Computer-supported Cooperative Work and Social Computing
CSE510 Guest Lecture

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I. Mapping Computer-supported Cooperative Work
Grudin (1994a, b) showing “development and research contexts” in the academic study of computer use in computer science. On the left side are the sub-fields or research streams in computer science. On the top are the types of user being served. On the bottom are the types of products being produced.
same time
synchronous

Face to face interactions
decision rooms, single display
groupware, shared table, wall
displays, roomware, ...

Continuous task
team rooms, large public display,
shift work groupware, project
management, ...

different time
asynchronous

Time/Space
Groupware Matrix

Remote interactions
video conferencing, instance
messaging, chats/MUDs/virtual
worlds, shared screens, multi-user
editors, ...

Communication + coordination
e-mail, bulletin boards, blogs,
asynchronous conferencing, group
calendars, workflow, version control,
wikis, ...

[Johansen (1988); Baecker (1995); image from Wikimedia Commons]
Typologies of Tasks

Quadrant I
Generate
Generating Ideas
Generating Plans

Quadrant II
Choose
Deciding Issues w/ No Right Answer
Solving Problems w/ Correct Answers

Quadrant III
Negotiate
Resolving Conflicts of Viewpoint
Resolving Conflicts of Interest
Resolving Conflicts of Power

Quadrant IV
Execute
Type 1: Planning tasks
Type 2: Creativity tasks
Type 3: Interactive tasks
Type 4: Decision-making tasks
Type 5: Cognitive conflict tasks
Type 6: Mixed-motive tasks
Type 7: Contests/battles
Type 8: Performances

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Type 5: Cognitive conflict tasks
Type 6: Mixed-motive tasks
Type 7: Contests/battles
Type 8: Performances

Conceptual
Behavioral

[McGrath 1984]
II. Classic Approaches to CSCW
Group Interaction Theory: Theories in Verbal Communication & Non-Verbal Communication

Group Interaction Theory: Distributed Cognition

Group Interaction Theory: Activity Theory

Methodologies for Studying Groups & CSCW Technologies: Intro and Quantitative Approaches

Methodologies for Studying Groups & CSCW Technologies: Qualitative Approaches

Techniques for Modeling Group Interactions

Awareness in Collaboration: Intro & Workspace Awareness

Awareness in Collaboration: Team Situation Awareness

Design Considerations for CSCW Technologies Computer Support for Co-located Collaboration Computer Support for Distributed Collaboration
Distributed Cognition

FIG. 8.1. Watchstander positions for sea and anchor detail.

FIG. 8.2. View of a landmark with gyrocompass scale superimposed.

[Hutchins (1990): Technology of Team Navigation]
Activity Theory

Activity system

Instruments, Mediating artefacts

Subject

Community

Division of labour

Object

Rules

Outcome

[e.g., Nardi 1995: Context and Consciousness: Activity Theory and Human-Computer Interaction]
Awareness (Synchronous)

[Dourish and Bellotti (1992)]
Awareness (Asynchronous)

Figure 1. Five Sample Scroll Bars

Figure 3. Mockup of Spread Sheet Wear

[Hill et al. CHI'92: “EditWear and Readwear”]
A schematic illustration of the roles and information flows in software testing in the S4000 project. The flows in the diagram indicate the intended flow according to the bug handling protocol.

[Schmidt and Simone (1996); Malone and Crowston (CSCW'92)]
Organization and Social Structure

[Orikowski 1992: “Learning from Notes”]
II. Social Computing and Peer Production
New modes of **collective production** made possible by lowered transaction costs through new communication technologies. (Benkler 2003, 2006)
Peer Production?

It’s not particularly obvious where peer production would fit. It’s certainly not obvious that it fit within traditional CSCW spaces.
Peer Production in CSCW

**Figure 4.** Joint influence of number and concentration of editors on changes in quality.

**Figure 5.** Joint influence of article age and concentration of editors on changes in quality.

**Figure 6.** Joint influence of initial quality and concentration of editors on changes in quality.

**Figure 7.** Joint influence of number of editors and communication on changes in quality.
IV. My Peer Production Research
Almost Wikipedia

Citation

Why Wikipedia?

Instead of...

TheInfoNetwork

everything2

DON’T PANIC

h2g2

The Distributed Encyclopedia

GNE
<table>
<thead>
<tr>
<th>Innovativeness of Process/Tools</th>
<th>Innovativeness of Goal/Product</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Familiar</strong></td>
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The Remixing Dilemma

Citation
Remixing

The **reworking and recombination** of existing creative artifacts. Most commonly in reference to music, video, and interactive media.

- Widespread, and an **important** new communication modality (e.g., Manovich 2005; Lessig 2009)
- Especially among use **youth** (Jenkins 2006; Palfrey and Gasser 2008)
Research Questions

- What qualities of Scratch projects and their creators are associated with more generative projects?
- What qualities are associated with more original remixing? (e.g., Keen 2007; Lanier 2010)
(Resnick et al. 2009)
Download this project!

Download the 27 sprites and 176 scripts of "Neo" and open it in Scratch.

Project Notes

The instructions are in the game
Post your high score and difficulty level!

And please post a love it! becuase i will make more games if you do!

UPDATE: added ship customization!

UPDATE: added a boss on level nine!

Tags

game
animation
art
cool
star wars: Republican Gunship

Click To Start

pandadark shared it 1 year, 7 months ago

Based on kuri's project

38 views, 3 people love it, 4 downloads, in 1 gallery

Love it?  Add to my favorites?  Flag as inappropriate?
Results (RQ1)

Testing Theories of Generativity

*Ceteris paribus (including exposure)*...

1A) After a threshold is reached, **simpler projects** are more generative, because they are more likely to be incomplete and to invite elaboration.

- “Release early, release often” (Raymond 1999)
- Principle of procrastination (Zittrain 2008)
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But we also care about the originality of resulting remixes. (Keen 2007; Lanier 2010)

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Attracting more remixers will result in less skilled, and/or less motivated, remixers who will, ceteris paribus, remix projects less originally.
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- Moderately complicated
- Created by prominent creators
- Cumulative

But, there is a tradeoff in that each of these factors is also associated with less original forms of remixing behavior.

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Citation
Peer production projects have been cited function as a novel form of participatory organization...

- ... with a broad democratizing potential inspiring waves of social movement activists and theorists. (e.g., Benkler, 2006; Castells, 1996; Fuster Morell, 2012; Hess and Ostrom, 2011; Wilson and Tufekci, 2012)

- ... and a model of leaderless organization e.g., (Shirkey 2008; Konieczny, 2009)
“He who says organization says oligarchy.”

As organizations increase in size and complexity, they have a tendency to develop oligarchy leadership that pursues conservative goals consistent with organizational maintenance.

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Posicionamiento respecto a reglamentación de la Reforma Política

sábado 15 de junio 2013 11:32 AM

A la opinión pública, El 9 de agosto de 2012 se aprobó una Reforma Constitucional que establece nuevas herramientas para que los ciudadanos tengan más opciones para participar en la política del país: Las candidaturas independientes (Art. 35 Fracc. II), ... Seguir leyendo

Aunque ya somos 563 miembros afiliados, necesitamos ser más de 220,000 a diciembre de 2013 para obtener el registro de Partido Político Nacional.

De tu afiliación depende revolucionar la política en México...
Prototypical Plots

- M1: P(New Admin)
- M2: Project Edits by Admin
- M3: Admin Reverts

Total Registered Users