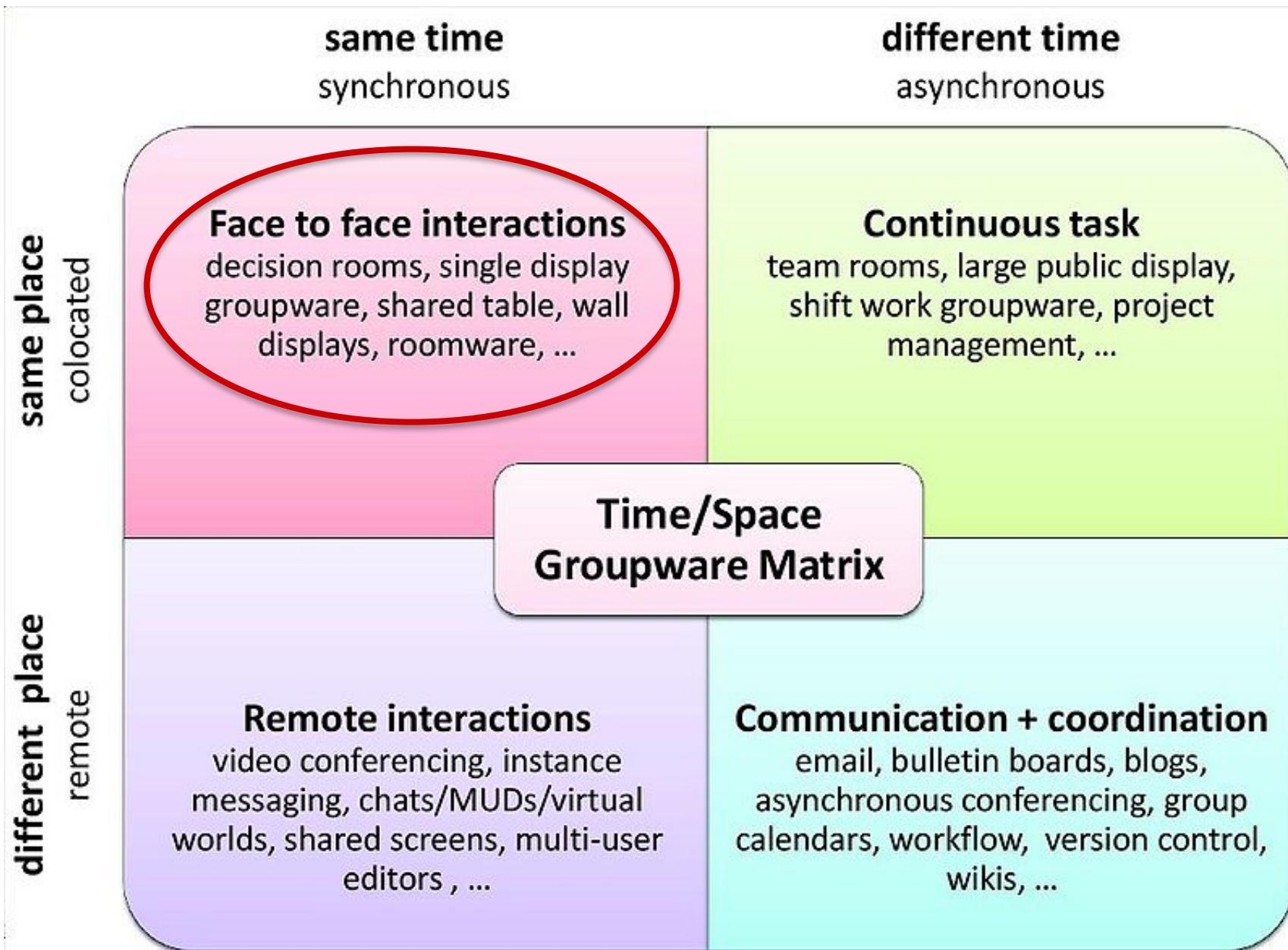


CSCW Technologies over time

CSCW Fall 2015

Margaret-Anne Storey



Group Decision Rooms

- Embeds decision making process
 - dedicated computer-based conference facility
 - real time large group support (5-50)
 - typically facilitated
 - may embed a structured meeting process
- Typical function
 - explore unstructured problems
 - brainstorm ideas
 - organize/prioritize results
 - voting...
 - good for brainstorming



The COLAB meeting room, Xerox PARC
<http://www2.parc.com/istl/members/stefik/colab.htm>

Single Display Groupware

- Multiple people using a single display
 - multiple input devices
 - simultaneous input
 - new interaction widgets
 - technical issues (O/S)
 - conflict with conventional applications
 - supporting social conventions of simultaneous work
 - mice vs. direct touch...



Edward Tse
<http://grouplab.cpsc.ucalgary.ca/papers/2004/04-SDGToolkit-MScThesis/SDGToolkit-MSc.pdf>

