

Computer-Supported Cooperative Work and Computer-Mediated Communication



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Definitions

- Computer-Supported Cooperative Work
 - Any aspect of cooperative work in which digital technology plays a role
 - By Irene Greif and Paul Cashman in a 1984 workshop
- Computer-Mediated Communication
 - Human communication via electronic devices

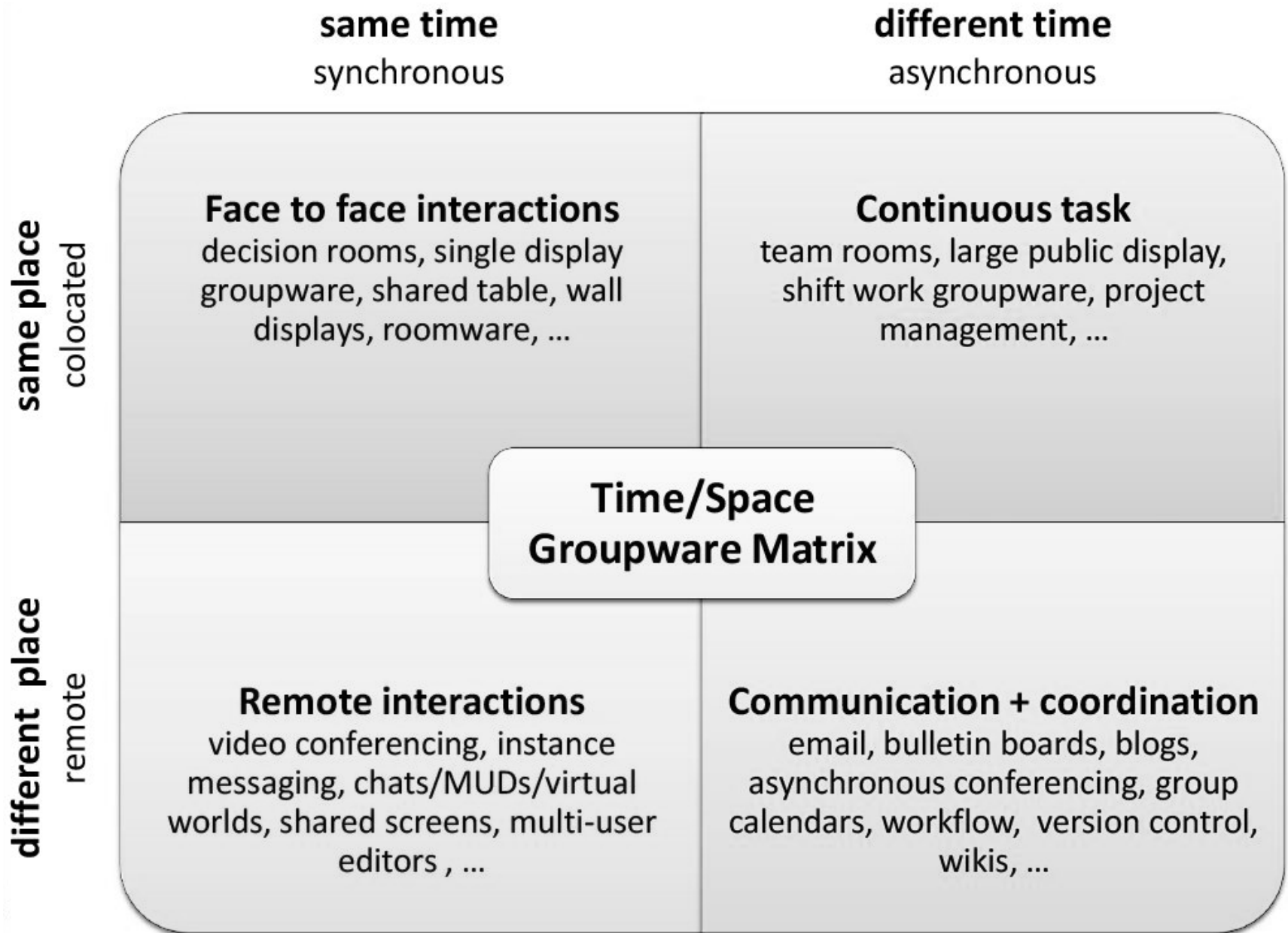




Classification

- Group Size and Relationship
 - Small group, organization, community, crowd
 - Family, friends, co-workers, neighbors, strangers, etc.
- Time
 - Synchronous, asynchronous
- Space and Location
 - Co-located, distributed
 - Home, public places, etc.
- Task Type
 - Information sharing
 - Decision making
 - Management
 - Creativity





<https://www.interaction-design.org/ux-daily/65/cscw-%28computer-supported-cooperative-work%29-a-quick-introduction>

