

Northumbria Research Link

Citation: Vlachokyriakos, Vasillis, Comber, Rob, Crivellaro, Clara, Taylor, Nick, Kuznetsov, Stacey, Kavanaugh, Andrea, Le Dantec, Christopher A. and Kim, B. Joon (2015) Designing Alternative Systems for Local Communities. In: Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems - CHI EA '15. ACM, New York, pp. 2333-2336. ISBN 9781450331463

Published by: ACM

URL: <https://doi.org/10.1145/2702613.2702657> <<https://doi.org/10.1145/2702613.2702657>>

This version was downloaded from Northumbria Research Link:
<http://nrl.northumbria.ac.uk/id/eprint/43408/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



**Northumbria
University**
NEWCASTLE



UniversityLibrary

Designing Alternative Systems for Local Communities

Vasilis Vlachokyriakos

Culture Lab
School of Computing Science
Newcastle University, UK
v.vlachokyriakos@ncl.ac.uk

Rob Comber

Culture Lab
School of Computing Science
Newcastle University, UK
rob.comber@ncl.ac.uk

Clara Crivellaro

Culture Lab
School of Computing Science
Newcastle University, UK
c.crivellaro@ncl.ac.uk

Nick Taylor

Duncan of Jordanstone College
of Art and Design
University of Dundee, UK
n.x.taylor@dundee.ac.uk

Stacey Kuznetsov

School of Arts, Media, and Engineering
Arizona State University
Phoenix, AZ, USA
stace@cs.cmu.edu

Andrea Kavanaugh

Center for Human-Computer Interaction
Virginia Tech
Blacksburg, VA, USA
kavan@vt.edu

Christopher A. Le Dantec

School of Literature, Media and
Communication
Georgia Institute of Technology
Atlanta, GA, USA
ledantec@gatech.edu

B. Joon Kim

Public Administration & Public Policy
Kookmin University (KMU)
Seoul, Korea
kimbj@kookmin.ac.kr

Abstract

Alternative systems ranging from self-organized skill sharing to alternative micro-economies have been critical channels of community engagement and bonding. Technology is increasingly playing a role in the way people connect to these services at the (hyper)local level. While there has been considerable research on designing technology to support conventional, established systems of community organization and governance; mobile and ubiquitous technologies offer strong potential for alternative systems to be established in the local level. Do It Yourself (DIY) and maker movements are enabling grassroots activist groups to develop their own technologies or to hack existing tools to support bottom-up systems of self-organization, democracy and commerce. Based on these trends and the recent worldwide economic, political and societal crisis, this workshop will bring together researchers, practitioners and activists to re-envision how HCI tools can support alternative systems of local civic engagement.

Author Keywords

bottom-up; activism; democracy; participation; DIY; citizen science; politics and HCI.

ACM Classification Keywords

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

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the Owner/Author.

Copyright is held by the owner/author(s).

CHI'15 Extended Abstracts, Apr 18-23 2015, Seoul, Republic of Korea
ACM 978-1-4503-3146-3/15/04.

<http://dx.doi.org/10.1145/2702613.2702657>

Introduction

The use and research of online and situated digital platforms to support existing conventional political procedures and mechanisms has been extensive the last few years. The idea of (hyper)local, civically focused media has been explored in depth, with public displays and mobile phones, being amongst the most common technologies. These technologies have been applied to a range of civic engagement approaches, from electronic voting [6], online deliberation [7], citizen science [8] and others. Many of these tools have sought to lower barriers to participation and engage a wider demographic with conventional political processes. This has been partially achieved by placing socio-technical interventions in local communities where they are encountered in day-to-day life or where their content is most relevant by exploring different interaction modalities [1,12].

In general, these tools are designed to follow specific conventional top-down approaches to governance and organization: governance applied to people instead of tools and methods for self-organization; knowledge and information dissemination through “subjective” experts rather than through methods of self-organized learning and information broadcasting; e-commerce to support global capitalism instead of encouraging local alternative micro-economic models of commerce etc.

In this workshop we intend to explore the latter and rethink technology to support alternative bottom-up practices.

Alternative systems

The growing awareness of the politics embedded in the design of any system [4] and the abolishment of the

utopian understanding of technology as being neutral [5], has recently led researchers to revisit the relationship between technology and the systems that technology are designed to serve. Adding to these trends, the emergence of alternative systems of organization, especially at the local level, due to both the lack of trust in established methods of governance and the societal and political crisis that comes with it, opens up new opportunities for HCI research to design alternative systems and ways to support these bottom-up practices.

In addition to the recognition of the politics of technology and emerging offline alternative local practices, a growing body of work around DIY and maker movements opens up new avenues for civic empowerment through bottom up grassroots methods. These participatory approaches enable activities such as community-led sustainable e-voting [14]; alternative systems of representation and democracy [2] etc.

Workshop Themes

In this workshop, we intend to explore the role of technology in supporting alternative (hyper)local systems of community self-organization. Even though we acknowledge the variety of contexts relevant to this discussion (and indeed we welcome submissions from any of these contexts), we more implicitly invite researchers, activists and practitioners from the fields of citizen science, maker communities, DIY electronics and design for activism, to explore the themes of alternative technology for community decision-making and democracy; science and education; and commerce.

