

CulTech2015: Cultural Diversity and Technology Design

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ABSTRACT

With globalization and technological advances, people are increasingly coming into contact with others from different cultural backgrounds, particularly in place-based and virtual communities. Yet, *cultural diversity* – the diversity of community members’ cultural backgrounds – offers both significant benefits and challenges in the design, usage and evaluation of technologies. In this one-day workshop, we explore the role of cultural diversity in potentially informing, supporting, challenging or impacting the design of Information and Communications Technology (ICT) within community contexts. To delve into this complex and multi-faceted space, we welcome workshop submissions that 1) engage broadly with the role of culture within technology design and usage for, with and by communities, as well as 2) proposals for approaches, tools, conceptual and methodological frameworks, case studies and best practices in community-based design that exploit cultural diversity as an asset and seek to encourage intercultural interactions. Our goal is to bring together academics and practitioners from different domains such as computer science, urban design, interactive art, anthropology and social sciences who share a common interest in exploring the design space of ICTs, culture and communities.

Categories and Subject Descriptors

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

General Terms

Design

Keywords

Cultural diversity; community-based design; cultural differences; intercultural communication

1. INTRODUCTION

With globalization and technological advances, people are increasingly coming into contact with others from different cultural backgrounds, particularly in place-based and virtual communities [6, 21]. Yet, *cultural diversity* – the diversity of community members’ cultural backgrounds – can be both an asset and a liability. On one hand, studies show that culturally diverse groups have the potential to outperform culturally homogeneous

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groups in problem solving [22], creativity and performance, and are less predisposed to “groupthink” [13]. On the other hand, since culture is associated with deep differences in values, perspectives and cognitive frameworks [8], cultural diversity contributes to a lack of shared mental models, which increases the complexity and ambiguity of communication [20]. If cultural differences are not understood or resolved, culturally diverse groups perform poorly, experience more negative emotions than culturally homogenous groups [3], as well as lower levels of trust [1], integration and cohesion [22].

In this workshop, we explore the role of cultural diversity in potentially informing, supporting, challenging or impacting the design of Information and Communications Technology (ICT) within community contexts. To delve into this complex and multi-faceted space, we welcome workshop submissions that 1) engage broadly with the role of culture within technology design and usage for, with and by communities, as well as 2) proposals for approaches, tools, conceptual and methodological frameworks, case studies and best practices in community-based design that exploit cultural diversity as an asset and seek to encourage intercultural interactions. Our goal is to bring together academics and practitioners from different domains such as computer science, urban design, interactive art, cultural anthropology and social sciences who share a common interest in exploring the challenges and opportunities in the design space of ICTs, culture and communities.

2. DEFINING CULTURE

Culture is a complex and multidimensional construct [10]. With over 300 definitions and conceptualizations of “culture” [10], the first challenge is to arrive at an understanding of what “culture” is. In this workshop, we refer to *culture* as “an accumulated pattern of values, beliefs, and behaviors shared by an identifiable group of people with a common history and a verbal and nonverbal symbol system” [14]. Thus, culture is not innate, but *learned* [7], influencing the way people think, feel, behave, and communicate with others [14].

Culture can be analyzed on several levels, including continental, national, regional, organizational and professional [11]. Since the various facets of culture are all interrelated [7] and intertwined within technology design, usage and evaluation processes, workshop submissions employing diverse definitions and approaches to culture will be considered for acceptance.

3. BACKGROUND AND RELATED WORK

The design space of ICTs, culture and communities is informed by a growing and multidisciplinary body of work, drawing upon disciplines such as community development, sociology, anthropology, media studies and more broadly, development studies, computer science and community informatics. This

workshop proposes two pathways by which this body of work can be examined to inform design: 1) A broader engagement with and examination of *the role of culture in technology design* and usage, and 2) Practical and action-oriented approaches in *designing technologies to facilitate intercultural interactions*.

3.1. The role of culture in technology design and usage

Culture plays a significant role in technology design and usage. As cultural anthropologist Hall states, “culture is man’s medium” – the means by which one’s reality is defined [7]. Consequently, artifacts of culture, such as information technology, are not designed in a culturally neutral way, but are rather encoded with the designer’s implicit (and often subconscious) cultural values [4]. For example, previous work has shown how culture influences the encoding and decoding of meanings associated with representations of daily life, and the importance of accounting for these differences during technology design stages [17]. This bespeaks the need to integrate the perspectives of users in design processes, particularly in culturally diverse communities. Community participation in design also poses its own challenges, ranging from differences between the designers’ and community members’ epistemological frames [2], to challenges raised by local customs and protocols regulating social interaction [18, 19], and diverse understandings of what community participation in design actually entails [23].

