

technology as design material

The Interactive Institute's RE:FORM studio explores emerging roles of technological objects in everyday life through design research experiments and the development of theoretical and practical common ground in the domain of interaction design.

design research

Now and in the future, the way we experience and relate to things in our everyday environments will be transformed as they connect to new forms of communication, intelligence and information flows. This certainly enriches and facilitates many aspects of our lives – but it also raises new issues since the nature of technology is complex and abstract, making it difficult for us to relate to and understand.

As technology is integrated increasingly and invisibly into the objects in our everyday spaces and lifestyles, it is the reoccurring moments of interaction that will establish new and sustainable roles for such objects. These encounters present new design opportunities and challenges, and the need for new research and methodology. This is a question of how we will relate to and understand the computational power that will surround us in the future.

RE:FORM studio

RE:FORM is the new name of the PLAY research studio of the Interactive Institute, which has been based in Gothenburg, Sweden, since 1998. Within the expanding field of interaction design, we are working with experimental design research to investigate the aesthetic, material and dynamic qualities of information technology integrated in everyday objects and spaces. With combined expertise in technology, design, philosophy, sociology, and architecture, we are an interdisciplinary group establishing a deep theoretical and practical foundation for addressing the opportunities and challenges related to IT and design.

Maintaining a continual flow of impact and foresight in relation to society and business, we cooperate extensively with industrial, cultural and academic partners in our projects, encouraging knowledge-sharing, regional development and an international perspective. As a meeting place between different disciplines and domains, our intention is to create a forum for critical discussion and innovative collaboration.

our research approach

In our approach to research, we investigate technology as design material. Alongside familiar materials that make up things, such as plastics, textiles, and electricity, computation and its properties open new possibilities for design. While the typical notion of 'form' is physical shape, we believe that in considering computation as a design material, concepts of form must be fundamentally re-interpreted since time, flow, and energy and other dynamic elements become central in the interaction with computational things.

Considering these qualities in interaction design draws our attention to the relation between what designers design and users re-define as they live with technological objects. Basic questions must be addressed in terms of how and what it means to 'design' and 'use' the new material qualities of things. In the current situation, where methods, practice, and pedagogical models are rapidly converging,

there is a need to re-establish and further develop both a theoretical and practical common ground in the domain of interaction design.

In our research projects, we work with processes and methods to both expand the possibilities and deepen understanding. On one hand, we conduct systematic studies of material combinations and emerging dynamics of expressions, and explore the potentials for objects and systems. On the other hand, we conduct experimental studies of interactions and behaviors in use and explore the resulting implications for form. Taking this material and use perspective on interaction, we actively work to expose the experiential, social, and design implications of new things through participatory methods, design examples and physical prototypes.

Our research results reveal potential futures to users, stakeholders and collaborators by example. Through experiential prototypes exposed in various forums – including public formats, strategic initiatives and art exhibitions – increased awareness and dialog is developed and can feed back into research, development and innovation processes. Conceptual and methodological foundations are continually deepened and tested in academic contexts and internationally prominent publications. Through relationships with collaborators, alternative visions of the future are extended to impact or inspire industrial development and product strategy.

impact and initiatives

Working strategically between academia, industry, culture and policy, we are committed to establishing formats for public presence and collaboration that develop critical thinking and impact on local, national and international levels – meeting places where ideas and people can grow.

outreach

OutsideIn is a new forum for inclusive and interdisciplinary discussion about the design and use of public space and technologies today. Supported by the Nordic Cultural Fund and the Röda Sten Culture project, the symposium is the first of its kind in Sweden.

[fringe] is a creative collective dedicated to showing the work of local artists and designers, and providing a space for the communication and exchange of ideas. Events are hosted by Big Love, a gallery venue featuring innovative and experimental art and new media work.

education

The Interactive Institute in Göteborg was a founder of the postgraduate Interaction Design program at the IT University together with the Interaction Design Group at Chalmers University. Today, we are developing courses in collaboration with HDK, the School for Design and Crafts. In the studio, we host master's theses and guest PhDs as an ongoing practice of mentorship in research.

innovation

In its history, the studio has been involved in supporting multiple start-up ventures – today, we have close ongoing collaboration with the company ToyLabs ITR AB, which is a product-oriented research company specializing in the design and development of new computer-embedded toys, a patent-pending concept which stemmed from a project developed in a course we supervised.

selected exhibitions

Recent exhibitions include 2 projects at ISEA 2004, the International Symposium for Electronic Art, which took place across 3 venues in the Nordic countries in August.

Notable presence in art forums includes a project co-financed in 2004 by the Nordic Institute for Contemporary Arts (NIFCA) in an exhibition hosted by the Living Art Museum in Reykjavik, Iceland.

