Editorial

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Case studies for human–computer interaction: lessons from a call for cases

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Dear reader!

Beyond "classical" research articles with clear sections on related work, methods, analysis, and implications, i-com also publishes other formats such as position papers and case studies. For human–computer interaction, case studies are a particularly well suited format. HCI research aims to understand how people interact with technologies in specific situations, how systems are introduced into organisations, and how they are appropriated over time. These processes are always embedded in organisational histories, practices, and infrastructures. Case studies are designed to put exactly this context into the foreground. They allow authors to present rich, situated descriptions that capture not only what a technology does, but how it is taken up, adapted, resisted, or quietly worked around.

Case studies can focus on many kinds of HCI topics, from collaboration software and mobile apps to XR systems, process models, or methods. Some case studies emphasise how a particular system is used in practice. Others focus on design, showing how empirical insights are translated into prototypes and then into changed work practices. Across these variants, case studies help to uncover problems and opportunities in real settings, explore design alternatives, show how cause and effect unfold over time and highlight both successes and failures in ways that others can learn from.

These characteristics make case studies valuable for practitioners, students, and researchers. Practitioners gain examples of how others have designed and introduced systems and what worked in which way. Students can learn from teaching cases that show how experts have addressed a given situation. Researchers obtain detailed accounts that can inspire questions and help refine concepts.

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With this in mind, we launched a call for HCI case studies for Special Issue 3/2025 of i-com. To support potential authors, we provided a guidance document on "What is a case study (that could be published in i-com)" and invited contributions that describe the design, introduction, and appropriation of particular solutions in practice. The response from the community was encouraging, but it also showed that our initial guidance was not clear enough. In this editorial, we summarise what we learned from reviewing the submissions and how this experience has sharpened our understanding of HCI case studies for i-com.

1 What are HCI case studies?

In our call we drew on a widely used definition of a case study as *"an empirical enquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident*,"[1] p. 13). Many HCI and information systems studies already take place in such contexts and use interviews, observations, documents, and other qualitative material (for example[2]). For i-com, we wanted to make this generic notion more specific and practice oriented. Three points turned out to be central.

1.1 One particular solution in one setting

As a rule of thumb, we asked for "N = 1", i.e., a report on one particular solution in one particular organization or practice setting. The organization can be anonymized, but the relevant context has to be described clearly enough so that readers can judge the solution. The narrative should have an identifiable focal unit: a company, a hospital ward, a municipal department, an NGO, a network of volunteers. Around this focal unit, the case then describes the requirements or goals that motivated the solution, the way the solution was designed or introduced, what happened during introduction, appropriation, and ongoing use and what was learned.

In our reviews we often used a simple check: Can the reader point to a protagonist and a decision? Who wanted what, when, and why?

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1.2 A chronological “whole story”

The call encouraged authors to “tell the whole story”. This can be done in slightly different ways, but the basic storyline is simple:

- Problem and old approach: What was the initial situation, and why was change considered necessary?
- Introduction of the new solution: How was the system, artefact, or method designed or brought into the organisation? Who was involved?
- Appropriation and use: What happened when people started to work with it? How did practices, roles, or conversations change?
- Lessons learned: What can others take away from this case?

In several reviews it was suggested that authors map their material explicitly onto this sequence. Doing so helps to prevent long background sections from crowding out the case itself. It also makes it easier to see where a manuscript is strong and where it needs more detail.

1.3 Design case studies as a specific subtype

Some submissions were design case studies in the sense of practice based computing and grounded design as described in prior studies such as[3] and.[4] Here, researchers link empirical findings to the creation of an innovative artefact and analyse how this artefact is appropriated in a specific field of application.

In the call we did expect design oriented cases to be explicit about three phases: an empirical phase, where context and problems are understood, a design phase, where solutions are developed and iterated as well as an appropriation phase, where the impact of the solution on practices is analysed and insights for related cases are derived.

This light framing is helpful when authors want to show how they moved from rich qualitative data to design implications and then to changed practices.

2 What we learned from the submissions to our call

In the following paragraphs we summarize some learnings from reviewing the submissions. Most were thoughtful and carefully conducted. At the same time, many did not align well with the case study format we had in mind. Four recurrent patterns were particularly visible.