While the *design* of technology reflects an *encoding* of the designers’ implicit cultural values, technology *usage* reflects the end user’s *decoding* from their own cultural reference frame. As such, culture influences how end users perceive and use information technology [12]. For example, Kayan et al. (2006) found culturally different perceptions in the importance of audio-video chat, multiparty chat, and emoticons among East Asians, Indians and North Americans [9]. Reinecke et al. (2013) found cultural differences in how people schedule and coordinate events online [16]. Studies such as these indicate that “users have *not* converged into a homogeneous subcultural group with the same behavioral norms across the world, but that their use of technology considerably differs between countries” [16]. Since technology adoption is more likely when the end users’ values match the implicit cultural values embedded in artifacts during the design stage [12], it is crucial for the research community to better understand the role culture plays in technology design and usage.

3.2. Designing technologies to facilitate intercultural interactions

While one or two decades ago, the challenges of intercultural interactions were largely constrained within the expatriate population [15], in today’s interconnected world, culturally diverse people interact over a wide variety of media including Face-to-Face (FTF) and over Computer-Mediated Communication (CMC) tools (e.g. email, videoconferencing, online forums, social networks). However, effective interaction across cultures is *not* an innate skill, but rather a capability that must be learned through time and experience [5]. Without a conscious awareness of how another culture is different from one’s own, cultural differences are no longer perceived as neutral, but rather negative, where one is “right” and the other is “wrong” [25]. Consequently, intercultural contact does not automatically breed mutual understanding, but may actually widen the gap between groups, as their own identities and prejudices are strengthened [8]. The challenges of facilitating effective intercultural interactions raise

important design problems and open questions in the goal to build connected and cohesive communities. One such question that we aim to explore during the workshop is how the design of ICTs can better take advantage of the *benefits* of cultural diversity through technology design while mitigating the challenges.

4. WORKSHOP THEMES

To stimulate discussion and exploration in the design space of ICTs, culture, and communities, we welcome initial idea explorations, as well as ongoing or completed projects relating (but not exclusive) to the following themes:

- Theoretical and reflective engagements with the role of culture and cultural difference in community-based (participatory) design and technology appropriation across cultures
- Frameworks, tools, and conceptual engagements tackling *inclusion* in (participatory) design; The role of technology and technology design in mediating or supporting societal inclusion
- Means (methods, tools, frameworks) for cross-cultural transferability of design and design processes
- Limits of transferability and situated, emergent design practices in community contexts
- Localization and culturally adaptive interfaces
- Empirical studies exploring cultural difference in technology usage and formulating design implications
- Metrics, tools, and frameworks for examining cultural differences in technology usage
- Conceptual papers that problematize design, re-framing design processes from cultural studies and intercultural communication frameworks (e.g. design as a process of encoding values and meaning in artifacts)
- Uses, benefits and limitations of ethnography and data-intensive research methods in community-based design
- Inherent value tensions or clashes between local and academic/scientific knowledge
- Local knowledge management, knowledge conversion and the challenges posed by structuring fluid knowledge episodes to generate design requirements
- Cultural pathways for community engagement and the localization of participatory practices
- Aligning intentions in multicultural design projects
- Bridging differences in culturally diverse design teams
- Case studies, approaches and best practices in community-based design that explore or engage with issues of connectedness and community cohesion, facilitating intercultural awareness, communication and collaboration, and stimulating intercultural interactions across diverse cultural groups

5. CONTRIBUTION TYPES

We welcome the following contribution types:

- Novel technologies or interaction paradigms
- Design or evaluation methods
- Case studies on existing applications and systems
- Evaluation studies
- Theoretical frameworks
- Controversial or thought-provoking ideas of issues relating to communities, culture and ICTs

6. EXPECTED OUTCOMES

The intended outcomes of this workshop are to:

- Identify opportunities, barriers and challenges in the design space of ICTs, culture and communities
- Propose perspectives on how to address these challenges in future research and in the development of interactive systems
- Provide opportunities for networking and interdisciplinary collaborations among academics and practitioners in different domains
- Identify relevant questions moving forward and outline a roadmap for future research

The organizers will invite authors of selected workshop papers to submit an extended version to a peer-reviewed *Special Issue on Cultural Diversity and Technology Design* published by the Journal of Community Informatics.

