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# Problems in Practice: Understanding Design Research by Critiquing Cases

**Abigail Durrant**

Northumbria University  
Newcastle upon Tyne,  
NE1 8ST, UK  
abigail.durrant@northumbria.ac.uk

**Simon Bowen**

Newcastle University  
Newcastle upon Tyne,  
NE1 8HW, UK  
simon.bowen@ncl.ac.uk

**David Kirk**

Northumbria University  
Newcastle upon Tyne,  
NE1 8ST, UK  
david.kirk@northumbria.ac.uk

**Stuart Reeves**

University of Nottingham  
Nottingham,  
NG7 2TU, UK  
stuart@tropic.org.uk

**Jayne Wallace**

Northumbria University  
Newcastle upon Tyne,  
NE1 8ST, UK  
jayne.wallace@northumbria.ac.uk

**Sara Ljungblad**

University of Gothenburg  
Göteborg, Sweden  
sara.ljungblad@ait.gu.se

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**Abstract**

Responding to challenges to better understand design research practice, its contributions to knowledge production and its value to HCI, our one-day workshop critically reflects on case examples of design research practice in interdisciplinary HCI projects. We invite position papers that offer personal perspectives on 'critical incidents' in such projects, specifically focusing on problems, miscommunications, tensions and failures. We establish a supportive, discursive forum for constructive critical reflection, to deepen understanding about the nature and value of design practice as a form of research inquiry within HCI. The workshop also aims to develop conceptual resources for supporting design practice in interdisciplinary research.

**Author Keywords**

Design Practice; Design Research; Research through Design; Interdisciplinary; Failure; Critique; Reflective Practice

**ACM Classification Keywords**

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

**Introduction and Background**

The field of Human Computer Interaction (HCI) engages multiple disciplines and is arguably design-

oriented – towards constructive technology innovation [10]. Design is a centrally significant practice and expertise within multi- and inter-disciplinary HCI teams. Indeed Interaction Design (IxD) has developed as a distinct discipline for computer-related design that is characteristically engaged in HCI in collaboration with other expertise [1,20].

In recent years, designers' contributions to the processes and practices of HCI research have been increasingly acknowledged. It is now recognized that creative, 'designerly' approaches to HCI may be distinct and have value for driving interdisciplinary inquiry [4]. 'Research through Design' (RtD) is gaining traction as an open, generative approach [11,23]. Design Thinking is another established approach [6,7]. This recognition of 'design as a form of inquiry' is resonant with the Third Wave in HCI, the phenomenological turn, and the growth of a *humanistic agenda* [2]. Indeed, the expansion of HCI to incorporate diverse disciplinary perspectives has raised debate around the epistemological foundations of a scientific HCI [21], and has extended the play of possibilities for applying creative design practice alongside other approaches.

The HCI community has started to address the *forms of knowledge* that design research practice might produce, and disseminate [e.g. 3,10,11,15,19,22,23]. The value of making and materials in inquiry has gained new significance in the field [18]; and pragmatic steps have been taken to articulate and deliver transferrable knowledge from design processes and artifacts, for example through the annotation of portfolios [5] and the collation of worked examples, or cases [11].

A recent workshop at CHI 2015 focused on this endeavor to explore design (and specifically IxD) as a knowledge generating activity [14]. The workshop outcomes raised an explicit call for better understanding of the nature of design research practice, and the forms of knowledge that design might produce – through the scrutiny of cases [13]. The workshop discussion also raised the challenge to *communicate* 'what design research looks like as a practice', and its value for HCI, to *broad and diverse audiences* and multiple disciplinary perspectives.

We respond to this challenge by proposing a workshop for CHI 2017 that invites case examples of 'putting design research into practice', for presentation and critique; and to consider, in particular, *the value placed on design practice within the context of interdisciplinary HCI teams*. Building on extant work, our shift forwards in this workshop is to 'turn to practice' [17], considering a broad and inclusive range of contexts in which technology is designed and encountered. We approach the workshop by fostering dialogue with HCI design researchers from diverse backgrounds and with a range of professional expertise, across industry and academia, and in transcultural collaboration; we do not focus on IxD, but engage a broader articulation of design practice (e.g. user experience, design strategy, industrial design, etc.); we intend to create an inclusive and egalitarian setting for interdisciplinary engagement.

