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Digital Tools in Collaborative Creative Work

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Abstract

The aim of the workshop is to examine and discuss the role and functions of digital tools in collaborative creative work. While advancements in Human-Computer Interaction (HCI) research offer considerable potential for supporting creative work practices, particularly collaborative practices, we believe this design space is underexplored. We invite researchers from the fields of HCI who are interested in creativity research to come together to further our understanding as well as explore opportunities for future research in this area. We will discuss workshop participants' visions and experiences in order to identify central themes that can shape the future design of digital tools in collaborative creative work.

Author Keywords

Creativity; Interaction Design; Creativity Support Tools; Human-Computer Interaction.

ACM Classification Keywords

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

Introduction

Two key characteristics of many creative work practices are that they are collaborative, and that they revolve around the use of digital tools. This applies both to

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Workshop Format

We propose a highly participatory workshop with short and concise presentations and several group work sessions.

We will begin with short cycles of case/ methods/ tools/ theory presentation (10-15 minutes each), focusing on insights and findings from participants' position papers, followed by joint discussions in which we identify and articulate key themes, challenges, and potentials. We will cluster and synthesize the topics, and work in groups to outline the key issues and ways forward for each topic. We wish to keep the specific format of this last part of the workshop open until we have reviewed the submitted position papers in order to find the proper setup.

We will end with a dialogue on how to strengthen the community around the topic of creativity-oriented interaction design research.

disciplines in which the end product is digital, e.g., in app development and game design, and to disciplines in which the end product is analogue but the design and development process relies on digital tools, e.g., architecture and product design. Despite the ubiquity of use of digital tools in these practices, the role of digital tools in collaborative creative work is underexplored.

We still know little about how digital tools influence creative collaboration. This is in part because this field of study falls between two disciplines, Human-Computer Interaction (HCI) and Creativity Research. As explicated in a recent extensive literature survey, creativity-oriented HCI research has had a clear emphasis on single systems studied in controlled settings [Frich et al. 2018]. There are currently few studies of how people use these systems in real-life creative work practices, and these often have little or no grounding in theories from Creativity Research [Frich et al. 2018]. On the other hand, Creativity Research has evolved from primarily studying individual and mental creative capabilities and processes [Kozbelt et al. 2010] to encompass social, collaborative, and distributed aspects of creativity [Amabile 1983; Sawyer & DeZutter 2009]; yet the role of digital tools in these processes have been largely ignored. Each field thus holds partial insights that can help us understand IT-supported collaborative creative work, and there is considerable potential to explore ways that these insights can be combined. Moreover, creative work spans a wide range of domains, and specific domain insights are typically required to get a realistic understanding of how creative work unfolds in practice. It is our aim to bring together practitioners and researchers with diverse perspectives to bridge these

gaps and move towards a more comprehensive understanding of digital tools in creative work.

A better understanding of the roles and functions of digital tools in collaborative creative work is important for at least four reasons. First, it will enable us to better observe and analyse real-life creative practices; second, it will enable us to better prepare students to partake in such work; third, it will help develop methods and approaches to developing (new?) work practices; and fourth, it can form the basis for developing new tools for augmenting creative work that better matches the complexity of real-life practices.

Examples of digital tools in collaborative creative work

Digital tools for creativity support can be broadly categorised as either existing, off-the-shelves tools such as Google Docs, Adobe's Creative Suite or 3D modelling software, or more experimental one-off tools such as an automatic assistant for face-sketching [Xie et al. 2014] or digitally generated pictorial stimuli for brainstorming sessions [Wang et al. 2010]. While the creativity-related HCI literature mainly focuses on the latter group of tools [Frich et al. 2018], there have also been studies of commercially available tools such as an exploration of Google Docs in design collaboration [Jung et al. 2017] or digitally operated CNC mills in art furniture production [Cheatle & Jackson, 2015].

In this workshop, we seek to expand on this research by discussing the current state of digital tools for collaborative creative work and elicit themes for new research avenues. We invite the NordiCHI community to join us in this workshop by sharing experiences,

ideas, and visions about collaborative creativity and how HCI research can support such activities.

Key themes of the workshop

Consider a tool, or an assemblage of tools from a specific creative work practice. What specific functions does the tool / tool assemblage play? What does it help people accomplish? Is it first and foremost a single-user tool / tool assemblage, or is it collaborative? How well is collaboration supported via this tool / tool assemblage? What opportunities does the tool / tool assemblage provide? And in what ways does it hinder collaborative creative work?

