Toward a Typology of Participation in Crowdwork

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Abstract

This workshop aims to examine and categorize types of
participation within crowdwork in areas such as
crowdsourced policymaking, crisis management, citizen
science and paid crowdwork.

In our previous workshops we have looked into the
essence of crowds, including the crowd members'
identities, their roles and motivations. One of the
motivating factors is to participate in a community,
contributing to a collective goal. Therefore it is
important to examine how community and
interdependence is supported or discouraged in
crowdwork, and how belonging, status and agency are
negotiated in this process.

The workshop examines this participatory process of
crowdwork, focusing on relations and power dynamics
within and beyond the crowds, and we welcome
researchers from a diversity of disciplines and
perspectives to formulate a typology of participation in
crowdwork.

Author Keywords

Crowdsourcing; crowdfunding; peer-production; citizen
science; crowdwork; crowd dynamics, e-participation.

ACM Classification Keywords

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

Introduction

The development of technologies and practices of broad public participation are changing the notion of the public[1]. As the use of participatory and social media has become widespread in society and enabled a more collaborative information production, the potential for a transformation of production relations through crowd-based activities affect many aspects of life. There are new potentials for transformative developments in government, work life, science, and emergency response.

In civic life, a more participatory, crowd-based regime is believed to boost innovation and strengthen democracy [18], through projects like crowdsourced policymaking [1][12], participatory budgeting [22], and civic hackathons [29]. In organizations, open design practices [2] and wiki-technologies are used to enhance collective intelligence within [33], and between agencies [5], and to develop government information [15]. In science, data is collected and developed by the public [23, 8, 36, 39]. During emergencies, crowds have been engaged in data sourcing [20, 30, 38] as well as performing physical activities [27].

However, despite good ambitions and technical potentials, these new platforms for participation have not solved many of the pre-crowd problems regarding participation, such as lack of representativeness and flawed deliberative processes. Studies of the demographics in the crowd at Amazon Mechanical Turk [14], Wikipedia [32] and Twitter [11] indicate large differences in participation between groups along differences in terms of age, gender and education. According to Menking and Erikson [31], women face marked obstacles to effective participation in Wikipedia. The power imbalances and socio-spatial relations in the geographic web also affect the ways maps are developed [9, 35, 41], and may affect classification systems that influence the organization of knowledge for millions of people [7].

Therefore it is interesting to look at the power relations within crowd production and to examine how different tools handle participatory processes in the crowd.

In the wider field of participation, in areas like participatory planning, design or participatory research, the power relations in the participatory setting are seen as central for the outcome of the participation. Two useful references to articulate the different types of power relations in participation are Arnstein's ladder of participation in urban planning [3], and Wulz's stages of participation in design[40]. Arnstein's ladder of participation describes seven stages of participation focusing on the role of the participants in urban planning (e.g., as informant, consultant, stakeholder, decision-maker), and the aspects of power and domination of the participant. Wulz's stages of participation partly overlap Arnstein in range but have a designer perspective, from an abstract representation of the user in designer's imagination to the user as designer.

Another way of looking at the participant's power in the design and research process is depending on the mode of participation, from the participant as a passive object

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[1] Within our workshop we follow Dewey's pragmatist view of a public which is characterized not as a single constituted mass of people, but in contrast as a particular configuration of individuals bound by a common cause in confronting a shared issue: "Indirect, extensive, enduring and serious consequences of conjoint and interacting behavior call a public into existence having a common interest in controlling these consequences." [10, p. 126]

to an active agent. Here existing social structures affect participation in design work when involving communities, as discussed in Light and Akama [25], not least the power relations into which the designer steps, while Light and Miskelly explore how sharing cultures can be created by fostering certain types of social relations [26].

In design research, the role of artifacts such as prototypes and interfaces are also described as something with agency, relations and power [16]. For example, Houde and Hill show how different modalities and materializations of prototypes and tools change the way they are perceived and used [19].

In crowdwork settings power relations have been highlighted from a labor rights perspective, as certain aspects of crowdwork may contain striking power differences between the crowd of workers and the people who "source" work from that crowd leading to calls for collective action by crowdworkers [34]. Martin et. al's analysis of the online discussion in the community of workers at the Mechanical Turk [28], shows the tensions between the system due to asymmetry in the information and power available to them. Gupta et. al's study of Indian workers shows the collaborative processes in the community, and how aspects such as digital literacy and infrastructure affect workers' work and reputations[17]. Other ways to regulate power are enforced by the rules and the technical system [37], as well as economic capital [4].

However, we haven't seen a more structured overview of typologies of participation indicating levels of power and agency in the context of crowdwork. For this workshop, we therefore invite participants to look more closely at different types of participation within crowdwork, and at different levels of interaction.

Possible sites of analysis could be the interaction between crowdworkers, the participation in the work by different stakeholders, the potentially privileged levels of interaction with the data, or tensions in the agency of the crowdworkers in relation to the task.

What types of ontologies exist in different types of crowdsourcing contexts, and how do these ontologies reflect one or more epistemologies? How is this expressed in the relations between the crowd and the sourcer, or in how different interfaces and tools support different roles and different modes of crowd participation? What are the relations between different attitudes towards knowledge and the social relations in the crowdsourcing process? What are the implications for power relations between different modes of participation? If we learn more about how participation in crowdwork can be described in terms of power and relations, we might get a better understanding of how participation can be articulated, how different tools for crowd participation can be developed, and how the different perspectives and stakes in crowdwork might be harmonized, or at least clarified.