In the wider design research community, there has been a drive to establish discursive dissemination platforms for engaging and critically reflecting on practice-based forms of inquiry in a collocated setting. This includes the new Design Research Society (DRS) Conversations [8] and the Research through Design

(RTD) Conference [9,22]. A feature of both these platforms is that they provide opportunities for the artifacts and materializations of design research to have physical presence and feature centrally in discussion. Our workshop structure takes inspiration and impetus from these novel formats, also in drawing on the tradition of the design school critique (or 'crit') to collectively reflect on presented cases.

When *advocating* design as a form of inquiry, it is all too easy to speak about the strengths of design processes and artifacts, and to either brush over their failings or miss the potential new directions that a 'failure' can take us in. We see a value in focusing on the practical workings of a project for deepening critical understanding and reflection. This includes addressing things that go wrong in practice, practical constraints, and the *critical incidents* within a team that may determine the project's development. This approach has proven useful in previous accounts of practice-based inquiry [12,16]. In sharing particular cases from individual perspectives, and explicitly including constructive reflection on problems, we will develop deeper critical insight about design research practice and practitioners' perspectives on professional identity, for better supporting HCI project teams in the future.

### Interests and Goals

This workshop intends to bring together a diverse group of designers and researchers working in HCI in academia and industry to constructively critique case studies of 'problems in practice', based on *personal experiences*. In doing this we critically explore how design is practiced as a form of inquiry in interdisciplinary HCI teams, and focus on the practical realities of interdisciplinary work in particular instances.

The workshop is for: those who self-identify as design research practitioners working in the HCI field; those who self-identify as applied researchers working in HCI; and those who may work with designers and are interested in design research practice.

### Issues to be addressed

In our Call for Participation, and at the workshop event, we raise three provocations to frame our discussions, and to help our participants to (i) individually present and then (ii) collectively critique their case examples.

#### (1) HOW IS DESIGN PRACTICE CONFIGURED IN HCI RESEARCH PROJECTS AND WHAT IS ITS VALUE?

- Why was design engaged in your project? What were the valued/undervalued features of design practice?
- What other disciplinary expertise was engaged alongside design? Who led the project? How did project roles work in practice?
- What were the intended contributions of design expertise to the project and were they met?
- What transferrable insight did design practice actually deliver in relation to the inquiry?

#### (2) HOW ARE DESIGNERS' AND DESIGN RESEARCH PRACTITIONERS' IDENTITIES EXPRESSED IN HCI COMMUNITIES OF PRACTICE?

- Who was practicing design in the team and how was this acknowledged?
- Who was the design research practice serving?
- What was the working culture of the design practice and how did this shape the team?

- Was there a relationship or distinction between professional practice in the academy and the industrial research lab?

(3) HOW DOES DESIGN PRACTICE COMMUNICATE WITHIN HCI TEAMS AND BEYOND?

- What features of design practice were valued for facilitating communication within the team?
- What was deemed a failure and by whom, and how was it dealt with?
- What audiences were the designers engaging and delivering to in their practice?
- What are the challenges for design research practitioners to create and sustain dialogues with partners and stakeholders?
- How was transferrable knowledge from the design research practice disseminated?

*Goals for the workshop*

- **Collate real-world case examples** or demonstrators of how design research is actually practiced as a knowledge generating activity in HCI project teams, focusing on critical incidents;
- **Deepen critical understanding and reflection** in the HCI community about the value of design practice as a form of research inquiry, and the practical issues and challenges faced by practitioners;
- **Create a lively, supportive, and candid forum** for constructive dialogue and critical engagement with concrete examples to-hand.

