

The Morphing Organization: Rethinking Groupwork Systems in the Era of Crowdwork

Obinna Anya

Accelerated Discovery Lab
IBM Research - Almaden
650 Harry Road, San Jose CA 95120
+1 (0) 408 927 1856
obanya@us.ibm.com

Laura Carletti

Horizon, University of Nottingham
Innovation Park – Triumph Road
Nottingham (UK) NG7 2 2TU
+44 (0) 115 823 2557
laura.carletti@nottingham.ac.uk

Tim Coughlan

School of Computer Science &
Horizon, University of Nottingham
Nottingham (UK) NG7 2 2TU
+44 (0) 115 823 1420
tim.coughlan@nottingham.ac.uk

Karin Hansson

Department of Computer and Systems Science
(DSV), Stockholm University
Forum 100, SE-164 40 Kista, Sweden
+1 (0) 646 706 6283
khansson@dsv.su.se

Sophia B. Liu

U.S. Geological Survey
Coastal & Marine Science Center
Saint Petersburg, FL 33701
+001 727 502 8093
sophialiu@usgs.gov

ABSTRACT

Web 2.0 has provided organizations remarkable opportunities to improve productivity, gain competitive advantage, and increase participation by engaging crowds to accomplish tasks at scale. However, establishing and integrating crowd-based systems into organizations is still an open question. The systems and the collaborative processes they enable appear diametrically in dissonance with the norms and culture of collaboration and knowledge sharing in traditional organizations. They require mechanisms for articulation of work, coordination, cooperation, and knowledge co-creation that are fundamentally different from those in current groupwork systems and processes. This workshop will bring together researchers investigating issues related to social computing and collaborative technologies, organizational science, crowdsourcing, and workplace research, work in industry, government and voluntary sectors, to discuss the future of groupwork systems in the era of crowdwork.

Building on two workshops hosted at ACM CSCW 2014, we will explore questions such as: How does the shift in organizational work from a closed system with known individuals, to an open and crowd model that requires engagement with an undefined network of people, affect how we conceptualize groupwork? What are the implications for the design of groupwork systems? What can the crowdsourcing research community learn from groupwork systems, or conversely what can groupwork researchers learn from crowdsourcing? How do cultures, motivations, ownership and representation fit into these systems? The workshop will advance our understanding of this area, through presentations, discussion, and activities to articulate an agenda for future research.

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H.5.m. Information interfaces and presentation (e.g., HCI):
Miscellaneous.

General Terms

Human Factors, Design

Keywords

Groupwork, Crowdsourcing, Social Computing, Organizations.

1. INTRODUCTION

Five years ago discussions of computer support for groupwork in organizational contexts were confined to collaborations among known individuals who are members of the same organization by virtue of being employed by that organization, but this situation has changed. Organizational work has morphed from a closed system to utilizing open and crowd models, where collaboration and knowledge co-creation with an undefined network of people is an essential characteristic.

Despite the remarkable promises of this new work model, the development of effective structures for collaborating between organizations and crowds, and establishing crowdwork as an organizational process, remains poorly understood. Because of their relationship with non-paid systems like Wikipedia, most forms of organizational crowdwork often emulate non-paid crowdsourcing models where motivation to participate effectively and on a regular basis evolves from a common interest or sense of civic duty. The incentive to participate often arises from gaining reputation and recognition among other users, but there are the complex challenges with managing articulation and coordination of work often do not surface so challengingly. People with similar interests, or who face similar problems, are simply attracted to each other sharing similar perspectives, codes, and rituals – leading to effective collaboration and work coordination, but also to exclusion and conformity. Common ethos becomes a sufficient guideline and incentive to participate [9].