Media Richness

Media Synchronicity





“Computer-Supported”

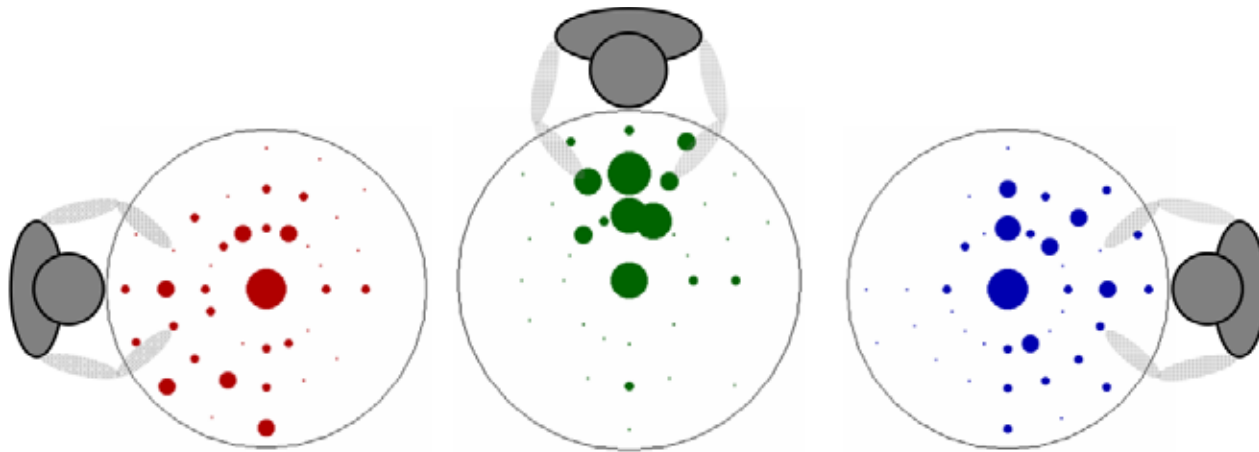


<http://www.sharefile.com/blog/office-blankets/>

Microsoft PixelSense Table Surface



<http://www.microsoft.com/en-us/pixelsense/default.aspx>



Activity Table

Person	Central	Western Actions				Northern Actions				Eastern Actions				
		Midway	FP Edge	Table Edge	Half	Midway	FP Edge	Table Edge	Half	Midway	FP Edge	Table Edge	Half	
W 		43 (38%)	23 (68%)	25 (74%)	14 (88%)	135 (63%)	43 (34%)	12 (12%)	2 (6%)	82 (24%)	8 (40%)	6 (14%)	0 (0%)	52 (19%)
N 		27 (24%)	3 (9%)	5 (15%)	0 (0%)	49 (23%)	51 (40%)	58 (60%)	29 (88%)	153 (45%)	5 (25%)	8 (19%)	1 (7%)	72 (27%)
E 		42 (38%)	8 (24%)	4 (12%)	2 (13%)	30 (14%)	32 (25%)	27 (28%)	2 (6%)	107 (31%)	7 (35%)	29 (67%)	14 (93%)	146 (54%)

"Territoriality in Collaborative Tabletop Workspaces" by Stacey D. Scott, M. Sheelagh T. Carpendale, Kori M. Inkpen

Immersive Video Conferencing System



http://www2.marketwire.com/mw/frame_mw?attachid=984154



http://www.telepresenceoptions.com/2007/10/polycom_expands_telepresence_p/



https://graphics.ethz.ch/research/images_video/telepresence/gaze.php

"Shelbot"







Eric Whitacre

"Shape-Changing Bench"

Erik Grönvall, Sofie Kinch, Marianne Graves Petersen, and Majken K. Rasmussen. 2014. Causing commotion with a shape-changing bench: experiencing shape-changing interfaces in use. In CHI '14.



WoO controlled

Programmed



Concert hall foyer

Airport departure hall

Shopping mall



“Collaborative Work”: Groups

Formal

Informal

Home	Your family	Your roommates
Social	University Parents Community	Dragon boat team
Work	CSE Department	student study group
Online	Online fan club	World of Warcraft



What is different in work groups?

- Instrumental goals > relationship goals
 - Process: organization, markets
 - Performance: Efficiency, effectiveness
- Explicit hierarchy, roles, tasks, rules
 - Powerful informal processes and relationships
 - Bureaucracy
- In both work and social groups
 - Multiple memberships and projects.





What is different in online groups?

- Participation is easier; so is leaving
- Dispersed in time and space
- Potentially larger, e.g., a community*
- More ephemeral
- Potentially more malleable—more amenable to design interventions



*A group is not the same as a network



What is unique about groups?