Shared Table / Wall Displays

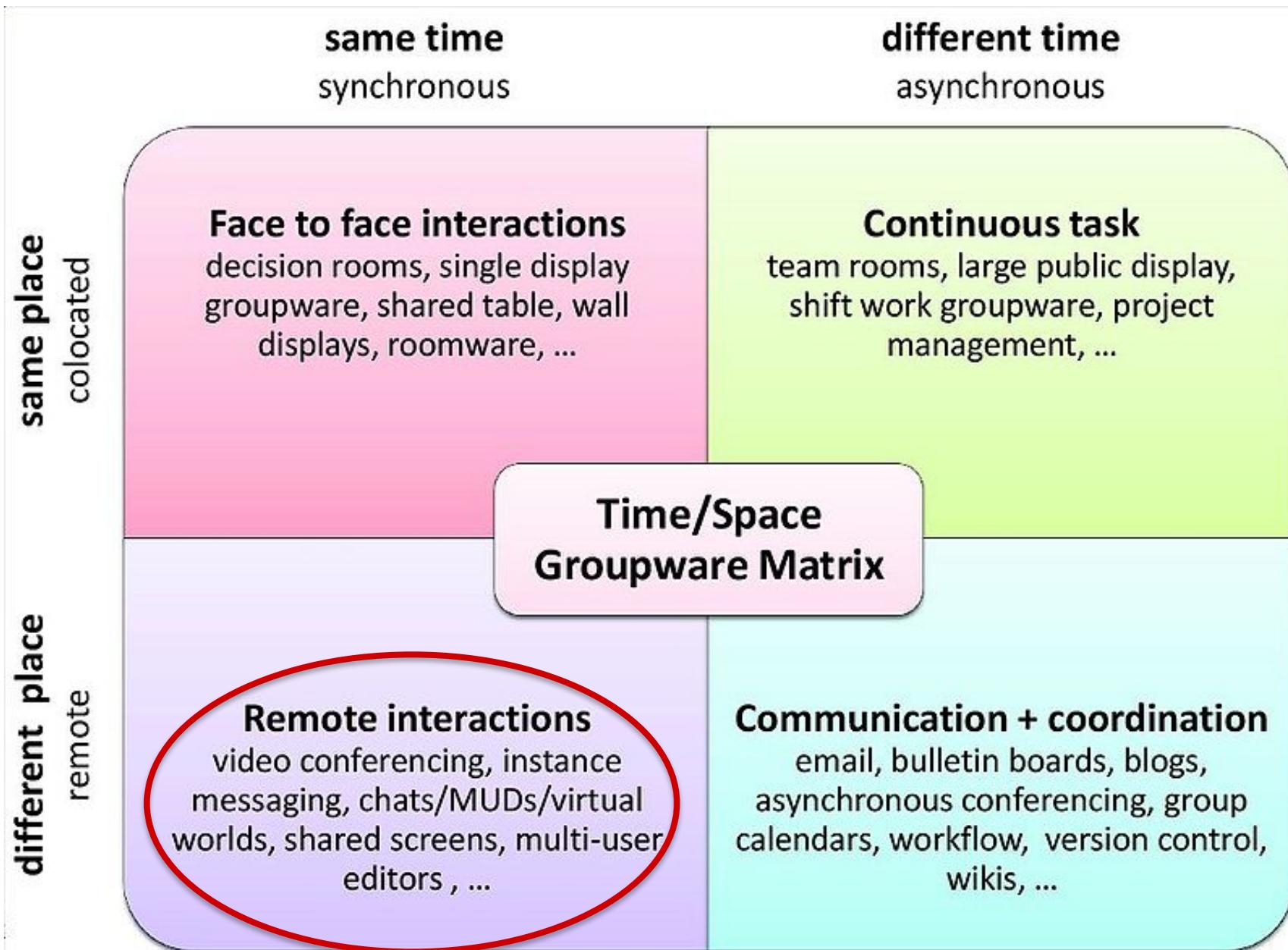
- device characteristics
- social affordances of tables/wall



Roomware

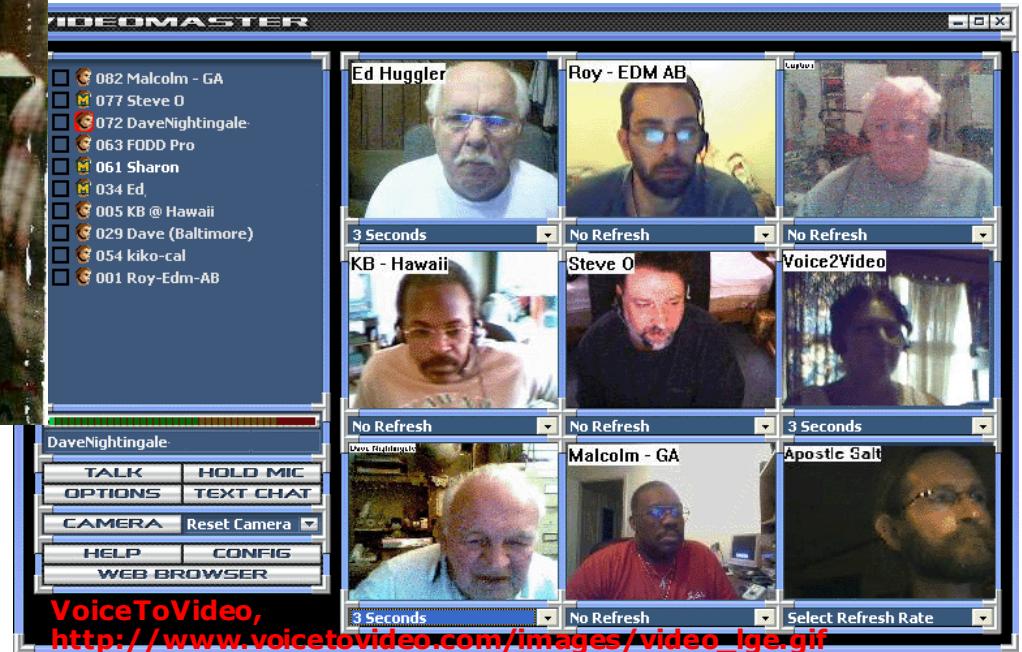
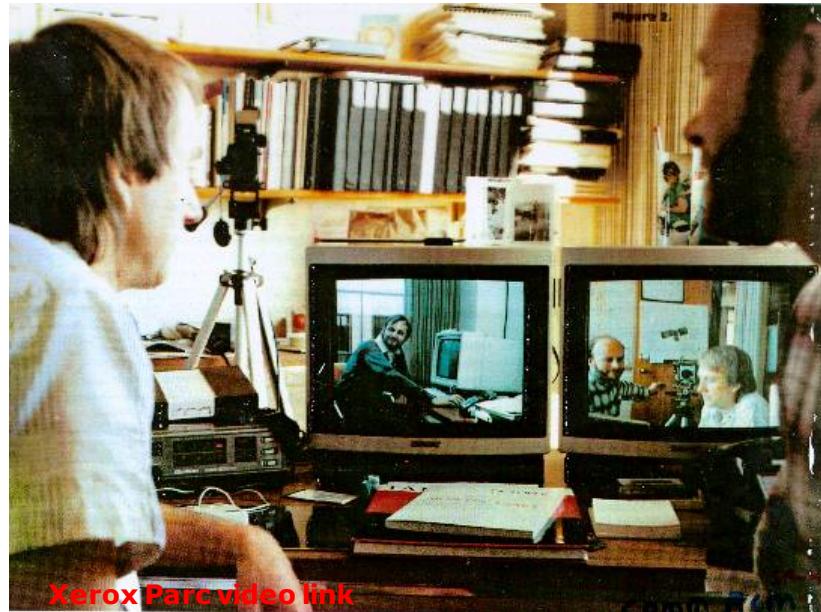
- Computer-augmented room elements
 - integrated desk/wall displays for collaboration
 - Inter-operation between devices





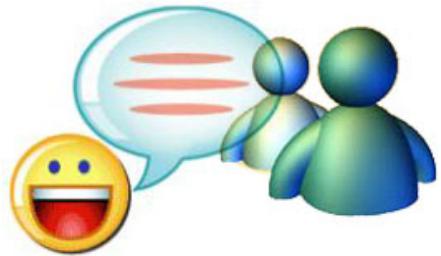
Video / Audio conferencing

- Desktop conferencing
 - bandwidth/latency issues
 - what is the value of talking heads?



Instant messenger

- Casual interaction
 - awareness to light-weight conversations
- Killer app
 - evolving social norms
 - defining communities



"How did they get through boring lectures back in the days of paper? I can IM and it looks just like note-taking!"