The merging of these approaches with more traditional organizations provides opportunities and raises tensions. What

happens when these economic systems are combined with more formal organizational hierarchies? While a number of challenging issues have been identified [6][8] and many existing tools and services have enabled organizations to employ the crowd workforce, there are currently no existing coherent frameworks to inform the design of collaborative solutions for crowdwork, and guide the establishment of crowdwork as an organizational business process. For example, existing notions of crowdwork convey very little about areas that are seen essential in groupwork systems, such as the articulation of work, coordination of engagements between organizations and the crowd, or how resources are managed to get work done [9]. The complex tensions between the motivations of individuals, and of organizations, requires the consideration of new hybrid organizational models that combine open and closed systems [1] [5]. This workshop aims to explore what contributions groupwork research can potentially make to solving the myriad challenges in organizational crowdwork research, and conversely, to discuss the potentials of the trends and challenges in organizational crowdwork in paving a way for the emergence of the next generation of groupwork systems.

2. WORKSHOP GOALS

The goal of this interdisciplinary workshop is to explore the future of groupwork systems in the era of crowdwork. This proposal is the result of bringing together organizers and attendees from two separate workshops entitled "Back to the Future of Organizational Work: Crowdsourcing and Digital Work Marketplaces" [4] and "Structures for Knowledge Co-creation between Organizations and the Public" [2] held at ACM CSCW 2014. The workshops raised an overlapping set of issues and potentials for research in the areas of threats and opportunities posed by organizational crowdwork, structures for engagement and knowledge co-creation in emerging models of open and crowd work, and the need to approach organizational crowdwork not only as a technical challenge, but also a profoundly human, social, organizational and philosophical issue as well. This workshop aims to bridge the successes of the two workshops and extend their results by investigating the design of systems and processes to support organizations in this new area of open and crowd work. A key contribution is to build on the themes found in the prior workshops by producing deeper discussions and integration of different perspectives from attendees at GROUP.

Given the focus on designing computer support for group work based on a multi-disciplinary approach to understanding the specifics of both social engagements and technical requirements of collaborative tools, GROUP has a crucial role to play in guiding thoughts around the formulation of guiding principles for the design of effective organizational crowdwork systems. The workshop will explore how studies of CSCW, HCI and CSCW, as well as their concepts and sensibilities, can be extended and applied toward the design of sustainable frameworks and collaboration systems for organizational crowdwork. Questions of interest to the workshop include:

- What is the future of groupwork systems in the era of crowdwork? How do emerging trends in crowdwork, such as organizational collaboration with an undefined network of people, affect how we conceptualize groupwork? What implications does crowdwork have, such as for the security of groupwork systems?

- How can groupwork research contribute to crowdwork research? What can be learned from the success stories and failures of groupwork systems of more than two decades to inform the design of effective organizational crowdwork systems? Can the research and design principles of traditional groupware, workflow systems, and CSCW applications be extended to support organizational collaborative work with the crowd?
- How can collaboration "in the crowd" be motivated and sustained, while promoting openness and mutual knowledge co-creation, safeguarding organizational intellectual capital, and ensuring maximum job satisfaction and career growth for the crowd worker?
- What are the underlying ideology and principles in the socio-technical architectures of tools for supporting collaboration and knowledge sharing? What are the norms and cultures of collaboration in organizations, and how and when do they work for or against the involvement of crowds? How do we understand the participatory processes at stake in crowdwork, ensure equal representation, and design sustainable hybrid economic systems from an organizational perspective?
- What functions should the next generation of groupwork systems embody to make them viable as an organizational work tool in the era of crowdwork?

3. WORKSHOP THEMES

This workshop is organized around three key themes that will drive the call for position papers, and help to structure activities during the workshop. The workshop will also include space for inspiration sourced from the position papers and interests of the participants. The issues that we consider critical, as emerged in the two CSCW '14 workshops [2], [4] are: (1) the design of socio-technical systems; (2) the emergence of hybrid-economic systems; and (3) the lack of equal representation. These overarching themes are deemed crucial to rethink groupwork within crowdsourcing processes.

