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Crafting a Place for Attending to the Things of Design at CHI

Over the past two years, we have organized workshops at the CHI conference that have focused on the “Things of Design Research” [1,2]. The goal of these workshops is simple: to explore and develop a venue at CHI for research through design (RtD) practitioners to materially share their work with each other. RtD often centers on the making of *things*—artifacts, systems, services, or other forms—as a means to construct new knowledge in the interaction-design and human-computer interaction (CHI) research communities. Yet, over the years, we have felt that the things of design research have

remained conspicuously overlooked, under-engaged with, and, for the most part, absent from the CHI conference. If RtD is to continue to develop as a research practice in the HCI community—and we want to build a community of designers doing research with and through designed objects—we need more things at CHI. This requires a venue for interacting with, reflecting on, and discussing the material outcomes of RtD. We organized two workshops to experiment with what such a space might look like at CHI, and to do so without a strong theoretical or methodological framing. The material

RITUAL MACHINE V

PRESENTED BY DAVID CHATTING

I have been an enthusiastic contributor at the “Things of Design Research” workshops in both 2016 and 2017, where I presented two of the Family Rituals 2.0 machines. The workshop was the ideal venue to critically discuss the details of our designs, prior to their deployment.

In 2016 I brought Ritual Machine V: Where are You?, a telescope for a young boy to find his father as he moved around the country for work. This was delivered to the family in a packaged kit form. As such, the sense-making that occurred as the box was unpacked was a crucial element of the design. In what order are the elements encountered? How do they communicate? The kit and the use of pliable materials (cardboard and elastic bands) were intentional, giving the family, and especially the son, an investment. Performing this unboxing in the workshop myself called attention to the details of all the elements, with a critical and experienced audience—in ways both expected and unexpected. In particular, the accompanying map drew scrutiny—how might that best be printed to reflect the same values of adaptation as the cardboard? In contrast to the presentation of this work as a paper or pictorial, where seemingly irrelevant details like this are excluded, the workshop allowed for a looser, more holistic examination of the work, akin to a design-school crit.



presence of design artifacts speaks volumes. Our goal was to create an inviting place for tuning in, listening, reflecting, and discussing them on their own terms. Here, we offer a sample of artifacts and reflections from participants who attended over the past two years (see sidebars).

Our aim parallels earlier articles in *Interactions* that argue for the need to “articulate our experiences in forms other than just academic papers” [3,4,5]. Similarly, we are observing a contemporary shift in design research toward recognizing things as research outcomes that can be presented and discussed within academic settings as academic outputs. Several recent HCI and design conferences have made

moves to adapt to this expansion. Beginning in 2014, the ACM Designing Interactive Systems (DIS) conference has included an annual Pictorials track: a publication venue that emphasizes the visual communication and dissemination of design-research findings. Another important example outside the ACM community is the U.K.-based Research through Design conference. Since 2013, this conference has played a pioneering role in developing a “synergistic format for disseminating RtD” [6] that emphasizes the exhibition and discussion of design artifacts over research papers and formal presentations. With a similar aim and ambition, our CHI workshops sought to investigate designed things, and the meanings, concepts, insights, and experiences that they evoke, inspire, and embody.

So who came and what happened?

Over the course of the two workshops, 26 participants attended from a variety of academic and industrial organizations across Asia, Europe, and North America. Participants and organizers alike brought a thing (or things) to discuss. While

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we initially envisioned that the workshops would focus exclusively on highly resolved things, participants brought design artifacts and materials that were at various stages—from early explorations to in-progress prototypes, to finished and robust artifacts. The kinds of things that participants brought to the workshops were diverse and included the Resonant Bits prototypes [Bennet], a commercial DIY gamer kit [Vanis], Ritual Machines IV and V [Chatting], inkjet-printed evolving garments [Grosse and Riisberg], ProbeTool Camera prototypes [Gaver and Boucher], IoT Sensor/Actuator Cubes [Berger, Lefeuvre, Totzauer], and a Data-Enabled Design Canvas [van Kollenburg and Bogers], among many others [7].

Across both workshops, our pool of participants and organizers represented a mix of emerging, junior, and senior HCI design researchers. From the outset, we designed the workshop to be non-hierarchical. We did not have opening or closing keynote talks, nor did we attach a stronger sense of importance or attention to the senior researchers over less-experienced ones. The requirement that everyone bring a thing to the workshop created a sense of accountability that also helped level the playing field across participants and reinforced a sense of equal commitment and participation.

We also discouraged participants from presenting slides or abstracted representations of their design artifacts. In prior CHI workshops, we found that the format of slideshow presentations, however well intentioned, can quickly slip into the dominant mode of describing a research project at CHI (e.g., start with theory and motivation, then method, then the evaluation, etc.). We wanted to actively disrupt this approach by exclusively focusing on the things of design research. There is a maturity to things—a weight, a feel, a presence, an expressiveness—that will and did steer the discussion. For example, questions surrounding choices in the form, materials, interactivity, or computational expression of a design artifact become quickly apparent through first-hand experience. Across workshops, we found that this approach fluidly led

to stimulating discussion about the artifacts among participants without the need for prompts or management from the organizers. These decisions proved to be highly effective at creating a venue that encouraged open dialogue and exchange, and that focused attention onto the respective things of design research that participants shared and discussed.

But we already have Interactivity at CHI. How is this different?

