



Overview of Interaction beyond the Individual

Info 232

What do you think is about interaction beyond individuals?

Nobody has responded yet.

Hang tight! Responses are coming in.



What does Interaction beyond the Individual focus on?

From CHI

- Technologies for **groups, communities, and networks**
- **Social, psychological, behavioral, and organizational** practice with technology
- **Collaborative and crowdsourcing** systems

What does CSCW focus on, in comparison?

From CSCW

- Social and crowd computing
- Social computing system development
- **Critical, historical, ethnographic** analyses
- Domain-specific social, cooperative, and collaborative applications

Difference between **CHI** and **CSCW**

CHI - Interaction beyond the Individual

- Covers broader **social & organizational interactions**
- Emphasizes **HCI design and usability studies**
- **Broad social/multi-user interactions**

CSCW

- Stronger focus on **workplace collaboration & productivity**
- Emphasizes **longitudinal studies and ethnographies**
- **Work-oriented, structured collaboration**
- More overlap today with Interaction beyond the Individual, including online communications and sharing, community-oriented spaces, and structured governance

History

History of CHI Interaction beyond Individuals
subcommittee



Development of CHI - Interaction beyond the Individual



Development of CSCW



Paper Refresher



Paper 1: Why CSCW Applications Fail: Problems in the Design and Evaluation of Organizational Interfaces.

Paper 1: Evaluating Hidden Flaws of Computer-Supported Cooperative Work

Unveiling three primary problems:

- Disparity between who benefits and who must do more work
 - The people who benefit from them are not the ones required to do the extra work needed to maintain them
 - Example: With automatic meeting scheduling, managers benefit but the subordinates have to actually maintain the electronic calendars
- Breakdown of intuitive decision-making due to multi-user experiences
 - Decision-makers often make flawed judgments about CSCW applications because their experience is primarily with *single-user* applications
 - Group observations often require *long periods of time* and *many observers* to explain the group dynamic and composition. "The required methods are generally more expensive, more time-consuming, and less precise."
- Difficulty of evaluation these systems' efficiency
 - Evaluating multi-user applications is much more complex than single-user applications
 - Requires methodologies that are taught and utilized in social psychology and anthropology - not always present in development & computer science research environments.
 - Replicating any sort of studies completed is near-impossible to understand the actually observed behavior that the researchers submitting a paper had to commit.

Paper 1: Evaluating Hidden Flaws of Computer-Supported Cooperative Work

Case 1: Digitized voice applications

Voice-based systems benefit the speaker but bring more burden to the listener, leading to adoption failure unless both **sender and receiver are of comparable status**.

Transcripts are inadequate due to missing the nuance of tone, leading to the receiver having to listen - often in environments where that is impossible.

Case 3: Natural language interfaces to shared databases

“Show me patient readmission for Q1 in Irvine”
VS.

```
SELECT patient_id, readmission_date, city FROM  
patient_records WHERE city = 'Irvine' AND  
readmission_date IS NOT NULL AND  
QUARTER(readmission_date) = 1;
```

Case 2: Project management applications

These applications benefit manager roles but require employees to keep track of every tiny points, which they may resist, and **subject the application to neglect or sabotage**.

Case 4: Group decision support systems

These systems are expressly designed to be of principal benefit to decision-makers, and if use of these systems requires significant learning or others, then they may encounter resistance.

In what ways do modern applications address the challenges Jonathan Grudin identified in 1988?

Nobody has responded yet.

Hang tight! Responses are coming in.