- Interpersonal influence & support through bonds
 - Relationships
- Group influence
 - Through group (social) identity and social pressure
- Hierarchy
 - Leadership
- Development over time
 - Roles (differentiation of behavior)
 - Norms and culture (“how we do things”)
 - Shared purposes & resources
 - Interdependence





“Collaborative Work”: Tasks

- Generate
 - Creative tasks
 - Planning tasks
- Negotiate
 - Cognitive conflict
 - Mixed motive tasks
- Choose McGrath, J. (1984) *Groups: Interaction and Performance*
 - Knowledge tasks (have a right answer)
 - Judgment tasks (no single right answer)
- Execute
 - Psychomotor
 - Contests





“Cooperative Work”: Communication

- Explicit information, e.g.
 - Data
 - Files
- Implicit information, e.g.
 - Group culture
 - Emotion



Brief Mood Introspection Scale (BMIS) by John D. Mayer

INSTRUCTIONS: Circle the response on the scale below that indicates how well each adjective or phrase describes your present mood.

(definitely do not feel) (do not feel) (slightly feel) (definitely feel)

XX					X	V	VV					
Lively	XX	X	V	VV				Drowsy	XX	X	V	VV
Happy	XX	X	V	VV				Grouchy	XX	X	V	VV
Sad	XX	X	V	VV				Peppy	XX	X	V	VV
Tired	XX	X	V	VV				Nervous	XX	X	V	VV
Caring	XX	X	V	VV				Calm	XX	X	V	VV
Content	XX	X	V	VV				Loving	XX	X	V	VV
Gloomy	XX	X	V	VV				Fed up	XX	X	V	VV
Jittery	XX	X	V	VV				Active	XX	X	V	VV

Overall, my mood is:

Very Unpleasant

Very Pleasant

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10

Emotion in-between the Lines

Voice & Tone

CONTENT TYPES

- Freddie's Jokes
- Success message
- App copy
- Company newsletter
- Blog
- App copy 2
- Public site
- Webinar
- Guide

SUCCESS MESSAGE

USER

Woohoo! Finished this week's campaign. Now I can enjoy the weekend.

USER'S FEELINGS


- Relief
- Pride
- Joy
- Anticipation

MAILCHIMP

Fine piece of work! You totally deserve a raise.

Chats **Gina**

Gina



thank you!

Send

EMOJI STICKERS EMOTICONS

Chats **Green Tennis**


2011/06/13 Monday

Read 5 12:22 What are you doing? 😊


Ken 12:22 Meeting Rebecca

Read 5 12:22 Good 🍀

Rebecca



12:23



Send

<https://uxmag.com/articles/tone-and-voice-showing-your-users-that-you-care>



“Like-a-Hug”



<http://www.telegraph.co.uk/technology/facebook/9594050/Why-like-someone-on-Facebook-when-you-can-hug-them.html>

Thermal Vision



<http://techcrunch.com/2014/01/07/the-flir-one-case-gives-your-iphone-thermal-vision/>

"Food Messaging"