Good question. It is very different. Interactivity plays an important role at CHI in providing a venue for researchers to have self-contained, public exhibits that demonstrate novel interactive technologies and experiences. For good reason, the emphasis of most exhibits is

on illustrating a new technology prototype or system packaged into a concept that is quickly accessible to passersby. The goal is not to engage in a longer-form dialogue that explores the nature of the interactive artifact's actuality, nor is it to target a specific academic or practice-based audience. Interactivity sessions also appear across multiple bursts at the CHI conference program, which helps exhibitors achieve visibility to as many attendees as possible. However, key to the success of our workshops was the specific audience of design researchers and the daylong program, which enabled us to develop a sense of richness, depth, and tight-knit culture across participants.

What should we do next? The

TASKCAM

PRESENTED BY BILL GAVER AND ANDY BOUCHER

TaskCams are digital cameras designed for cultural probe studies, with a small screen on the back showing questions used to tag the pictures that participants take in response. As they are inexpensive and designed for open-sourcing, we aim to offer TaskCams to researchers so they can build their own, uploading appropriate questions, customizing the casings, or even modifying the hard- and software.

We showed a couple of iterations of the TaskCams at the two “Things of Design Research” workshops, one that is 3D printed and one with a case made of paper. Being able to actually handle and try out the cameras allowed workshop participants to engage with their material qualities and details of their interaction in ways that written or oral presentations don't support very well. The workshops were an opportunity to give about half a dozen TaskCam prototypes to participants to try over the course of the conference. Being able to engage design experts in this kind of informal design-research experiment was valuable both in eliciting experiences with the cameras and in revealing problems and possibilities for improvement—the result was that several features of the designs were changed. This, along with the opportunity to encounter the tangible reality of other peoples' work, made the workshops a definite highlight of both years' CHI conferences for us.



DATA-ENABLED DESIGN CANVAS

PRESENTED BY JANNE VAN KOLLENBURG

The Data-Enabled Design Canvas is a collection of physical and digital prototyping tools that aid in utilizing data as a creative material in the design process. Developed at Philips Design, it aims to explore the relevance of home data for healthcare professionals. We aim to study parents' and healthcare professionals' experiences of the gathering and sharing of baby data collected at home, and the productive dialogue this can open up.

In the workshop, I presented the Data-Enabled Design Canvas to discuss the combination and integration of physical and digital elements. Together we explored that the things of design research no longer have to be limited to physical objects. However, these are influential to the RtD process, as form, material, and interaction style highly influence the experiences of participants and thus influence the insights gained in these design interventions. To me, the workshop felt like studio discussions with colleagues specialized in RtD from all over the world. The spotlight was on "the thing," and the intention was more to unravel the role of the artifact in the design research process than to experience and evaluate the artifact itself. I see this as an important venue for discussing both more finished and in-progress RtD projects because the discussions of this workshop were so actionable and helped bring a range of projects to a higher level.



strong interest in and outcomes of our two workshops suggest there is a need to carve out a more stable place for attending to the things of design research annually at the CHI conference. While disseminating the workshop proceedings through a journal special issue or edited book is a worthwhile goal for many workshops, we did not have a strong urge to pursue this path. We saw the major success of the workshops was that they provided a productive step toward nurturing and developing a stronger culture of design research at CHI grounded in *actual designed things*. At the conclusion of each workshop, there was a strong desire and eagerness among

participants and organizers to do it again next year. They provided a rare and highly productive venue at CHI for established and emerging design researchers to engage in dialogue and exploration of their own things, as well as things coming from studios and labs around the world. The most important outcome centered on strengthening and refining a culture for designerly ways of engaging, debating, and discussing research artifacts.

Yet this central outcome seems at odds with the criteria for accepting workshops at CHI, which tends to favor themes focused on emerging research topics or new technologies and systems. Thus, we struggled to frame our 2017 workshop so that it would appear like a radical evolution from the prior year, while retaining its core aim and ambition. In fact, the main criticism we received in the reviews was that it seemed too similar to the previous year (in our view this was a good thing!). There ought to be a longer-term, more stable place for attending to the things of design research at CHI. Similar to the

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Doctoral and Development consortia, now is the time to create a one- or two-day CHI Design Consortium that would be organized and run primarily for the benefit of carefully selected attendees and their things of design. This will help bring more visibility to the multiplicity of design-research practices in the CHI community. It will also craft a foundational place for longer-term mentorship and the exchange of tacit knowledge with the next generation of design researchers in the HCI community. A foundation has formed, and scaffolding is in place for a fresh set of researchers to join in crafting a place for attending to the things of design research at CHI, now and into the future. Join us!

ENDNOTES

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7. For more details on the things discussed, see workshop website: <http://thingsofdesign.info/>

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LOADED DICE

PRESENTED BY KEVIN LEFEUVRE

What is the Internet of Things equivalent to a pen or a hammer? In designing Loaded Dice, we wanted to create an ambiguous, tangible, and ready-to-use co-design tool for the Internet of Things. Loaded Dice is a set of connected cubes equipped with sensors in one cube and actuators in the other. It makes abstract Internet of Things technology tangible and easily reconfigurable. Taken alone, it is an ideation device to support co-designing scenarios for smart connected things. Together with design methods tailored to the tool, it is used to co-design more complex storylines together with older adults, people living together, or blind students.

We found the workshop to be a good venue for design-studio-style critique that was able to grasp the whole spectrum encompassing the design process surrounding Loaded Dice. The workshop enabled actual, tangible, real-time experiences of the cubes in action. This triggered a range of reflections and speculations on how Loaded Dice could be used, not only as a tool for co-design but also for existing resourceful purposes and simple tasks in everyday life. This discussion touched on the possibilities of a simpler—yet potentially more sophisticated and accessible—vision of the Internet of Things than we often see represented in popular media today, which helped shape how we talk about our work.



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