Design of Socio-technical Systems

The problems of organizational crowdwork are not just technical problems, but profoundly human, social, organizational and philosophical issues. The interplay between the organization and the crowd is also central when designing and undertaking a crowdsourcing process: What is the organization's policy and commitment? What expertise is required from the crowd? What type of collaboration is in place? There is the need for designers to gain a deeper understanding of the non-technical factors, to mind the socio-technical gap, and to engage with researchers across disciplines for the design of solutions that not only drive innovation, but also seek to enhance human values at work and to include the social factors in the design.

Emergence of Hybrid Economic Systems

Commercial economies build value with economic capital as their means of exchange. Sharing economies build value through social and symbolic capital. Both will flourish more as Internet technology develops. When commercial and sharing economies interact, they generate a hybrid economic system [13]. In recent years, several examples of hybrid tools leveraging crowd participation have emerged, and been successful. This model raises questions both for the organization and for the crowd.

There is an overall need to understand the ethical issues behind those emerging collaborations. There is also a need to understand how to create sustainable hybrid economies from the organization's angle; and a need for the crowd to contribute work such as by volunteering without being exploited. As relations are central in distributed work, again the interplay between organization and the crowd becomes crucial to frame, establish and maintain effective groupwork through a crowdsourcing process.

Achieving Equal Representation

Web 2.0 seems to have marked a shift towards a more participative and democratic culture. Regardless of the obvious problems regarding time and means to participate in the collaborative work - the Web is far from being a neutral space where participants are treated equally. Rather, research shows that social media are places where discrimination regarding gender, age and ethnicity are just as common as in other social contexts [12][16][15][16][17]. This lack of equal representation can cause severe legitimacy problems in areas where equal representation is an issue. For example, the concept of open government – especially in relation to Web 2.0 technology increasingly empowers society to put an unprecedented pressure on organizations to be socially responsible [14]. Too much group conformity can also create stagnation and lack of creativity. Therefore, there is a need to analyze crowdwork from a representative point of view. Here both the question of what and who is represented, and the question of how discursive processes are structured, are important in the design of systems for crowd working.

4. WORKSHOP ACTIVITIES

The workshop is planned as one full day event divided into two sessions, and will also involve additional online activities organized both before and after the workshop.

4.1 Pre-workshop Activities

At least one month prior to the workshop, the accepted positions papers will be circulated among the participants, who will be invited to read them, before attending the workshop. The participants will be also asked to prepare a three-minute presentation to be delivered at the beginning of the workshop. Accepted papers will be posted to the workshop website before the workshop to prepare the attendees for discussions at the workshop.

4.2 Workshop Program

4.2.1 Morning Session – Invited talks, paper presentation and discussion

During the first session, participants will present and discuss their work, generating an interactive review of the current state of the art, as well as an exploration of the ways in which the trends and challenges in organizational crowdwork present opportunities to revisit and rethink the nature and design of organizational systems. The goal will be to generate themes towards the creation of a roadmap for the future of groupwork systems in this new area of open and crowd work. After a break, themed discussions of the major issues raised by the papers will occur in small groups, in order to ensure effective participation and the elicitation of varied perspectives from participants. An invited talk may also be

included as an introduction and inspiration to the day, alongside short reports on the outcomes of the previous workshops that have led to this proposal.

4.2.2 Afternoon Session – Group brainstorming and open discussion

The afternoon session will combine the small group discussions with the identification of 'hot topics' that emerged, as well as discussions on post-workshop activities. The session will aim to collate all the discussions of the workshop toward jointly brainstorming a research agenda and a vision for revisiting and rethinking the design of computer-based collaborative systems to support organizations in this new area of open and crowd work.

4.3 Selecting and Recruiting the Participants

A website will be set up to publicize the workshop, organize and coordinate workshop activities, and as a means of publishing and furthering discussions on the results of workshop. In order to attract a wide range of researchers and practitioners from different disciplines, workshop organizers from diverse backgrounds including Social Computing, Learning Sciences, Human-Computer-Interaction, Computer and Systems Sciences – will send out the Call for Participation to relevant professional and academic mailing lists (e.g. ACM SIGCHI Announcements; and British Computer Society HCI mailing list). The Call will be also posted on institutional and professional body web sites; circulated to partner organizations; advertised at related events that the organizers will attend (e.g. CTS 2014) and promoted on organizers' social media (e.g. Twitter).