7. WORKSHOP ACTIVITIES

We propose a one-day workshop, consisting of 1) an introduction and cultural diversity exercises, 2) presentations, 3) group brainstorming, 4) lunch and 5) group discussion and synthesis.

7.1. Introduction and cultural diversity games

We begin with an introduction (9:00-9:10), followed by icebreakers and cultural diversity games aimed at combining *intellectual* and *experiential* understandings of culture and its outcomes (9:10-9:50). Example exercises include asking participants to enact cultural behaviors different from their own, e.g. increasing or decreasing the amount of eye contact when talking, or re-enacting stories featuring intercultural communication conflicts. Coffee break between 9:50-10:00.

7.2. Presentations

Next, participants will present short introductory presentations (2-6 minutes, depending on the number of participants) regarding their research topic and its relevance towards the workshop themes (10:00-11:00). Discussion is expected to evolve dynamically, under the facilitation of the workshop organizers who will solicit the interactive involvement of all participants.

7.3. Group brainstorming

Next will be a group brainstorming session in a world café format [24] (11:00-12:00). Participants will be asked to sit at different tables, where each table has its own theme, provided in advance or elicited during the workshop. Each group will brainstorm around that theme for ~20 minutes, after which they will be asked to switch tables. By the end of this time slot, participants will have had a chance to visit all tables and contribute to each theme.

7.4. Lunch

Lunch will be scheduled for 12:00-13:30.

7.5. Synthesizing group work results

Participants will go back to the table they were at in the previous session. Groups will be asked to synthesize the main thoughts from the theme of that table and communicate it to the workshop group through whatever creative presentation style they prefer (e.g. scenarios, acting, role-playing, storyboards) (13:30-14:30). After a brief coffee break (14:30-14:40), participants will present to the workshop group, where the organizers will distill current challenges, opportunities and future research directions (14:40-15:45). Coffee break from 15:45-16:00.

7.6. Group summarization and discussion

In the last session of the day (16:00-17:00), the organizers will

summarize key experiences and encourage open discussion to identify relevant questions in moving forward and outline a roadmap for future research directions.

8. MEANS OF SOLICITING PARTICIPATION

Participation will be solicited through multiple venues (e.g. workshop website, mailing lists (e.g. CHI, CSCW, CI).

9. PARTICIPANTS

Interested candidates are asked to submit either a position paper (minimum 2 pages, maximum 4 pages in the ACM format) or a video submission about their project and its relevance to the workshop themes. The maximum number of workshop participants is 20, including the organizers.

9.1. Deadlines

- Workshop submission deadline: May 8, 2015
- Feedback to authors: May 22, 2015
- Workshop at C&T 2015: June 27, 2015

10. ORGANIZERS

Helen Ai He is a PhD candidate in the Department of Informatics at the University of Zurich. Her research explores the design of technologies to facilitate intercultural communication in the workplace. Previously, she worked as a software developer for education tools and conducted research on persuasive eco-feedback technologies.

Nemanja Memarovic is the Acting Director of People and Computing Lab at the Department of Informatics, University of Zurich. His interests lie between the intersection of public spaces, situated technologies and communities. Nemanja was a PC co-chair of the Community Informatics'12 and '13 conference. He participated in organizing a number of workshops. Also, he was a publicity and in-situ demo chair of PerDis '11 and '15, and Web chair for UbiComp '13. He is also a PC member of PerDis since its foundation 2012.

Amalia Sabiescu is a Senior Research Assistant affiliated with the Centre for Dance Research at the Coventry University School of Art and Design. Her research is situated at the interface between technology, culture and community development studies, with a special interest in issues related to agency, empowerment, and voice, and the theoretical and methodological implications associated with shifting the focus from individual to collectivities in social research and technology design. Her current research examines the context of change for European cultural heritage, locating the impacts of information and communication technology across various areas of culture and heritage, including performing arts, visual arts, crafts and design, and ethnic and community identity.

Aldo de Moor is owner of the CommunitySense research consultancy company, founded in 2007. The firm's mission is to link research and practice in the rapidly advancing field of Community Informatics, and to translate state-of-the-art insights into working communities for clients. Aldo earned his PhD in Information Management from Tilburg University in the Netherlands in 1999. From 1999-2004, he was an assistant professor at the Department of Information Systems and Management at Tilburg University. From 2005-2006, he was a senior researcher at the Semantics Technology and Applications Research Laboratory (STARLab) of the Vrije Universiteit Brussel in Belgium.

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