What Kind of Work is HCI Work?

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ABSTRACT
This panel will ask the HCI community to consider what HCI means when viewed through different disciplinary perspectives. Respected professionals in the field will offer their views on HCI, considering what it means as science, as design, as workplace democracy, and as management. Each panel member will also respond to two HCI design challenges, in which they can show how their disciplinary perspective would analyze, design, and evaluate during “real-time problem-solving.” Throughout the panel, audience members will be invited to ask questions and discuss their own perspectives on HCI.

Keywords
HCI in organizations, HCI professional issues, design techniques, Interaction design, disciplinar-ity, social issues

INTRODUCTION
This panel will explore the diverse perspectives and work practices that people in the HCI community bring to our shared work. We will compare and contrast four perspectives: *HCI as Science, HCI as Design, HCI as Workplace Democracy*, and *HCI as Management*. We hope to encourage (or provoke) additional perspectives from the audience during later parts of our panel discussion.

The goals of this panel include:

• To expand people’s understanding of HCI
• To increase the visibility of an on-going dialogue among HCI professionals from different disciplines
• To strengthen respect for diverse points of view and multidisciplinary experiences in the HCI community
• To prompt reflection in ourselves as HCI professionals to ask what we believe HCI can be

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PANEL DESCRIPTION
The panel will begin with brief introductory statements from the panelists, stating what they believe HCI is from their specific perspective. Then the floor will be open to any clarifying questions from the audience. After five minutes of discussion, the panel moderators will pose an HCI project/problem to the panelists to solve. An example of such a problem is the following:

An airline kiosk is needed for a new conference center hotel in Europe. Users need to check their schedules, change their reservations, and buy tickets. There are questions concerning how to replace the knowledge of customer-care agents (e.g., clever routing and knowledge of how to structure trips for low fares), and what customers are expecting to do for themselves. (Please note: This particular problem will not be posed to the panelists, but one like it. Participants will consider a problem “on-the-fly” as opposed to having prepared remarks.)

Following the presentation of the proposed HCI problem, panelists will have 2-3 minutes to prepare a response that outlines how their perspective would address the problem. During that preparation time, the audience will be asked to contribute an additional problem for panelists to address.

The panel will close with a final 18 minutes of questions from the audience. These may be questions on anything from the panelists proposed methods, to the panelists design solutions.

HCI AS...
In the sections that follow, each panelist offers a brief statement on HCI her/his disciplinary perspective.

HCI as Science, Bonnie John
As Card, Moran and Newell told us two decades ago, "applied investigations vitalize the basic science; they reveal new phenomena and set forth clearly what it is that needs explanation." Thus, rather than psychological science serving the practical goals of computer-system design, the problem of designing computer systems that really work can be thought of as a test of psychology's understanding of people. Every psychologically-motivated method of building and evaluating UIs provides more data. For instance, every GOMS model that predicts the performance time of skilled users increases our confidence that GOMS is actually capturing some regularities in human behavior. Every cognitive tutor that increases a child's standardized test score validates the model of learning that customizes the tutor's interaction with the student. Every Intelligent Forces "agent" that participates in a war game along with human forces and acts reasonably like another pilot gives credence to the model of cooperation built into that agent. HCI and science have come a long way together in the last 20 years and still have many frontiers to explore.

HCI as Design, Bill Gaver
What should we do with technology? This is the fundamental question in considering how people interact with computers. Usability, social fit, even aesthetics are just aspects of design that enable systems to work. The real question that interaction designers address is how technology can support activities that we value individually, socially, and culturally.

Technology reflects all aspects of our humanity - our sensorimotor and cognitive capabilities, to be sure, but also our motivations, aesthetics, emotions, social and even spiritual lives. From this
point of view, design of technology needs to incorporate insights from psychology and sociology, arts, politics, philosophy, even religion.

Designing to address these issues is different from analysing them. Rational analyses can be valuable, but in the end design is a creative act that relies on subjective interpretation. Thus interaction designers -- those trained in traditional arts-design contexts -- complement analytic articulations with a variety of more subjective techniques for understanding people and exploring design spaces. We need to broaden our conception of HCI to incorporate these ways of working, as well as the larger issues that arise when technology is truly seen as human centred.

**HCI as Workplace Democracy, Tone Bratteig**

Workplace democracy is an institutional right in Scandinavia. Workplace democracy includes the right to participate in decisions concerning design of information systems. Through this right, employees have autonomy with respect to their working environment: this increases both quality of work and production as well as the well-being of the employees. In a workplace democracy perspective, HCI enables us to focus on the person using a system, and encourages design of systems that makes work easy to do. In the workplace there are, however, other aspects that are more central to achieving democracy, e.g.,

- focus on the work content and the work environment rather than the worker as an individual
- design the system as a tool for skilled activity (i.e., work) rather than aim to make it easy to use for everybody
- aim to develop work independent of technology, not only to fit the system to current work tasks or to improve the current technological solution (faster, smaller etc.)

HCI is relevant for workplace democracy if we move from a local to a global context, in particular when Internet technology is integrated with local systems so that the boundaries between users, clients, consumers are blurred, and so that tools and media used in work are mixed.

**HCI as Management, Mary Beth Rettger**

An incredibly important part of making HCI happen in a product, is "working" the organization that's building the product. If the whole organization isn't prepared for user-centered design, there's a good chance that even a great design may never make it into the product. What often matters as much as the sheer excellence of the solution is how well the organization perceives the solution fitting in. This is often clouded by other considerations, like the source of the idea, or the organizational position of the person proposing the solution. Given this reality, it's incredibly important for HCI practitioners to be change agents within that organization.

Clearly there's a large component of modern management science that plays into the success of this endeavor. Skilled HCI practitioners know how to assess an organization to determine which players have organizational power. In some cases, effectiveness lies in developing allies among the more powerful players, and using this support to advance the process of user-centered design. Deft HCI practitioners can also speak sensibly about resources, constraints, opportunities, and risks, again using more traditional management language to convey information to a variety of people in the organization. At some level it's all about understanding the audience, and positioning the HCI activities in the context of the larger organization.