The workshop builds on four earlier successful workshops: *Back to the Future of Organizational Work: Crowdsourcing Digital Work Marketplaces, Structures for Knowledge Co-creation between Organizations* and the Public hosted at ACM CSCW 2014, *The Morphing Organization – Rethinking Groupwork Systems in the Era of Crowdwork* hosted at ACM GROUP 2014, and *Examining the Essence of the Crowds: Motivations, Roles and Identitie*s at ECSCW 2015.[2]

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[2] A related question that needs further research concerns the power relations within crowd-production and how different work relations handle inequalities and conflicts. We have

Suggested subthemes and topics

Controlling economic structures in crowdwork
- Controlling levels of; access; transparency, secrecy, closeness, connectedness, alienation
- Relation between control dynamics and power relationships outside the technology framework.
- Differentiations in entry/exit points to the platform

Intersecting belief systems in crowdwork
- Norms about crowds, collaboration and democracy
- Balance between exclusive groups and open publics
- Stakeholders' different cultural assumptions
- Tensions between individual scoring systems and collective sharing processes

Community support in crowdwork
- Communication needs within the crowd
- Avenues of communication to support community
- Apprenticeship models
- Relations between the crowd and the "sourcers"
- Navigating intersecting communities in crowd setting
- Relations between different types of stakeholders in the crowd setting

Going from crowd to public
- Publics as performative states; co-constitution an interdependence
- Ethics and power relations in crowd research
- The power relations between the designer/inventor and the crowd
- Quantified selves, data sources or co-researchers

proposed another workshop in the coming CHI conference that addresses this question.

Description of the workshop activities
This one-day workshop will explore the topics in mini presentations and brainstorming sessions, and will result in a draft for a typology of participation in crowdwork.

The workshop is divided into two sessions and will involve additional online activities organized both before and after the workshop. In the first half of the workshop, participants will present their research on the topics. The second half of the workshop consists of a brainstorming session where the topics of the workshop are further explored.

Pre-workshop activities
20-25 participants are selected based on their submitted position-papers. Prior to the workshop the accepted papers will be posted to the workshop website to prepare the attendees for discussions at the workshop. A key discussant, identified among the workshop attendees, will be assigned to each position paper, to facilitate interaction and engagement in the workshop. The participants will prepare a 5-minute presentation to be delivered at the first half of the workshop.

Post-Workshop Plans
We will take the workshop as an opportunity to explore future collaboration, e.g., a mailing list and collaborative research projects. The objective with the workshop is to develop a typology of participation in crowdwork based on an overview of the field. This research overview will be further developed in a collaborative paper. Furthermore, selected contributions from the workshop will be considered for a special issue in a HCI journal.

Organizers

Karin Hansson, PhD, is a postdoc researcher at the Department of Computer & Systems Sciences at Stockholm University. She explores norms and values in ICT supported participatory practices from a design perspective. Karin was one of the organisers of the ACM GROUP2014 workshop "The Morphing Organization - Rethinking Groupwork Systems in the Era of Crowdwork" and the ECSCW 2015 workshop "Examining the Essence of the Crowds: Motivations, Roles and Identities".

Michael Muller, PhD, works as a Research Staff Member in the Cognitive User Experience group of IBM Research, Cambridge MA USA. His research has involved crowds of employees in many different configurations, as well as some theory/commentary work in Value Sensitive Design and Feminism in HCI. He has co-organized workshops at various conferences, most recently the ECSCW 2015 workshop on appropriation.

Tanja Aitamurto, PhD, is Deputy Director of the Brown Institute for Media Innovation at the School of Engineering at Stanford University. She examines how collective intelligence, whether gathered by crowdsourcing, crowdfunding or co-creation, impacts journalism, governance and product design, particularly media innovations. She was one of the organizers of the ECSCW 2015 workshop "Examining the Essence of the Crowds: Motivations, Roles and Identities".

Ann Light is Professor of Design and Creative Technology at the University of Sussex and leader of the Creative Technology Group. She specializes in the social impact of digital technologies and the politics of design. Her work concerns innovations in the fields of social process, community wellbeing and sustainability, which she researches using participatory methods.

Athanasios Mazarakis, PhD, is a postdoc for Web Science at Kiel University. He is interested in motivational barriers in the context of social media tools and the use of non-monetary incentives to enhance contributions of users. His main research activities concern evaluation and statistical analysis of social media.

Neha Gupta is a PhD student at the School of Computer Science, University of Nottingham, UK. Her research focuses on crowdworkers based in India who use Amazon Mechanical Turk as a platform to find paid work, aimed at understanding the requirements and the work of crowdwork. She was one of the organizers of the ECSCW 2015 workshop "Examining the Essence of the Crowds: Motivations, Roles and Identities".

Thomas Ludwig is a Ph.D. student at the Institute for Information Systems at the University of Siegen, Germany. His research focuses on voluntary civil activities during emergencies. He examines how those activities can be detected as well as aligned with activities of professional emergency services.

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