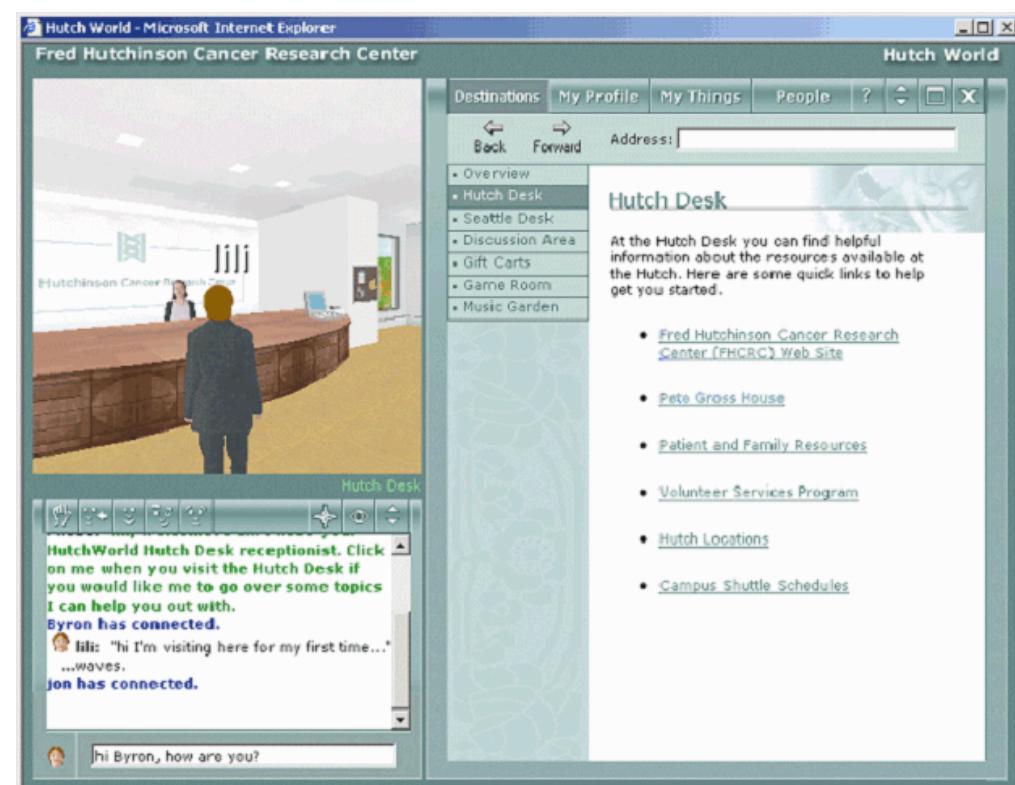
Rich Instant Messaging

- Can do much more than text
 - How does one handle complexity?
 - How does one handle interruption?



Chat rooms/MUDS/Virtual worlds

- Space for meeting and interacting with people
 - from text to 3d spaces
 - can move between ‘rooms’ and/or around space
 - seeing/manipulating artifacts
 - self-representation (avatars)
- community of strangers
- shared purpose...



Shared Screens/Windows

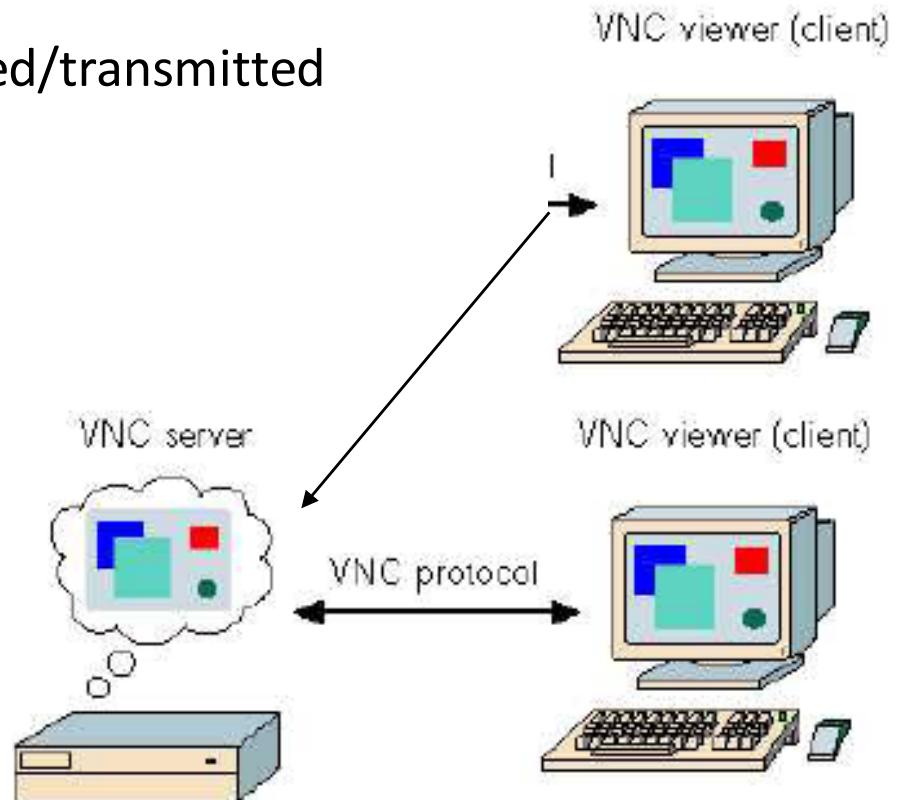
Share unaltered single user applications

- technical concerns

- how regions are captured/transmitted
- architectural limitations
- controlling input
- access control...