- **Devise conceptual resources** and characterizations of design research practice that have transferrable value for HCI researchers in future projects.

In our Call we will invite position papers that portray case examples of design research practice, highlighting the problems and challenges faced in the realization of a given HCI project, and focusing on a particular critical incident. We strongly encourage the use of illustrations and visual argumentation in the preparation of papers. As part of their submission, we will invite participants to describe a design research artifact or related material that they will bring to the workshop that supports their position. In responding to the Call, we will ask potential participants to properly consider the ethical implications of critically reflecting on project work for representing themselves and others, and to anonymize projects and partners where appropriate.

### Workshop Planning

The website for the workshop is at the following link: <https://openlab.ncl.ac.uk/problemsinpractice>. This will detail workshop goals; list the participants and organizers; and share the accepted position papers. We will advertise the Call widely, exploiting email lists (from our existing academic and professional networks), personal contacts (for individualized invites), and social media platforms to target a broad selection of potential participants.

The workshop organizers will coordinate the review of submissions between themselves, ensuring that each submission is reviewed by at least two organizers. We will liaise with participants ahead of the workshop to offer advice for preparing their presentations.

## Proposed Schedule

- 09:00 – 09:30  
*Welcome and Introductions*
- 09:30 – 10:45  
*Presentations*
- 10:45 – 11:00  
*Coffee Break*
- 11:00 – 12:15  
*Presentations*
- 12:15 – 13:45  
*Lunch*
- 13:45 – 14:30  
*Small Group Reflection:  
Configurations of Practice*
- 14:30 – 15:15  
*Small Group Reflection:  
Identities and Experiences in  
Communities of Practice*
- [14:45 – 15:00  
*Working Coffee Break*]
- 15:30 – 16:15  
*Characterizing Problems in  
Practice*
- 16:15 – 17:15  
*General Discussion,  
Reflections and Impact  
Opportunities*

## Workshop Structure

### *Welcome and Introductions*

The workshop will begin with an Introduction from the organizers. This will include: a summary of the plan for the day; and an overview of the process and ethical considerations for *critiquing presented work*.

### *Presentations*

As an icebreaker and a demonstrator of how the presentations and crits will proceed, three of the six organizers will first present an example from their own collaborative work, talking through how this case may be critiqued, inviting input from all the participants.

Then each participant will, in turn, present their design research case, focusing on a ‘critical incident’: an instance in the project that was problematic, such as a miscommunication, tension, or failure that impacted project development. Participants will be encouraged to bring a designed artifact, an image, or other material related to the critical incident, to support their presentation. Each presentation will follow with a group crit of the presented work. (The number of participants would determine the particular timings of presentations.)

### *Small Group Reflection: Configurations of Practice*

After lunch, participants will form smaller, round-table groups to reflect on the morning’s discussions, collectively looking for points of common concern across the presented cases, related to the first provocation. The workshop organizers will facilitate these small group discussions. Presenters’ supporting materials will be to-hand at the table. Each small group will then report back to the bigger group, and the organizers will document and synthesize responses.

### *Small Group Reflection: Identities and Experiences in Communities of Practice*

Participants will then regroup into *new* small groupings, to explore and make sense of *expressions of personal experience and professional identity* within the interdisciplinary project context. Again, in round-table discussions facilitated by the organizers, participants will be invited to reflect on the personal perspective that they have presented, and address the second and third provocations in the context of their case example. Outputs will, again, be reported to the bigger group.

### *Characterizing Problems in Practice*

Participants will assemble into new small groups for the last time to synthesize discussion raised during the previous sessions. This will be followed by a creative brainstorming activity to (a) characterize a problem in practice that is considered particularly resonant, and to (b) consider conceptual resources for *constructively addressing* it. Brainstorming may address particular cases or multiple cases with shared features. Group members will then consider the practical applicability of the resources they’ve developed in another chosen case (from any of those presented). The objective is to consider the transferability of insight across cases. Outcomes will be presented back to the larger group.