Decision-Making and Democracy

The use of technology to support democracy has been equated with its use to provide a more efficient system of representative democracy. This is translated to systems to support council led consultation [12], government-led petitions, more efficient administration etc. However, HCI can also play a pivotal role in building tools and designing interfaces to support alternative to conventional systems (e.g. liquid democracy [2]) that may better support local democratic practices. Recent studies on voting configurations to support alternative systems of democracy and organizational structures [14,15] have indicated the effect that design and HCI can have on decision-making practices and participation. Other studies have illustrated the implications of technologies such as social media [3] in providing alternative modalities for social organization and political expression where opinion and decision making develops in relation to the concern of everyday life.

Science and Education

Technology has played an important role in mediating and facilitating science and education by mirroring conventional educational practices in the classroom and in research. More recently, bottom-up initiatives such as self-organized learning apprentices and citizen-science projects [8,9] exemplify how technology could signal a revolutionary change in education and science towards a different model of knowledge production, dissemination and extension. Finally, citizen participation initiatives on the educative function of participation (e.g. pedagogy of participation [11]) offer another example of how technology and HCI can play a critical role in embedding participatory citizenship in society.

Commerce

The use of technological resources to promote products and services across cultures and nations has been a catalyst for the global integration of technology in commerce. Even though HCI researchers have been involved in e-commerce research around the areas of usability, trust, usable security etc. [10], there is a currently underexplored space of designing socio-technical systems to support organizational endeavors that do not follow the conventional capitalistic globalized model of commerce – e.g. local flea markets, exchange markets etc. For example, a more user-centered in digital payments can be found in [13], where a community cheque clearing system was introduced as a way to maintain the cheques without the banks being in the loop of cheque clearing.

Goals and Outcomes

Our workshop will aim at drawing together a community of activists, researchers and designers to collaboratively define and explore through participatory methods opportunities and challenges in designing socio-technical approaches to support alternatives to established organisational systems in local communities. Building upon prior work, we will define this design space and map future design trajectories, new HCI methods and ubiquitous technologies to support community-based grassroots activism and civic engagement activities.

More specifically the workshop will aim to:

- Define alternative systems and develop a lexicon around the tensions and challenges of this design space for HCI research

- Map out opportunities and challenges in this design space
- Develop concrete strategies for HCI work in areas such as mobile and urban computing; participatory design; situated public participation; data collection and sharing; and the creation of tools from the bottom up.

References

- [1] Bohøj, M., Borchorst, N.G., Bødker, S., Korn, M., and Zander, P.-O. Public deliberation in municipal planning: supporting action and reflection with mobile technology. *Proceedings of the 5th International Conference on Communities and Technologies*, (2011).
- [2] De Cindio, F. and Stortone, S. Experimenting LiquidFeedback for Online Deliberation in Civic Contexts. In *Electronic Participation*. Springer, 2013, 147–158.
- [3] Crivellaro, C., Comber, R., Bowers, J., Wright, P.C., and Olivier, P. A pool of dreams: facebook, politics and the emergence of a social movement. *Proceedings of the 32nd annual ACM conference on Human factors in computing systems*, (2014), 3573–3582.
- [4] DiSalvo, C., Sengers, P., and Brynjarsdóttir, H. Mapping the landscape of sustainable HCI. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, (2010), 1975–1984.
- [5] Dourish, P. HCI and environmental sustainability: the politics of design and the design of politics. *Proceedings of the 8th ACM Conference on Designing Interactive Systems*, ACM (2010), 1–10.
- [6] Gianluca, S., Milano, M., Saldivar, J., Nasir, T., Zancanaro, M., and Convertino, G. Agora2. 0: enhancing civic participation through a public display. *Proceedings of the 6th International Conference on Communities and Technologies*, (2013), 46–54.
- [7] Kavanaugh, A., Perez-Quinones, M.A., Tedesco, J.C., and Sanders, W. Toward a virtual town square in the era of Web 2.0. In *International Handbook of Internet Research*. Springer, 2010, 279–294.
- [8] Kuznetsov, S., Davis, G.N., Paulos, E., Gross, M.D., and Cheung, J.C. Red balloon, green balloon, sensors in the sky. *Proceedings of the 13th international conference on Ubiquitous computing*, (2011), 237–246.
- [9] Kuznetsov, S. and Paulos, E. Participatory sensing in public spaces: activating urban surfaces with sensor probes. *Proceedings of the 8th ACM Conference on Designing Interactive Systems*, (2010), 21–30.
- [10] Nah, F. and Davis, S. HCI research issues in e-commerce. *Journal of Electronic Commerce Research*, (2002), 98–113.
- [11] Pateman, C. *Participation and democratic theory*. Cambridge University Press, 1970.
- [12] Taylor, N., Marshall, J., Blum-Ross, A., Mills, J., Rogers, J., Egglestone, P., Frohlich, D.M., Wright, P., and Olivier, P. Viewpoint: empowering communities with situated voting devices. *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems*, 2012, 1361–1370.
- [13] Vines, J., Blythe, M., Dunphy, P., Vlachokyriakos, V., Teece, I., Monk, A., and Olivier, P. Cheque mates: participatory design of digital payments with eighty somethings. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, (2012).
- [14] Vlachokyriakos, V., Comber, R., Ladha, K., Taylor, N., Dunphy, P., McCorry, P., and Olivier, P. PosterVote: Expanding the Action Repertoire for Local Political Activism. *DIS 2014*, ACM Press (2014).
- [15] Vlachokyriakos, V., Dunphy, P., Taylor, N., Comber, R., and Olivier, P. BallotShare: An exploration of the design space for digital voting in the workplace. *Computers in Human Behavior*, (2014).