- social limitations

- turntaking
- control
- privacy

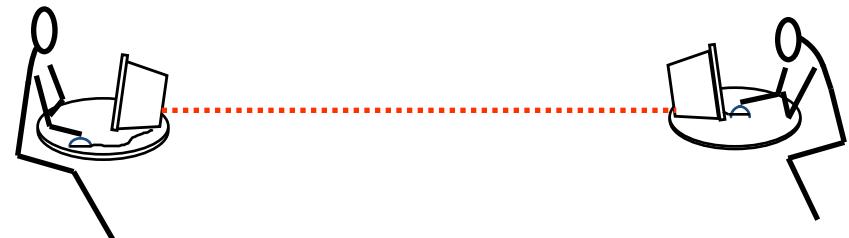
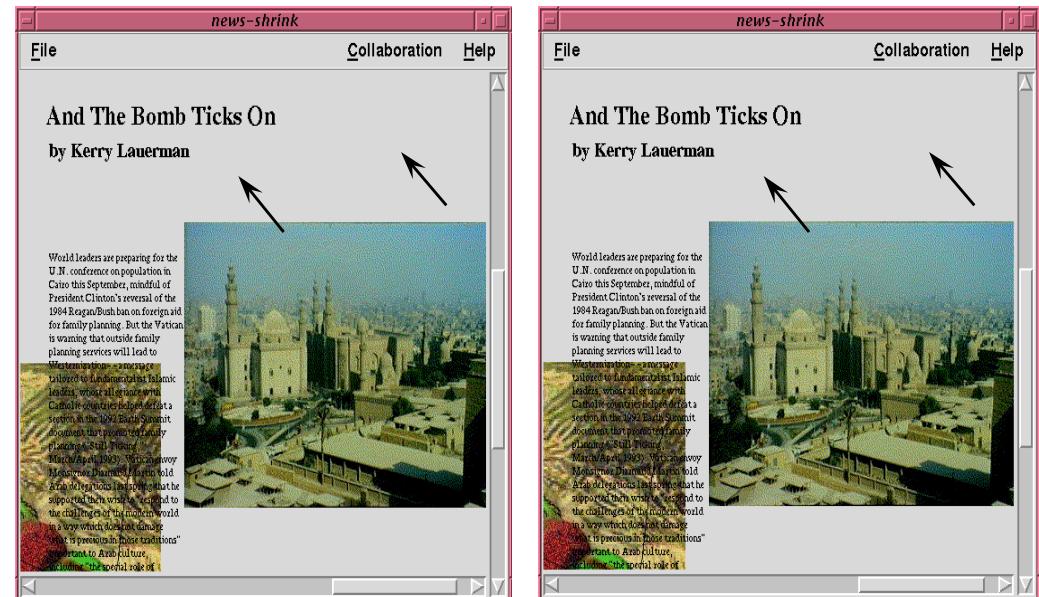


Richardson, T., Stafford-Fraser, Q., Wood, K. and Hopper, A.

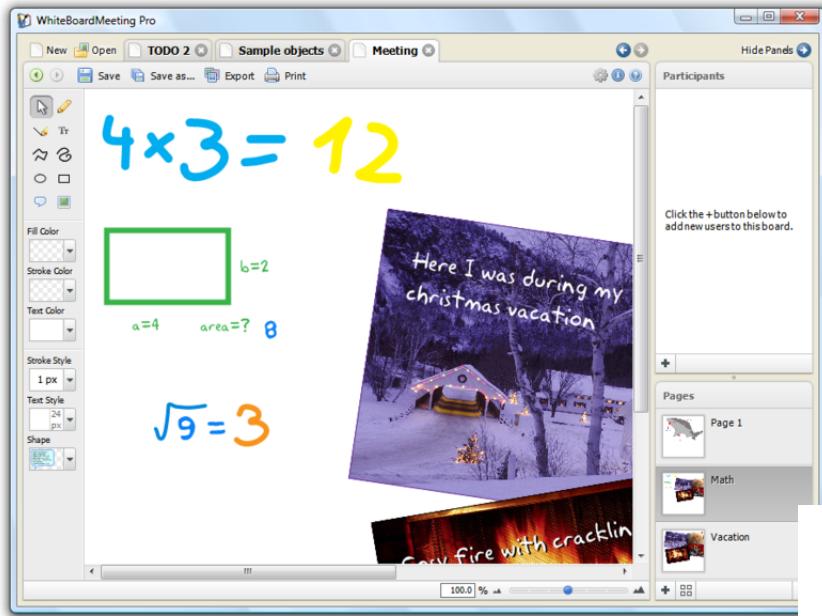
Virtual Network Computing. IEEE Internet Computing.
Vol. 2, No. 1. p33-39. January/February, 1998.

Multi-user editors

- True groupware for visual artifacts
 - structured documents (e.g., text paper)
 - visual workspace (2d graphics)
 - awareness
 - conflicting actions
 - tight vs. loose coupling
 - relaxed WYSIWIS
 - Google docs!

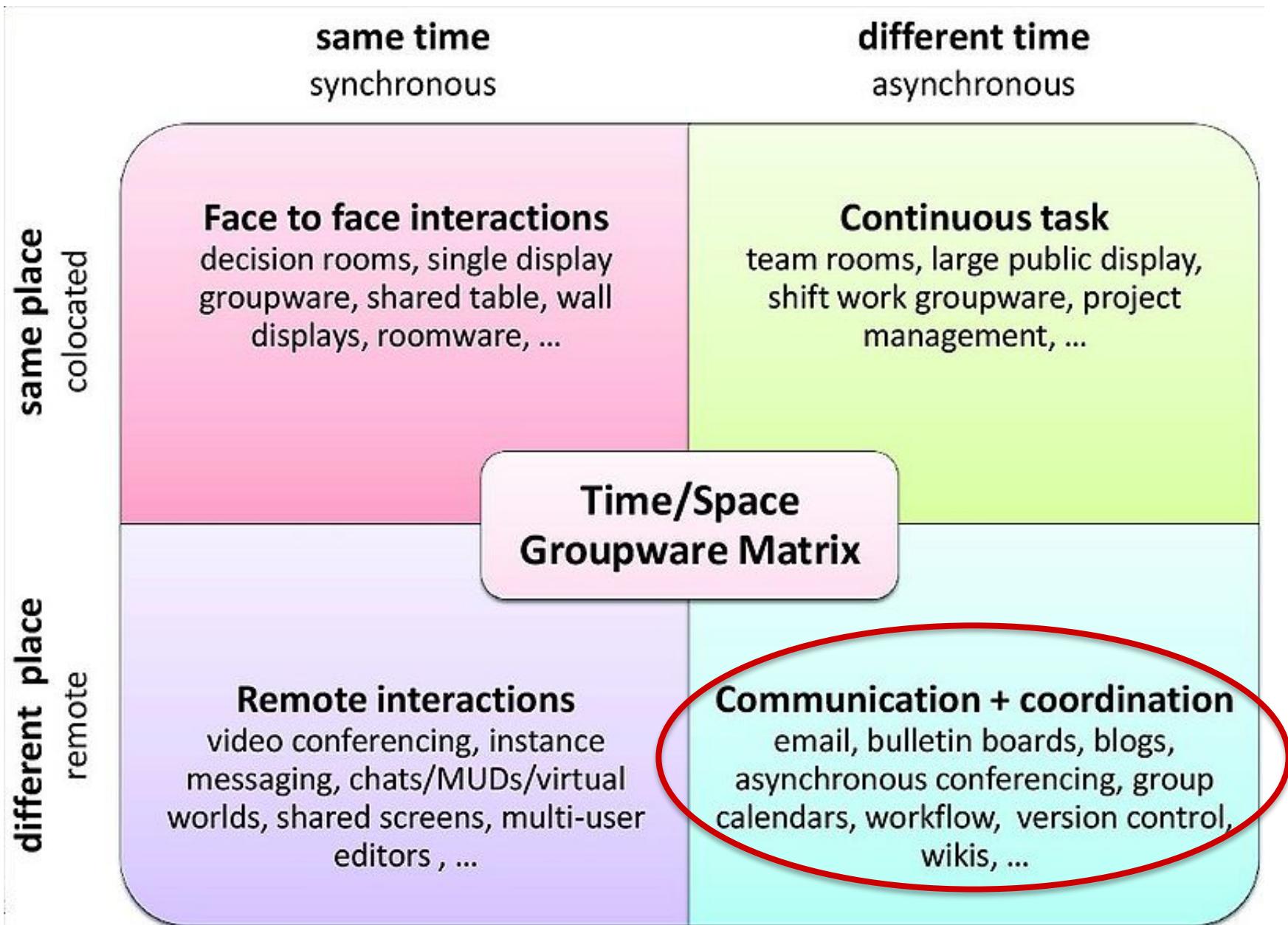


Collaborative editors cont.