The workshop welcomes different kinds of contributions addressing the central question of the future of groupwork in the era of crowd and open work, as well as conceptual frameworks for organizational crowdwork, descriptions of case studies and empirical work, and position papers discussing one or more of the workshop themes. Potential participants will be asked to submit a position paper (approximately 2000 words) and an abstract (up to 200 words). A program committee will be drawn from collaborators, colleagues and previous workshop attendees, several of whom have already agreed to take part. Together they will review submitted position papers based on quality, relevance and diversity. We will accept up to a maximum of 20 position papers to ensure that each participant can make a short presentation in the morning.

All contributions will be will be formatted according to ACM GROUP formatting guidelines, and submitted online via a dedicated workshop email address.

5. BACKGROUND OF THE ORGANIZERS

Obinna Anya (obanya@us.ibm.com): Dr Obinna Anya is a postdoctoral researcher in the Accelerated Discovery Lab at IBM Research – Almaden. His research interest lies in the broad area of human-computer interaction with a focus on collaborative working environments, social informatics, and agent-based modeling. His current work examines interaction and discovery in socio-computational systems. Obinna was co-organizer of the ACM CSCW 2014 workshop on "Back to the Future of Organizational Work: Crowdsourcing and Digital Work Marketplaces". He holds a PhD in computer science from the University of Liverpool.

Laura Carletti (laura.Carletti@nottingham.ac.uk): Dr Laura Carletti is a Research Fellow in Horizon Digital Economy, University of Nottingham. Her main research interest is engagement through technology, knowledge elicitation and co-creation, sociomateriality. Her work has focused on socio-technical research, and in particular on crowdsourcing in the cultural sector [3]. She has been working on Art Maps, a crowdsourcing platform developed in collaboration with Tate, and on the Ghostsigns project, an amateur crowdsourcing initiative. Laura was the lead-organiser of the ACM CSCW 2014 workshop: “Structures for knowledge co-creation between organisations and the public” [2].

Tim Coughlan (tim.coughlan@nottingham.ac.uk): Dr Tim Coughlan is a Lecturer in Computer Science and Research Fellow in the Horizon Digital Economy Research Institute at the University of Nottingham. His research interests are in the design and evaluation of human-computer interactions focused on learning, sharing, and creativity. He was a co-organiser of the ACM CSCW 2014 workshop: “Structures for knowledge co-creation between organisations and the public” [2], and was also lead organiser of the ACM CHI 2013 workshop: “Methods for Studying Technology in the Home”. Relevant projects include the collaborative remixing and reuse of open educational resources across educational organizations [5], and crowdsourcing interpretations of artworks from the public.

Karin Hansson (khansson@dsv.su.se): Karin Hansson is an artist, curator and Ph.Lic at the Department of Computer & System Science at Stockholm University & Royal Institute of Art in Stockholm, with artistic methodologies and participatory processes online as research focus. She is especially interested in how the volunteer spheres use ICT to strengthen the organization’s internal democratic structures, and how democratic cultures translate to technical systems. Hansson previously carried out a series of thematic art projects and exhibitions related to information society and changing conditions for democracy.

Sophia B. Liu (sophialiu@usgs.gov): Dr. Sophia B. Liu is a Mendenhall Fellow and Research Geographer at the U.S. Geological Survey. She is a crisis informatics researcher offering innovative solutions and guidance on how to integrate social media and crowdsourced data into USGS hazard products and services while engaging relevant stakeholders in the design process. She received her Ph.D. from University of Colorado at Boulder in the Technology, Media and Society interdisciplinary program at the ATLAS Institute.

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