First, several manuscripts did not describe a particular organisation or solution in enough detail. They started from generic requirements, such as “supporting collaboration in manufacturing SMEs”, and discussed possible designs, but the actual site, system, and timeline remained vague. In some cases the authors did work with a specific company, but the description of the context was so brief that readers could not reconstruct what was done where and with whom. These papers often contained valuable empirical insights, for example about fragmented infrastructures, local data work, or communication challenges. However, because the material was not framed as a single case with clear boundaries and a protagonist, it was difficult to see them as HCI case studies.

Another group of submissions reported careful and creative design work, sometimes over an extended period and with strong participation by users. Yet the story ended with a prototype evaluation in a laboratory, a short pilot, or a design workshop. There was no analysis of how the solution shaped everyday work, how it was adapted, or why it was not taken up. Such work certainly is publishable, but it fits better in other genres that focus on concepts or methods. For a case study, we looked for a sustained engagement with appropriation. This does not mean that the system has to be used for years. However, readers should see how people interacted with it in real situations and what this reveals about possibilities and limits.

A third pattern were manuscripts that primarily discussed a method, such as grounded design or specific kinds of scenarios and task models, and used a project as an illustrative example. The bulk of the paper reflected on methodological questions, while episodes from practice were only touched upon. Again, this kind of contribution can be very useful for the field. For the call, however, our focus was on cases as the central unit. In our reviews we encouraged these authors to reframe their projects as bounded cases, tell the story chronologically, and move the broader reflections to a shorter “lessons for method” section.

Finally, several submissions raised an important question: Can a case study be successful if the artefact is ultimately not implemented or is later replaced by a commercial product? Our experience in this call clearly suggests that it can. In one case (Sept et al.), for example, the design team never deployed their own prototype in production. Instead, the company chose a comprehensive commercial solution. Yet the design activities had made hidden data work visible, changed how employees talked with management, and informed the selection and configuration of the commercial system. The project generated organisational learning and prepared the ground for sustainable change. We see such “successful failures” as legitimate and valuable case studies, provided that the authors are explicit about

what was learned through the design and negotiation work, how this learning shaped decisions and practices and how these insights can inform related cases. This observation has led us to refine our guidance. Success in a design case study is not defined by the permanence of the artefact, but by the quality of the learning it enables.

3 The contributions in this special issue

We did not only select "clear" case studies for publication, but also some border cases (following the discussion in the previous sections). Some of the contributions are "just" well done context studies, others focus on general learning about the method itself (in addition to providing context studies or richer case studies).

"From Troubleshooting to Status Reporting: Insights from Long-Term Use of a HMD Remote Support System in a Craft Company", Prilla, Michael; Gutzmann, Jan; Dossena, Gian: The authors present the design, implementation and appropriation of an AR HMD-based remote support system for work organization. The "only" problem with the case study is that the solution is not built or introduced for permanent use. The main value of the contribution is in the study of long-term use in addition to requirements analysis ("long-term field study").

"How to Successfully Fail a Design Case Study", Sept, Alexander; Richter, Tobias; Gerbracht, Marc; Noori Shirazi, Amir; Wulf, Volker: The contribution reports on "a design case study within a German industrial company located in a rural region that only went up to prototype development". Although the prototype was not implemented "it served as a boundary object that surfaced ownership and process knowledge and informed the decision to replace the existing IT landscape with a larger, integrated solution".

"Designing a Human-Centered AI Solution with Radiologists to Improve Prostate Cancer Diagnosis", Plinz-Saßmannshausen, Sheree May; Ontika, Nazmun Nisat; Tran, Kieu; Ukleja, Krzysztof; Pinatti de Carvalho, Aparecido Fabiano; Rohde, Markus: The authors report about the design of an AI solution with radiologists to improve diagnosis. The contribution includes a very well-done context analysis and participatory design process with low-fidelity and hi-fidelity prototypes. Evaluation is done with the prototypes only.

"Gear through Telegram: Appropriating a Messenger as Wartime Infrastructure in Ukraine", Navumau, Vasil; Matveieva, Olga: This contribution is a short but real case study presenting how Telegram was appropriated as wartime infrastructure in the Ukraine war. The contribution shows that a case study does not have to include the design phase – but can "just" be a context-rich description and analysis of something that evolved without the researcher's participation.