A screenshot of Google Spreadsheets showing a context menu for a spreadsheet titled "Little League Schedule". The menu options include "New", "Open", "Save as...", "Download as .xls", "Download as .csv", "Get HTML", "Upload new version", "Rename", "Delete", and "Close". The "Download as .xls" option is highlighted with a blue selection bar. The spreadsheet itself shows a table with columns for Date, Home, and Field, and rows for New Jersey Central, Dawn Field, Sunrise Field, John L. Field, and Princeton Field. The "Field" column is currently selected.

| | A | |
|---|--------------------|-----------------|
| 1 | | |
| 2 | New Jersey Central | |
| 3 | Scheduled Date | Home |
| 4 | 4/1/2006 | Chester |
| 5 | 4/8/2006 | Princeton |
| 6 | 4/15/2006 | Summit |
| 7 | 4/22/2006 | Dawn Field |
| | | Sunrise Field |
| | | John L. Field |
| | | Princeton Field |



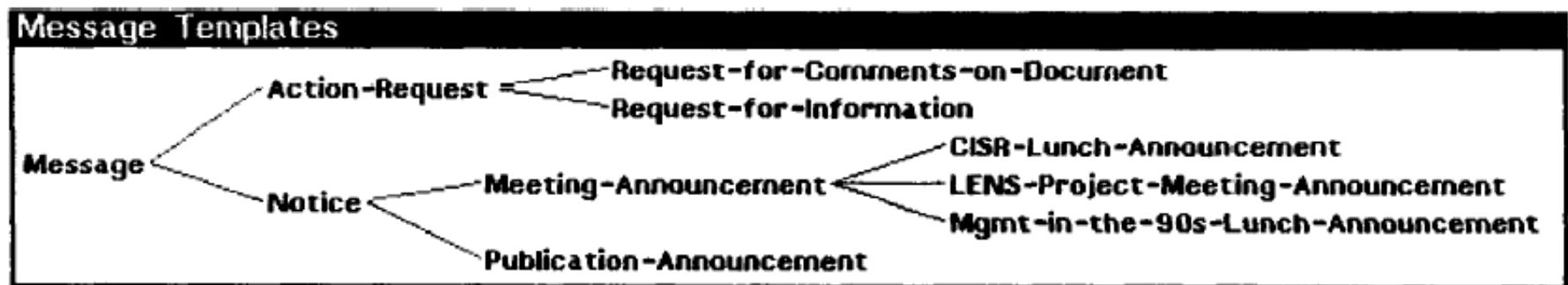
Email

- Many styles
 - vanilla email
 - threaded mail
 - intelligent mail (routing / sorting)
 - structured mail (by speech acts)
 - multimedia mail
 - distribution lists / elist servers
- Social
 - managing complexity and overloads
 - spam
 - archiving



Email – Information Lens

- Structured email
 - messages as inherited object types



- Rule

Save

Rule Editor for VIP

Name VIP

.....

IF

To:
From: Silk, Siegel
cc:
Subject:
Date:
Sender:
Message type:
Text:
Characteristics:
.....

THEN

Set Characteristics: VIP

Save

Rule Editor for Urgent

Name Urgent

.....

IF

To:
From:
cc:
Subject:
Date:
Sender:
Message type: Message
Text:
Characteristics: VIP
.....

THEN

Move To: Urgent

Save Cancel

Delete Non-Tuesday Meetings

Name Delete Non-Tuesday Meetings

.....

IF

To:
From:
cc:
Subject:
Date:
Sender:
Message type: Meeting Announcement
Day: Not Tuesday
Time:
Text:
Characteristics:
.....

THEN

Delete

Communal Messaging

Many types

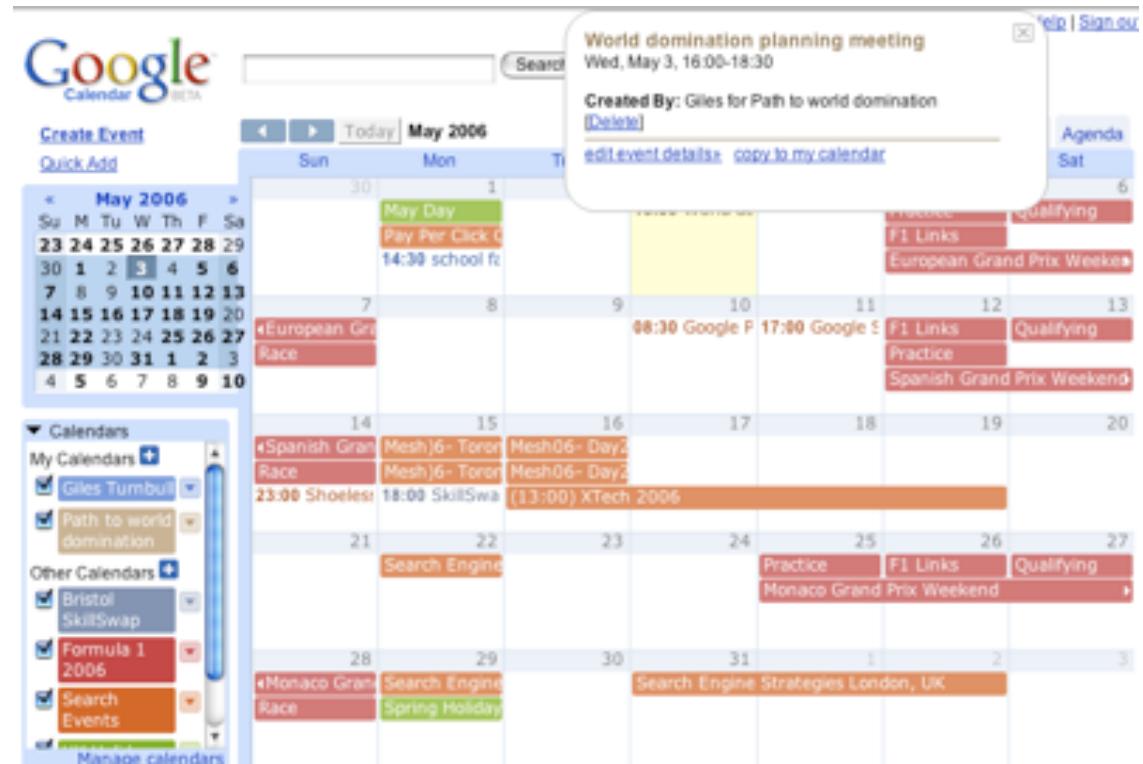
- bulletin boards
- computer conferencing
- discussion groups
- blogs
- e.g., Usenet