Based on themes identified in previous work, and on our findings from prior and ongoing research projects, the workshop will explore the design space pertaining to methodological, theoretical, use-oriented, and design-oriented challenges. We are open to incorporating further themes discovered in participants' position papers. Therefore, we invite interested parties to not only submit reports on their own experiences and insights contributing to our themes and questions, but also invite researchers to identify their own questions regarding the use of digital tools in collaborative creative practices.

We envision participants' position papers to present a brief outline of a specific system, either one that they have studied in detail, one they have built or intend to build, or a vision of what such a system could look like to support a collaborative creative work practice in a given context. Furthermore, we ask authors to reflect on their proposal to identify key challenges, limitations, and potentials for such systems, underpinned by a

theoretical or conceptual perspective to leverage their analysis and reflection.

How to Participate

Participants must submit a position paper in relation to workshop themes to participate. This forms the basis for the presentations during the workshop and grounds the subsequent discussions. The workshop process:

- 1) Participants submit a paper (2-4 pages SIGCHI Extended Abstracts) describing methodological, theoretical, or case-oriented contributions.
- 2) Participants will be divided into sub-groups to read and comment on each other's contributions prior to the workshop, and to identify common points of interest.
- 3) Participants give a short presentation of their own work, as well as the group-work, during the workshop.

Recruitment Strategy

Since creativity is "precisely the kind of problem which eludes explanation within one discipline" [Gardner 1988, p22], we will recruit workshop participants using a multi-pronged strategy. First of all, we will distribute the call for participation using the NordiCHI mailing list (announcements.eu.nordichi@maillist.au.dk) and the international mailing list, PHD-DESIGN@jiscmail.ac.uk), which is read by many HCI researchers, including those specializing in creativity-related research topics. Since we will be attending relevant conferences before the NordiCHI workshop position paper deadline on August 10, 2018, we will further ensure a broad recruitment strategy by announcing this workshop at these venues, which include DIS 2018 (Designing Interactive Systems) and DRS 2018 (Design Research Society). Also, we will announce the call when we present our work at the inaugural Creativity Conference in Oregon, which brings together many of the world's leading

creativity researchers. Finally, we will recruit participants through our personal (international) networks, which include many researchers from the SIGCHI community, not least in the wake of CHI 2018, and we will use various social media to further bolster our multi-pronged recruitment strategy.

Organizers

Peter Dalsgaard is Associate Professor at Aarhus University and Director of the Centre for Digital Creativity, where he explores and develops interactive systems to support and augment creativity.

Christian Remy is Assistant Professor at Aarhus University, investigating how digital tools can enrich creative processes.

Jonas Frich Pedersen is a doctoral student at Aarhus University. His doctoral project examines collaborative creativity among professional designers.

Lindsay MacDonald Vermeulen is a postdoctoral researcher at the Centre for Digital Creativity at Aarhus University, where she is exploring ways to design digital tools that support creative practices.

Michael Mose Biskjaer is Assistant Professor at Aarhus University, specializing in the theory and practice of creativity in interaction design.

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**Call for Participation
Digital tools in Collaborative Creative Work
Workshop at NordiCHI 2018, Sep. 30, 2018**

The aim of the workshop is to examine and discuss the role and functions of digital tools in collaborative creative work. The workshop will explore methodological issues and approaches, overarching trends and developments, exemplary cases, and future initiatives to study and design systems and tools to augment collaborative creative work.

Consider a tool, or an assemblage of tools from a specific creative work practice. What specific functions does the tool / tool assemblage play? What does it help people accomplish? Is it first and foremost a single-user tool / tool assemblage, or is it collaborative? How well is collaboration supported via this tool / tool assemblage? What opportunities does the tool / tool assemblage provide? And in what ways does it hinder collaborative creative work?

Our aim is with the workshop thus to establish a forum for peers to discuss where we are at now, and how we can best make progress from here. We will seek to foster discussions that address both methodological and theoretical issues, e.g. how do we study the use of digital systems to support collaborative creative practices, and how can we understand this, as well as exemplary cases and potentials of novel approaches and technologies.

To participate

Participants must commit to submitting a position paper in relation to the aforementioned themes in order to participate. This forms the basis for the presentations during the workshop and grounds the subsequent discussions. In order to participate, interested parties must therefore do the following:

- 1) Submit a proposal (2-4 pages SIGCHI Extended Abstracts) describing methodological, theoretical, or case-oriented contributions.
- 2) Participants will be divided into sub-groups to read and comment on each other's contributions prior to the workshop, and to identify common points of interest.
- 3) Participants give a short presentation of their own work, as well as the group-work, during the workshop.

Please send your proposal via email on or before August 10, 2018 to:

lindsay.macdonald@cc.au.dk

More information

For more information about the workshop, please visit:

<http://projects.au.dk/creativetools/workshop-digital-tools-in-collaborative-creative-work/>