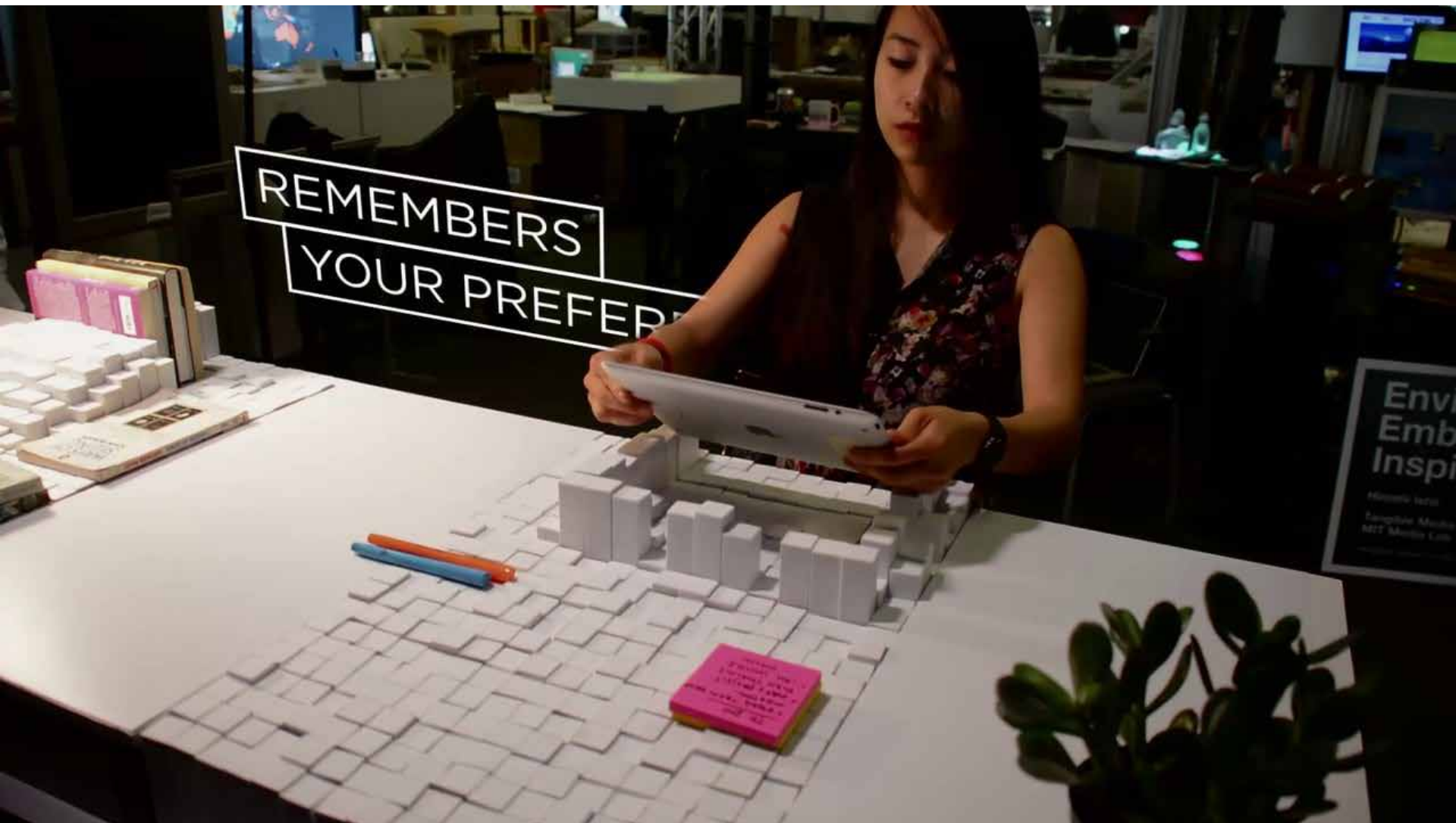
(Wei, Ma & Zhao, CHI2014)

“Wrigglo”



<http://ipd.unist.ac.kr/works/wrigglo-2/>

“Transform as Adaptive Dynamic Furniture”

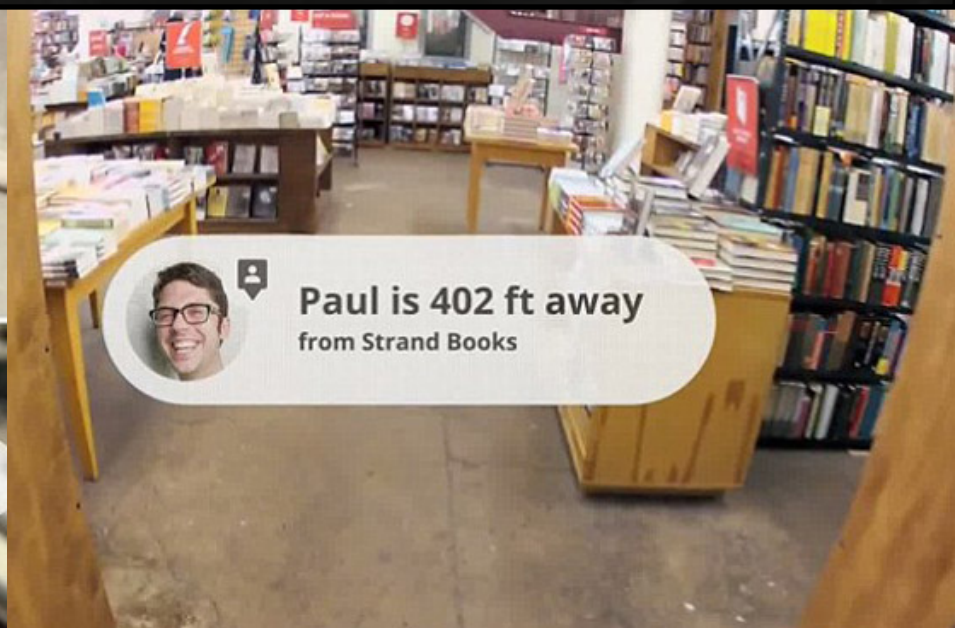


<http://tangible.media.mit.edu/project/240/>



Computing technology shapes humans' life

A Paradox



Phone Stacking Game



<http://techcrunch.com/2012/02/04/the-phone-stacking-game-lets-make-this-a-thing/>

An Unplugged Life



http://www.nytimes.com/2013/09/22/fashion/step-away-from-the-phone.html?_r=0



Recap

- CSCW and CMC
- What kind of groups?
- What type of work?
- How to design computers?
- How to support?



Thank You J

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