The screenshot shows a Microsoft Internet Explorer window displaying the NECTAR News website. The address bar shows the URL <http://www.nectar-research.net/news/>. The page header features the NECTAR logo and the text "NECTAR News" with the subtitle "Informing faculty, students and industry partners". A green navigation bar at the top includes links for "HOME", "ARCHIVES", "ABOUT", and "CONTACT". To the right, there is a sidebar titled "Categories" with links to "Organizational News", "People Happenings", "Project Summaries", "Publications", and "Uncategorized". Another sidebar titled "Researchers" lists "DGP Lab - U.Toronto", "HCI@Dal - Dalhousie U.", "Human Media Lab - Queen's U.", "iLab - U. Calgary", and "Imader Lab - UBC". The main content area contains an article by "Gregor McEwan and Saul Greenberg" titled "Supporting Social Worlds with the Community Bar". The article discusses the Community Bar as groupware for informal awareness and interaction. Below the article is a screenshot of the Community Bar interface, showing a list of users and their status. At the bottom of the page, there is a "Discussions" section with a note that discussions are not available.

Group Calendars

common calendar

- meeting scheduling
- resource use
- privacy
- who keeps things up to date?
- how do you stop people scheduling your meetings?

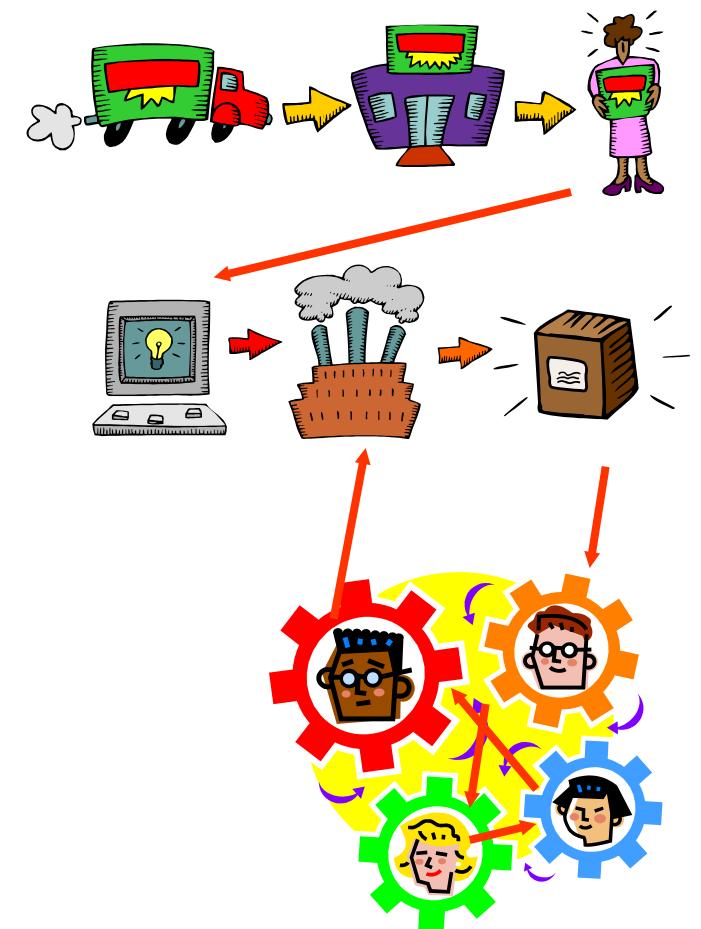


Workflow

“Integration and harmonious adjustment of individual work efforts toward the accomplishment of a larger goal” –
B. Singh

Codified procedures and processes

- PeopleSoft
- forms management and routing
- coordination theory (speech acts)
- Notifications triggering user actions
- triggering automated actions
- standard operations
- exceptions management



Wikis

Group-viewable / editable web site

- community of strangers
to
community of collaborators
- culture of what is allowed
vs.
hard-coded access control

Main Page - Wikipedia, the free encyclopedia - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://en.wikipedia.org/wiki/Main_Page Go Links >

Google wikipedia Search 11 blocked AutoFill Options

Create account / log in

Main Page

From Wikipedia, the free encyclopedia.

Welcome to Wikipedia, the free encyclopedia that anyone can edit. In this English version, started in 2001, we are currently working on 726,402 articles.

CULTURE | GEOGRAPHY | HISTORY | LIFE | MATHEMATICS | SCIENCE | SOCIETY | TECHNOLOGY

Browse by subject · Browse portals Article overviews · Alphabetical index · Other indexes

navigation

- Main Page
- Community portal
- Current events
- Recent changes
- Random article
- Help
- Contact us
- Donations

search

toolbox

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link

Today's featured article

The

In the news

- Japan general election: Junichiro Koizumi leads his Liberal Democratic Party to win 296 of 480 seats in the House of Representatives

Home Wiki

Announcements Assignments Forums Syllabus and Links Calendar Resources Wiki Site Info Search Mailtool Blogger Help

Users present: Margaret-Anne Storey

Who We Are On Twitter!

For anonymity purposes, I suggested you may wish to use an anonymous ID on twitter... this somehow disrupts our "discussion flow" it will take us a while to learn who everyone is on twitter!