Paper 2:

A Familiar Face(book): Profile Elements as Signals
in an Online Social Network

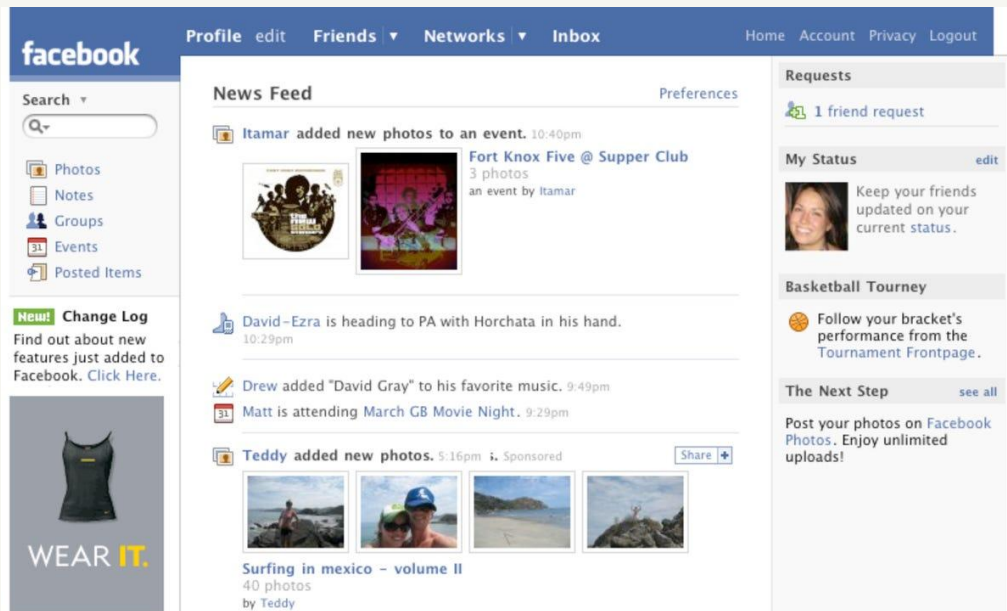
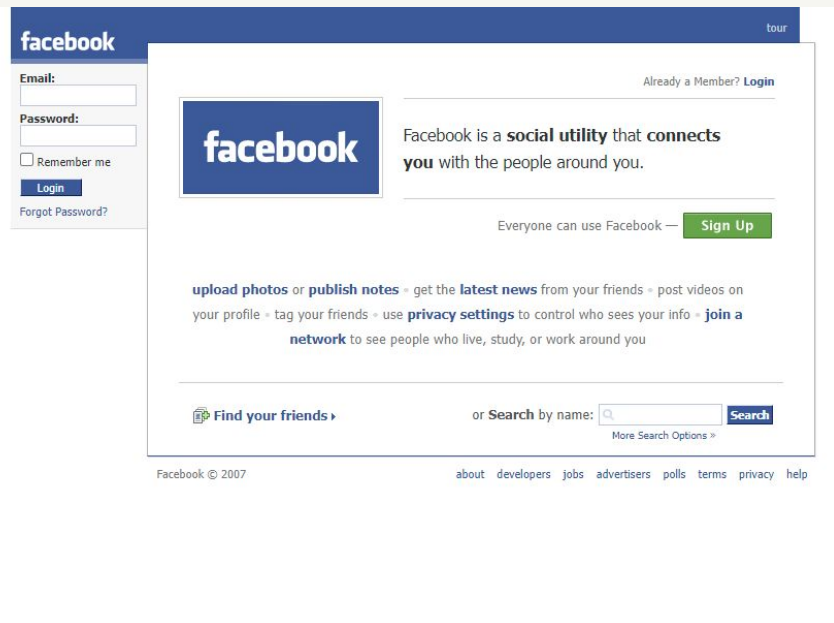
What is the most important factor in building friendships/connections in your life?

Nobody has responded yet.

Hang tight! Responses are coming in.



Facebook in 2007



Source: <https://www.webdesignmuseum.org/gallery/facebook-in-2007>

Source: <https://www.cnet.com/pictures/facebook-then-and-now-pictures/>

Paper 2: Evaluating the impact of profile elements on the number of friends a user has in an online social network

A **quantitative study**, using empirical data from 30,773 Facebook profiles of MSU members to analyze relationships between profile elements and the number of friends

- Signaling Theory
 - If the profile fields act as signals to demonstrate the user identity
- Common Ground Theory
 - If shared information (the school attended, identities, interests) foster connections
- Transaction Cost Theory
 - Profile fields reduce the effort needed to find and connect with others, versus talking directly to each other.

