

DOING GOOD IN HCI: CAN WE BROADEN OUR AGENDA?

[pre-print]

OLIVER BATES, Lancaster University; o.bates@lancaster.ac.uk

Oliver is a post-doctoral researcher at Lancaster University. His work looks at the role of people and digital technology in the demand placed on digital and physical infrastructures. His current work looks to leverage digital technology to redesign resource consumption in the home, on campuses, and of urban freight.

VANESSA THOMAS, Lancaster University; v.thomas1@lancaster.ac.uk

Vanessa is a PhD Candidate and Research Associate at Lancaster University. Her doctoral research examines social practices and public policies that influence the environmental footprint of digital technologies. She co-runs the Lickable Cities project.

CHRISTIAN REMY, University of Zurich; remy@ifi.uzh.ch

Christian is a post-doctoral researcher in the People and Computing Lab at the University of Zurich. His research interests cover a wide range of HCI and ubiquitous computing. Recently, he dealt with several issues in sustainable HCI, such as obsolescence and e-waste or the evaluation of sustainability in HCI research.

Every year, thousands of HCI researchers, industry experts, and members of the public gather at the ACM SIGCHI conference to discuss recent developments in our field. We share our projects, debate our ideas, and make plans for future work. For many, it is an invaluable opportunity to check-in with our peers and evaluate our priorities. We, the authors, have noticed a recent rhetorical trend in HCI publications and in the pubs at CHI: a lot of people seem to want to focus their work on “doing good,” “making a difference,” or “being inspiring.” This is an exciting, if highly controversial, trend—one that has direct implications for those of us interested in broad notions of sustainability.

In this article, we describe how researchers conducting work on new economic models, marginalised communities, HCI4D, and low carbon societies are indirectly contributing to the corpus of work relevant to sustainability and “doing good”. We do so by introducing what we mean by sustainability and “doing good”. We then briefly describe those areas of research and link them to sustainability and HCI, highlighting instances where this link might not be obvious or can be strengthened. Through this, we aim to highlight some of the indirect links between communities of research within HCI and identify exciting opportunities for future work that engage with the ‘wicked’ problems many of us care about.



Figure 1. *CHI4GOOD: Philanthropy is growing at our annual HCI conference.*

Identifying ‘sustainable’ HCI research

In 2014, the sustainable HCI community collectively argued that a clear-cut definition of sustainability might impose unnecessary constraints on research in the field [1]. Given the variety, scale and complexity of sustainability problems we face as humans and as diverse researchers, sustainability goals and metrics should be defined on a per-project basis. Those projects can include research “related, for example, to energy, pollution, poverty, employment, water, climate, and ecosystem health” [1], among others.

Since 2014, the wider HCI community has produced a considerable body of exciting research that addresses diverse sustainability issues. Browsing through CHI 2017 proceedings looking for cutting edge research related to sustainability we noted over 30 talks that related to a broader definition of sustainability¹. These papers cover a variety of topics including ICT4D/HCI4D, designing for marginalized communities, new economic models, and designing a low carbon and sustainable society. Even within these topics, HCI research

¹ SHCI Wiki Blog Post: Sustainability @ CHI 2017 <https://scc-shci-wiki.lancs.ac.uk/wordpress/?p=282>

covers diverse issues, including: policy, food, gender, trust, mobile technologies, understanding the built environment, poverty, infrastructure, labour, privacy and trust, education, resources and transport, among other issues.

It's tempting to encourage those outside of SHCI to define or mark the theme of sustainability in their work, making their contribution to sustainability more obvious. This is not something we would like to advocate, as this might push people away from the larger point of thinking and collaborating beyond the current bounds of SHCI. Instead, we think that a great way of thinking about sustainability in HCI is to look where research is making a difference and promoting good will.

HCI for “doing good”, “making a difference”, and “being inspiring”

Sustainability—for us—is about exploring and promoting positive socio-ecological change, across a number of societal contexts. We believe that “doing good”, “making a difference”, and “being inspiring” are themes that could be leveraged more readily in SHCI. These themes are appearing more regularly in the context of our research, as well as in the philanthropic events run at our conferences. “Doing good” and “making a difference” are by no means new themes or mantras in HCI; the CHI 2016 conference attempted to leverage the expertise of our community by organising a community service day, an event that was repeated at CHI 2017².

Whilst leveraging philanthropy and values of doing good, we need to be conscious of whose good we are doing. Joyojeet Pal's recent commentary questions the good within HCI in terms of professional practice and the motivation behind the good that is being done [4]. We see sustainability in HCI offering multiple opportunities for doing good, in a global sense, that isn't just an afterthought or “pat on the back”, and is instead a core value to the research. In the midst of challenging ways in which sustainability is tackled at a global scale we see places for good in our work whilst challenging who the good is for, and at what cost the good comes at for others. Examples include: ensuring that those who lack access to resources aren't penalised or excluded as we tackle resource consumption; challenging the impact of e-waste at home, but also ensuring accommodating for that those who rely on its economy; and, the role of digital technology in reshaping the way that we feed 7 billion people, globally.

HCI is already a diverse community, with visionary ideas and an affection for philanthropy and doing good. In the next section, we identify several unexplored opportunities for “doing good” and considering sustainability across more diverse areas of HCI.

New economic models

² CHI 2017 Day of Service: <https://chi2017.acm.org/day-of-service.html>

Uber, AirBnB, MechanicalTurk, and Kickstarter are just a few examples of so-called “sharing economy” platforms that promise to deliver “new” economic models. The common thread across these platforms is that they have the power to change society, in terms of how goods and services are organised, compensated, and taxed. Through the help of technology, the complexities of economic engagements are allegedly reduced so that people and their activities can be connected directly and more easily. This is meant to open up new economic opportunities for people who want to make a bit of additional cash in their spare time, or who would otherwise have limited access to employment opportunities. And this is where “sharing economy” platforms often claim their affiliation with “doing good.”

