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# 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.

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## **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.

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