In September 2003, we exhibited IT + Textile project results at the ICSAB Art Club (IKEA Catalogue Service AB) in Älmhult, including the Interactive Pillows and Textile Disobedience design examples.

We have developed two exhibitions for the Borås Art Museum in 2002 and 2000 – the most recent featured critical interpretations of 'information appliances' with textile objects.

Each year, postgraduate student work in HCI/Interaction Design that we have supervised is exhibited – in 2002, the exhibition was hosted at the Universeum, Sweden's national science discovery centre, and in 2003 and 2003 at the Gothenburg City Museum.

some current collaborators

Big Love gallery, Sweden
Business Region Göteborg, Sweden
Chalmers University of Technology, Sweden
Energimyndigheten, Swedish Energy Authority
HDK, the School of Design and Crafts, Sweden
IFP | SICOMP, Sweden
IKEA, Sweden
Imego, Sweden
IT University Göteborg, Sweden
Jungle Peak, Sweden
Lancaster University, UK
Ludvig Svensson, Sweden
Newmad Technologies, Sweden
NIFCA, the Nordic Institute for Contemporary Art
Nokia Research Center, Finland
Röda Sten Culture Project, Sweden
School of Textiles, University College of Borås, Sweden
Swedish Institute of Computer Science (SICS), Sweden
ToyLabs ITRAB, Sweden
Viktoria Institute, Sweden

research publication

PLAY has an established position within academic research, both within Sweden and internationally. Our work is visible in numerous scientific and design publications and highly-reputed international conferences.

selected publications

Ramia Mazé and Johan Redström (2004). Form and the Computational Object. In (forthcoming): Proceedings of CADE 2004 (Computers in Art and Design Education). Copenhagen, Malmö.

Staffan Björk, Sus Lundgren and Jussi Holopainen, J. (2003). Game Design Patterns. In: Copier, M. and Raessens, J. (Eds.) Level Up - Proceedings of Digital Games Research Conference '03.

Lalya Gaye, Ramia Mazé and Lars Erik Holmquist (2003). Sonic City: The Urban Environment as a Musical Interface. In: Proceedings of New Interfaces for Musical Expression (NIME) '03.

Ramia Mazé and Lalya Gaye (2003). Sonic City. In: Proceedings of Cybersonica, London '03.

Ramia Mazé and Margot Jacobs (2003). Underdogs and Superheroes: Designing for New Players in Public Space. In: Proceedings of User Aspects of ICTs conference (COST) '03.

Lars Hallnäs and Johan Redström (2002). From Use to Presence; On the Expressions and Aesthetics of Everyday Computational Things. In: ACM Transactions on Computer-Human Interaction (ToCHI), Vol. 9, No. 2, June 2002, pp. 106-124. ACM Press.

Lars Hallnäs, Linda Melin and Johan Redström (2002). Textile Displays; Using Textiles to Investigate Computational Technology as Design Material. In: Proceedings of NordiCHI 2002, pp. 157-166. ACM Press.

Lars Hallnäs and Johan Redström (2002). Abstract Information Appliances; Methodological Exercises in Conceptual Design of Computational Things. In: Proceedings of Serious Reflection on Designing Interactive Systems (DIS), pp. 105-116. ACM Press.

Lars Hallnäs, Linda Melin and Johan Redström (2002). A Design Research Program for Textiles and Computational Technology. In: Nordic Textile Journal, No. 1, 2002, pp. 56-63. The Textile Research Centre, CTF, Borås..

Lars Hallnäs and Johan Redström (2001). Slow Technology; Designing for Reflection. In: Personal and Ubiquitous Computing, Vol. 5, No. 3, pp. 201-212. Springer.

Lars Hallnäs, Patricija Jaksetic, Peter Ljungstrand, Johan Redström, and Tobias Skog (2001). Expressions - Towards a Design Practice of Slow Technology. In: Proceedings of Interact 2001, IFIP TC.13 Conference on Human-Computer Interaction, pp. 447-454. IOS Press.

RE:FORM studio
Interactive Institute
Hugo Grauers gata 3
412 96 Göteborg
Sweden

+46 (0) 31-18 30 15 phone
reform.info@tii.se
www.tii.se/reform

The Interactive Institute is an interdisciplinary innovation-oriented research institute investigating the impact of IT for everyday life, politics, industry and culture. Comprised of several studios spread throughout Sweden, the Institute supports collaboration between art, technology, science and enterprise in the development of concepts, products and entrepreneurship resulting in new knowledge and findings with a positive impact on society. The Interactive Institute is an incorporated, non-profit company fully owned by the Foundation for Strategic Research and governed by a Board of Directors.

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