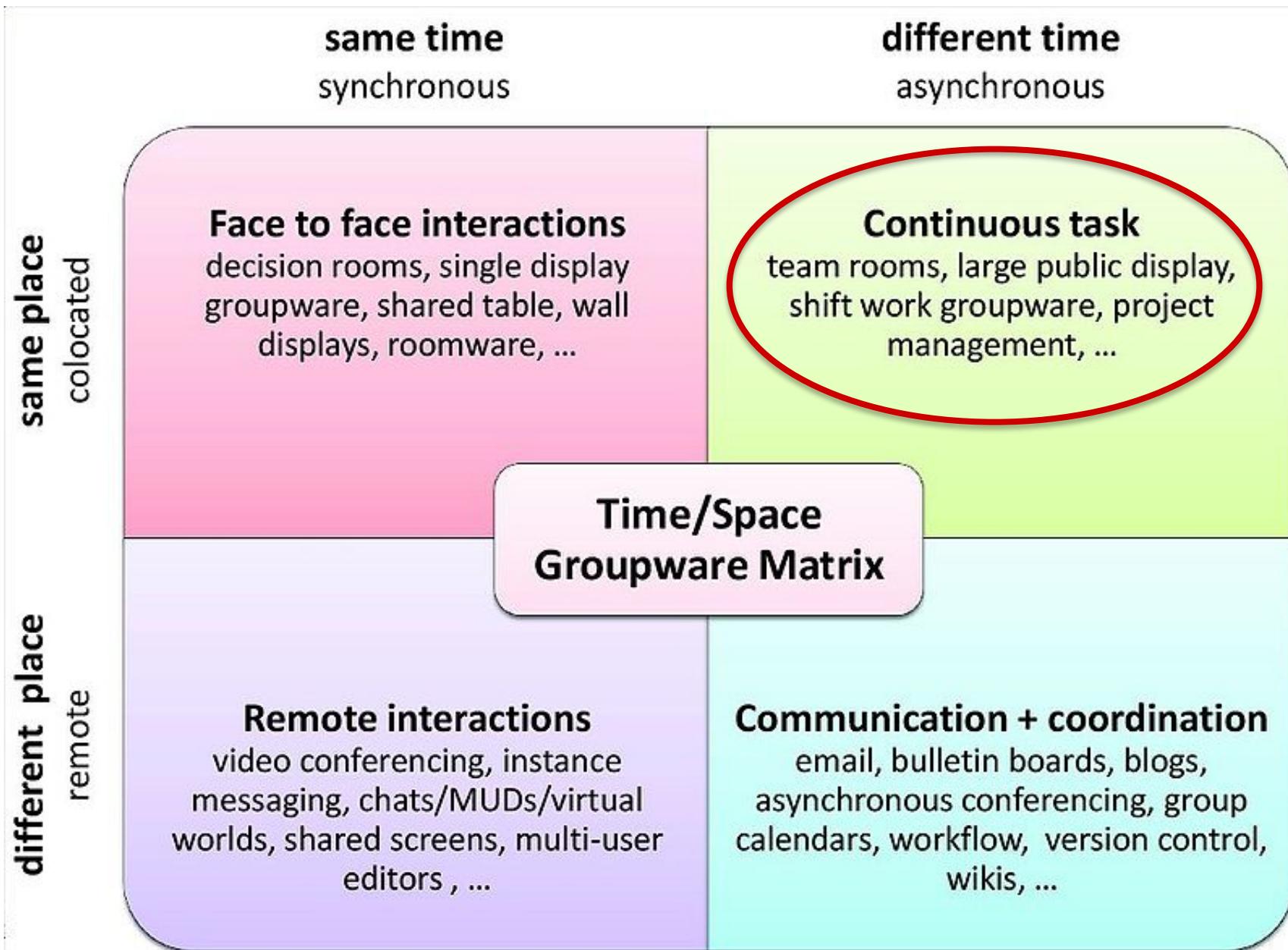
To help on this, please add your secret id mapping here!!!

cscwuvic = Peggy Storey
joenintendo = Mack Friesen
warwickCSCW = Bob Warwick
lunafiko = Grigory Kruglov (using a "real" account, but will create an anon one if that's really necessary!)
v3ec = Alejandro Erickson
gbougle = Gargi Bougle (not very secret ;)
sygao = Shelley Gao
hanyuzcscw = Hanyu Zhang

Who We Are On Twitter last modified by Hanyu Zhang on Wed, 16 Sep 2009 20:08:36 -0700

Comment

Comment by: Gargi Bougle on 2009-09-16 14:54:14.0 Comment Edit



Community Bulletin Boards

Post information from various sources to public place

- who posts?
- how to personalize?
- relevance?