Few, if any, of these platforms consider the impact of their technological innovations on social and ecological sustainability. However, such systems have already demonstrated that they have the power to create long-term changes in economic structures. For example, Uber has changed the nature of taxi services in many cities around the world, and AirBnB has similarly affected housing and rental markets globally. There are real concerns about whether or not these organisations pay appropriate local taxes and minimum wages, and many governments are just beginning to discuss how to regulate “sharing economy” businesses. These changes have direct implications for those of us interested in sustainability; economic and social sustainability directly influence ecological sustainability, as do the changes in the shape and nature of the services being delivered.

Designing with and for marginalised communities

Accessibility—the notion of making computer systems accessible to people of all abilities—has been a common theme of work throughout much of the history of HCI. More recently, some members of the HCI community have focused their research on working with, supporting, and serving marginalized communities, groups of people who are underrepresented in and/or underserved by existing political, economic and social structures. Examples of HCI working with or designing for marginalised communities include technologies that: help low-income persons establish and maintain financial security; facilitate access to transport and technology, or; improve the quality, breadth, and accessibility of education.

Marginalised communities highlight various types of inequalities that exist globally, some of which extend to our own discipline; computing and academia have been rightfully criticised for being exclusive to and for many communities. But this is part of why sensitively conducted research with and for marginalised communities can be a powerful tool. HCI, with its strong background in investigating interdisciplinary challenges and proposing solutions, has unique qualifications to address some issues related to inclusivity and inequality, both of which directly affect sustainability.

ICT4D and HCI4D

There is a growing body of HCI research that focuses on communities in the Global South. Much of this research examines how digital technologies are being or could be used to directly intervene in the long-standing and complex socio-political and economic issues related to international development (i.e. the “for development”/4D in HCI4D). These socio-political and economic issues include but are not limited to: economic and food insecurity, gender inequality, and access to quality education, healthcare, and internet infrastructure.

Many communities in the Global South are at the forefront of experiencing and fighting against the effects of climate change. Although not all HCI4D research makes an explicit link to issues of sustainability, the connections exist and, in some cases, are felt viscerally by partnering communities. Some HCI4D research arguably overlaps with HCI for marginalized communities, especially regarding “doing good”, but the key differences often lie in the spatial, historical, and socio-political issues linked to the “development industry.”

Designing a low carbon and sustainable society

The perception of sustainability research in HCI is often that its primary focus is behaviour change, persuasion or reducing energy impacts in such a way that may cripple growth and innovation. Redesigning society is much more than this, requiring new understandings of how the roles of digital technologies and infrastructures can encourage positive and sustainable trajectories, beyond just eco-feedback and changing the behaviours of individuals. It is important to distinguish that the search for a low carbon society can benefit from changing behaviour or persuasion whilst simultaneously gaining broad empirical understandings of how technology can be redesigned to promote sustainable trajectories. Learning from the breadth of HCI research (and beyond) is essential in the evaluation of how these technologies and trajectories drive us towards more a zero (or even negative) carbon society.

Broadening our ‘sustainable’ horizons

Global climate change is showing no signs of slowing, hitting society harder than ever before with more frequent and extreme weather events across the globe (e.g. droughts, flooding, sudden freak weather events). We need to act quickly and wisely. Combined with the impacts of fluctuating economies and austerity (hunger, homelessness and food banks) and a step change in geopolitical landscapes, the scientific community has declared it is 2 and a half minutes to midnight³, indicating the imminence of the next global catastrophe. In an attempt to tackle these wicked and systemic challenges, we hope that we are doing our bit to broaden out the horizons for sustainability in HCI.

In this article, we have endeavoured to demonstrate the connections between a variety of

³ Bulletin of the Atomic Scientist - The Doomsday Clock - <http://thebulletin.org/clock/2017>

HCI research topics and sustainability. There are more connections to be made, but we wanted to start by linking these based on our observations of CHI 2017 and our personal interests. As we move closer towards midnight and as we experience the effects of global climate change more regularly, the SHCI community is branching out and considering how to tackle more broad issues of sustainability. Examples include grasping how HCI meshes with the UN's Sustainable Development Goals [3], and developing design patterns [4] that encourage sustainability issues to be tackled in broader HCI research.

By broadening the scope of SHCI to include work being conducted under the theme of “doing good”, we hope SHCI can become more exciting and inviting to existing and upcoming HCI work, thus furthering the field and open new avenues for research. There are more than just a few starting points for meshing good and sustainability amongst the overwhelming diversity present in HCI research. Our discussion serves as a starting point for linking these topics that may have an unclear connection to SHCI, but should be considered as work contributing to sustainability.

References

1. Silberman, M., Nathan, L., Knowles, B., Bendor, R., Clear, A., Håkansson, M., Dillahunt, T. and Mankoff, J., 2014. Next steps for sustainable HCI. *interactions*, 21(5), pp.66-69. Vancouver
2. Eriksson, E., Pargman, D., Bates, O., Normark, M., Gulliksen, J., Anneroth, M. and Berndtsson, J., 2016, October. HCI and UN's Sustainable Development Goals: Responsibilities, Barriers and Opportunities. In *Proceedings of the 9th Nordic Conference on Human-Computer Interaction* (p. 140). ACM.
3. Knowles, B., Clear, A.K., Mann, S., Bleviss, E. and Håkansson, M., 2016, May. Design Patterns, Principles, and Strategies for Sustainable HCI. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 3581-3588). ACM.
4. Pal, J., 2017, May. CHI4Good or Good4CHI. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 709-721). ACM.