The closing session will open the floor to reflection around the discussions of the day and planning for next steps, including impact opportunities.

## Planned impact and dissemination

All workshop activities will be documented. With participants’ consent, aspects of this documentation will be made available through the workshop webpage – providing a broader resource for the HCI community to

reflect upon real-world case examples of design research practice. The workshop organizers will produce a proposal for a special issue of a high-impact HCI journal, prepared ahead of the workshop. Participants will be invited to develop their workshop position papers for submission to this special issue.

### Organizers

**Abigail Durrant** is Associate Professor and Leverhulme Fellow in the School of Design at Northumbria University. Abigail's fellowship research focuses on deepening understanding about the value of design practice as a form of inquiry in HCI project teams, for engaging diverse disciplinary expertise to deliver transferrable insight to diverse audiences. She was General Chair of the Research Through Design 2015 conference, and has a track record of successfully organizing and facilitating previous CHI workshops.

**David Kirk** is Professor of Digital Living at Northumbria University. He has recently been exploring the role of design research in HCI, with particular interest in the development of technologies for domestic spaces. He is currently lead investigator of a project exploring the Support of Networked Design Expertise, linking Makers and Manufacturers. He has organized and run numerous previous CHI workshops.

**Jayne Wallace** is Reader in Craft Futures at the School of Design, Northumbria University. She works with digital technologies to redefine conventions of how, why and with what things are made in our digital culture. She develops hybrid forms of physical-digital artifacts to serve as a platform both to explore new ways for the digital to support selfhood and also as a provocative lens on our current assumptions of the

materiality and meaning of the digital. She is co-founder of the Research Through Design conference.

**Simon Bowen** is a designer-researcher based in Open Lab. Since 2009, he has coordinated and participated in design research projects in health and social care services, the creative economy, cultural heritage, personal media, and urban transport. Through this work, he has developed research on the value of making in collaborative projects, and the participatory and human-centered design of interactive technology.

**Stuart Reeves** is EPSRC Senior Research Fellow at the Mixed Reality Lab, in the School of Computer Science, University of Nottingham. He researches social and collaborative technologies, investigating how people use diverse kinds of interactive devices and systems in real world situations and places. As EPSRC Fellow he is exploring the connections between academic HCI research and the work of practitioners in UX and design professions. He is author of the book *Designing Interfaces in Public Settings*.

**Sara Ljungblad** is Assistant Professor at the University of Gothenburg. She has recently spent three years as a researcher among industrial designers at a design and innovation agency. She is interested in addressing the gap between design perspectives among design practitioners and how design is understood and articulated in HCI research. She is Industry Experiences chair at NordiCHI 2016, and is experienced in organizing workshops both in industry and research.

### Call for Participation

Recent calls within the CHI community have argued for better understanding both design research practice and the forms of knowledge it might produce, challenging the value of design practice within HCI projects. In

response, our one-day CHI workshop will gather case examples of *design research in practice*, for presentation and critique. We encourage participation from HCI design researchers with diverse backgrounds and a range of professional expertise. Position papers should reflect authors' perspectives on the problems and challenges faced in practicing design research within HCI projects. Authors should lay bare a 'critical incident' that determined their project's development. Discussion and reflection on such problems will generate a critical understanding of design research practices, for better supporting HCI project teams.

We offer provocations for authors to consider.

- (1) How was design practice configured in your project and what was its value?
- (2) How were designers' and researchers' identities expressed/managed within the project?
- (3) How was design practice communicated within and beyond the HCI research team?

Submissions (up to four pages in CHI Extended Abstract format, maximum 5MB, PDF file) should also describe a design research artifact that authors will bring to the workshop to support their position. We encourage use of illustrations. Authors must additionally consider the ethical implications of presenting their cases.

The organizers will review submissions focusing on suitability and relevance to the Call. At least one author from each accepted paper must register for both the workshop and 1-day (minimum) of CHI2017.

Please submit applications via email. For details see: <https://openlab.ncl.ac.uk/problemsinpractice>.

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