Control Rooms

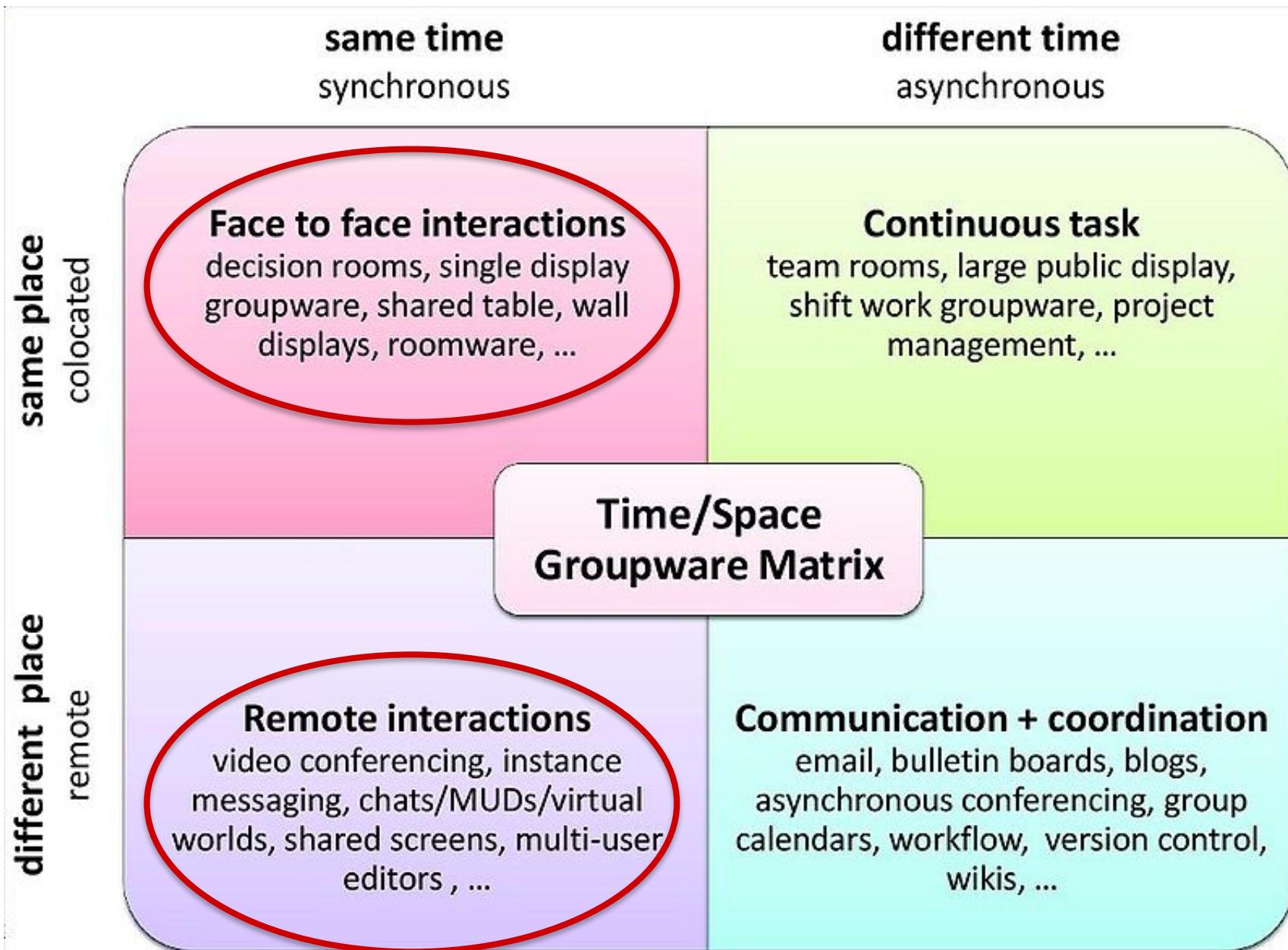
- Information that goes across shifts



Reuters,
http://www.electrosonic.com/command_and_control.shtml



NASA Mission Control Center
<http://spaceflight.nasa.gov/shuttle/reference/mcc/>



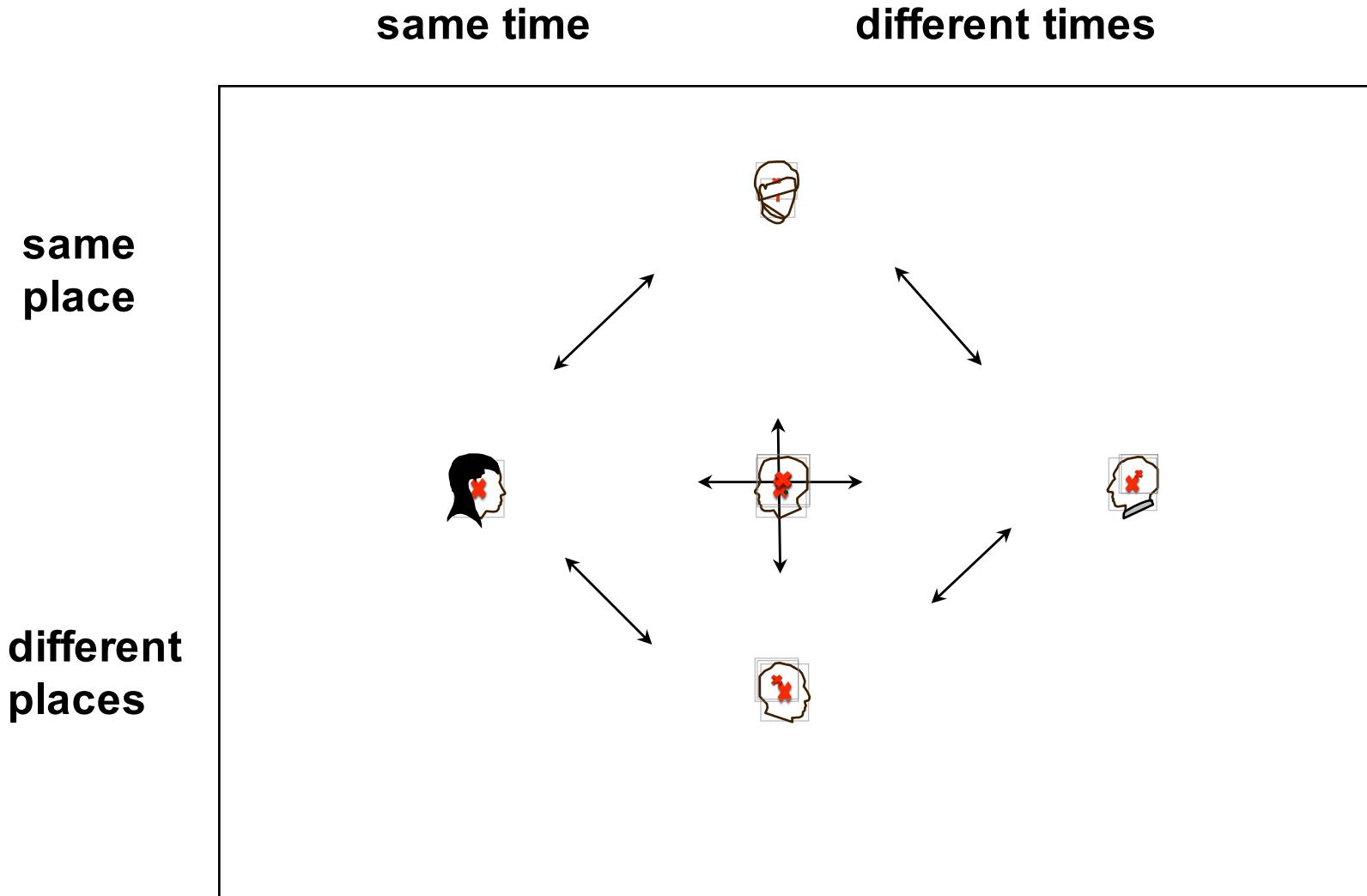
Connected meeting rooms

Meeting / classroom

Video / audio links



Anytime, any place “groupware”



Surface Hub



HoloLens



Google Glass



CSCW Tool Design

Collaboration Framework of Technology Features

| | Real time | Asynchronous |
|----------------------------|---|---|
| Communication | <ul style="list-style-type: none">» Telephone» Video conferencing» Instant messaging» Texting | <ul style="list-style-type: none">» Email» Voice mail» Blogs» Social networking sites |
| Information sharing | <ul style="list-style-type: none">» Whiteboards» Application sharing» Meeting facilitation» Virtual worlds | <ul style="list-style-type: none">» Document repositories» Wikis» Web sites» Team workspaces |
| Coordination | <ul style="list-style-type: none">» Floor control» Session management» Location tracking | <ul style="list-style-type: none">» Workflow management» CASE tools» Project management» Calendar scheduling |

Design and Adoption Challenges

| | |
|----|---|
| 1. | Disparities in effort required and benefits for individuals |
| 2. | Limits of informed intuition: Managers & designers beware |
| 3. | Achieving Critical Mass and avoiding Prisoner's Dilemma |
| 4. | Avoiding other social & motivational pitfalls |
| 5. | Exception-handling: The bane of workflow & other systems |
| 6. | Designing for low-frequency events |
| 7. | The difficulty of evaluation |
| 8. | Designing with an adoption process in mind |

Table 27.3: Eight design and adoption challenges.

Opportunities?

- Constant **reinvention** of technologies, less expensive to use, more accessible
- From awareness to too much awareness
- **Immersive** technologies? Interest has waxed and waned
- Domains of education, medicine and software development are seeing rapid adoption of collaborative technologies – focus for study, but also need for **new skills** in those domains
- How to deal with **transparency**?

But...

- We need to **adapt** the technology to the organization and ***vice versa*** (Bannon)
- Even a small change can lead to significant changes... we need to study and understand those changes (can we predict them?)