"Designing for Workplace Well-Being: A Design Case Study Using Aromatherapy as a Provocation", Syed, Hussain Abid; Beck, Dominik; Müller, Claudia; Wulf, Volker: The contribution presents an investigation of the sociotechnical dimension of managing stress – by aromatherapy. It only offers the first design iteration of a design case study with no appropriation yet but at least presents a plan for an appropriation study and for an additional design iteration.

In addition to these five contributions which are published in i-com 3/2025 we have two contributions that were selected for the special issue but did not make the deadlines and will be published in i-com 1/2026:

"Invisible Work and Unpredictable Challenges in Clinical Practice: Results from a Participatory Design Case Study with Telepresence Robots", Thiel, Katharina; Schulz, Dominik; Lingl, Lorin; Unbehaun, David; Wulf, Volker: The contribution reports about a participatory design case study with telepresence robots with the identification of application scenarios. The study is in one organization but the context description could be more detailed. There is no real design and implementation for long term use, but 14 observed interactive sessions with the telepresence robot.

"Realising Grounded Design in Practice: Reflections on Using Design Case Studies for Practice-centred Computing", Pinatti de Carvalho, Aparecido Fabiano; Hoffmann, Sven; Abele, Darwin; Schweitzer, Marcus; Tolmie, Peter: The authors present some generic discussion of the usefulness of design case studies for practice-centered computing – both in general and on the example of one particular design case study. The added value of the paper is to show how the way from rich in-depth qualitative data to design implications is taken. The contribution however does not provide a complete design case study – there is no appropriation and discussion of it.

4 Refined guidance for future HCI case studies (in i-com and beyond)

Based on the insights gathered during the process from call, via reviews, to the resulting portfolio, we decided to refine

our guidance for future submissions. We hope the following points will help potential authors to decide whether their work is a case study suitable for i-com and how to present it.

Anchor the case: N = 1, context, and protagonist: Use "N = 1" as a guiding principle. Make clear which organisation or practice setting is in focus and which particular solution you are discussing. Introduce a protagonist early: who initiated or championed the project, what decision they faced, when, and why. Provide enough contextual information for readers to judge the relevance and constraints of the case. Border cases, for example methodological reflections or multi site projects, are possible, but they should still be anchored in one focal case that is described in depth.

Tell the story chronologically: Structure the narrative so that readers can follow the trajectory from problem to lessons learned. Start with the initial situation and the shortcomings of the existing approach, den describe how the solution was designed or introduced, including key episodes such as workshops, negotiations, or pilot deployments. Importantly, show what happened during appropriation: adaptations, workarounds, conflicts, and new routines. Finally, close with explicit lessons, including what worked, what did not, and what you would do differently.

Connect lessons to HCI design hooks: Case studies are most useful when they translate situated insights into operational lessons for HCI. Instead of general statements about "improving communication", try to tie lessons to concrete design hooks. For example, notification and batching schemes, visualisations that make invisible work visible, boundary objects that bridge roles or departments, interaction patterns that support safer or more respectful use.

Include a short "what can others learn" section: We strongly encourage authors to reserve a dedicated section, usually at the end, that answers the simple question: what can others learn from this case? This can include practice oriented recommendations for similar organisations, reflections on how to run comparable projects, or implications for HCI concepts or methods.

5 Looking ahead

The call for cases for this special issue has confirmed our belief that case studies are a vital format for HCI (and i-com). It has also shown that many researchers and practitioners are still working on how to frame their rich empirical projects as cases in a way that is useful for others.

We see this as an ongoing conversation rather than as a set of rigid rules. With this editorial we have tried to share what we learned together with the community in this round: the importance of clear case boundaries and protagonists, the value of chronological storytelling, the centrality of appropriation, and the legitimacy of "successful failures" that generate learning even when artefacts are discontinued.

We hope that the case studies in this issue will be useful for research, teaching, and practice, and that our refined guidance will encourage more authors to write up their projects as HCI case studies for i-com. We warmly invite you to submit such cases not only for special issues, but also for regular issues of the journal whenever your work is ready.

Michael Koch (Editor-in-Chief), Alexander Richter (Co-Editor).

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