RQ:

1. What are the relationships between the various types of profile entries and the number of friends a user has on their social network site?
2. Are some types of profile entries more strongly associated with the number of friends listed?

Paper 2: Evaluating the impact of profile elements on the number of friends a user has in an online social network

Methods:

1. Used automated scripts to collect data from Facebook profiles of Michigan State University students.
2. Examined how different profile elements (e.g., high school, interests, favorite music) correlate with the number of friends.

Results:

1. Profile elements are signals for a user's identity, which others use to make judgements about overlapping identities.
2. Users with more completed profile fields tend to have more friends. On average, users completed about 59% of offered fields.
3. Common reference fields predict higher friendship numbers more than personal preferences
4. Undergraduates and longer Facebook members tend to have more friends.
5. Information in open-ended fields was only weakly associated with the number of friends. However, how many items they did have listed does align with their friendship links.

Paper 2: Evaluating the impact of profile elements on the number of friends a user has in an online social network

Main takeaway:

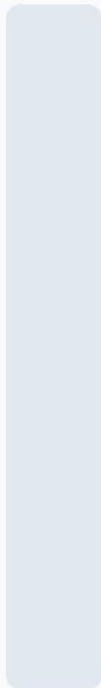
Completing key profile fields **enhances social connectivity** in online networks, with **verifiable identity** markers being **more influential** than personal interests in forming friendships.

Facebook is tied to offline interactions in a way few other online communities are - tying online personas directly to offline personas.

Paper 3: Distance Matters

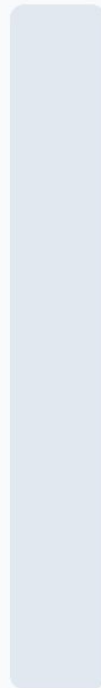
Which work settings do you prefer?

0%



Collocated Work

0%



Remote Work



Paper 3: Challenges and realities of remote work and collaboration

A **empirical and theoretical contribution work**, challenge if modern communications in 2000s had eliminated the significance of physical distance.

Concept 1: Common Ground

Do team members share same knowledge and understanding of the application? What shared common understandings do they have?

Concept 3: Collaboration Readiness

Teams need to create motivation for individuals to work.

Sharing information and organizational culture events encourage collaboration and good-will.

Concept 2: Coupling of Work

Tightly interdependent work requires more frequent and rich communication, which is harder to accomplish remotely.

Clarifying goals and expectations are easier to work through when workers can quickly clarify any confusion & share those discussions among each other.

Concept 4: Technology Readiness

If digital collaboration tools are burden for organizations to use or adopt, they are less likely to use them – or keep shared knowledge bases in sync.

Paper 3: Challenges and realities of remote work and collaboration

Challenges:

- Differences in time zones, culture, and language.
- Video and audio tools back in the 2000's failed to replicate the nuanced communication of in-person interactions.
- Remote teams often need to adapt their workflows for virtual communication; this additional work to minimize the need for close and timely collaboration takes away from the overall efficiency of a team.



Paper 3: Challenges and realities of remote work and collaboration

Challenges we solved nowadays:

- Differences in time zones, culture, and language.
 - Asynchronous communication tools
 - Cultural & global collaboration training
 - Translation tools
- Video and audio tools in 2000s fail to replicate the nuanced communication of in-person interactions.
 - Zoom offers transcript and recording
- Remote teams often need to adapt their workflows to minimize the need for close collaboration, which reduce overall efficiency.
 - Project management tools like Jira, allows streamline workflows
 - Google Docs, Figma, Colab allow teams to real-time collaborate



Thank You