A Meeting of Research Minds

The 1997 Basic Research Symposium at CHI 97

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At CHI '92 in Monterey, California, a number of researchers from the CHI community got together for the first time at a special event called the Basic Research Symposium. The idea behind this event was to provide a forum explicitly dedicated to fundamental issues in generating new CHI knowledge. There has been a Basic Research Symposium associated with every CHI conference since that time and, although the event has evolved somewhat over its five subsequent iterations, it has remained true to this objective.

The authors chaired this year's Basic Research Symposium, held on Saturday 22nd and Sunday 23rd of March, in Atlanta, Georgia, prior to the CHI 97 Conference on Human Factors in Computing Systems. This year, for the first time, it was included as a workshop in the formal pre-conference programme. This article is intended to give the reader a flavour of what the BRS is all about. It will look at how the 1997 event was put together and report back to the wider CHI community some of the issues that were discussed as challenges for HCI research.

Why a "Research Symposium"?

There are many reasons why people wish to get together to talk. Some of them are easily defined, set out in advance as particular issues to be discussed or objectives to be achieved within a defined time frame. Others, no less important, are about building and maintaining an appreciation of one another's longer term goals, priorities and concerns, breaking down barriers and thereby setting the conditions for the first set of motives to find expression.

The Symposium set out to provide an interactive forum to promote and enhance scientific discussions of developing research issues. It was designed to advance understanding and dialogue among fellow researchers, as well as to encourage enquiry and reflection on methods and results. By providing a stimulating environment for critical feedback and the development of attendee's research ideas, it intended to offer a unique opportunity to learn about the variety of perspectives present in the international HCI research community. In many respects, the limits of its 'internationality' have been recognised for some time and this year were explicitly addressed with the invention of the Development Consortium (reported elsewhere in this issue). Equally, the notion of "a research community" itself may be subject to criticism.

The Need for a Meeting Place for the Notional "Research Mind"

Interdisciplinary cross-fertilization is a strong part of the Symposium's identity. Since its inception, HCI has been a meeting point of many technical languages and an even greater number of scientific challenges. This is a deadly combination as it stands to set people up for talking at one another about substantially different matters in substantially different tongues. The only thing they recognise and that convinces them that the putative dialogue is worthwhile is the only thing they understand, namely, that everyone is talking about how computers and humans come together. Thus, the enormous diversity of backgrounds to be found amongst researchers in this area can be a double-edged sword. On one hand, it promises a vital and creative dynamic to the area as a whole whilst on the other it threatens to undermine the very basis for doing the work. Sometimes the common thread of human factors in computing systems seems very fine indeed.

Participation in the Basic Research Symposium is about gaining a deeper insight into each of these potential stumbling blocks and, in so doing, to benefit from a fresh perspective on one's own work. The Basic Research Symposium demands energy and mental flexibility. It asserts that there are many ways to generate valuable knowledge for CHI, that there are more roads to be travelled than one. Furthermore, it asserts that totally independent travel, to pursue the metaphor, is not enough without the roads coming together at some point. The BRS should perhaps be thought of as an intellectual crossroads, where the means of progress employed by those approaching the junction are alien but must to some extent be understood, if an accident is to be avoided. In this respect, it is not for the faint of heart or the person frightened to stray from the well-worn path.

What does "Symposium" mean here?

In essence, the BRS presents an opportunity for active researchers in Human-Computer Interaction to come together to discuss their research, both as a pointer to possible new directions and to gain from the insights brought along by other participants. It is analogous to a workshop but, unlike a workshop, the BRS is not dedicated to a prespecified theme. The idea of the "consortium", pioneered at CHI for doctoral students and extended this year for CHI workers geographically and economically outside of the mainstream (the Develop-

ment Consortium), suits the form of the BRS best. Its purpose is to bring together researchers broadly as a professional group to tackle current issues, as expressed in the position papers solicited for their participation. It does not set out in advance what those issues are but exists to bring together those who understand them best: the people who are actually facing the challenges, the HCI researchers themselves.

Putting Together the Event

Topics and Themes

The specific content of the Basic Research Symposium was determined by current research issues in the Human-Computer Interaction research community, as evinced by the contributions received, via a specially constituted organising committee (see the acknowledgments below). The detail of the event was thus defined by the contributions accepted by the Committee. To better understand what this meant in practice, the guidelines for contributions are reproduced here. Submissions were asked to describe:

- The research question that the work addresses.
- The research methods that are employed or anticipated.
- The problems with work in the identified area as a whole.
- The current state of the research.
- Problems or concerns with the current approach.
- Questions that other symposium participants might be able to help the author(s) address.

Submissions

The Basic Research Symposium has a committee of volunteers, each of whom contributes to the organisation and, in particular, the reviewing of submissions for the event. The committee was carefully chosen to be balanced on three factors: sex, research background (human or engineering science) and geography. The decision to balance the committee on these lines was to make a positive statement about the kind of inclusiveness the event is intended to foster, as well as to underpin the validity of the reviewing process. The 'geography' category was broken down into North America and Europe; a failing we must admit to immediately, although one that we hope the very existence of the BRS will work to overcome.

The committee was briefed that its task was not to review contributions on grounds of the provenness, or the use of well-established and 'safe' methods and findings. Rather, contributions were sought that anticipated the research of tomorrow: tentative, controversial, ongoing and emerging research. One of the Symposium's strengths is that it embraces the current interests of all the participants and provides a forum to present research that is in the early stages of maturity. Each submission received at least two reviews and reviewers were encouraged to be as informative as possible in their comments. Subsequently, revision time was scheduled into the timetable for each submission so that the contributors would be able to address the points raised by the reviewers. This process was not seen as merely a matter of administration but as a real first step in BRS participation.

Authors were requested to send their submissions as a URL to a document in 'html' format to make distribution and availability of the material as simple and wide as possible. Only two contributors were not able to submit in this way and for these (one due to company firewall and the other due to geographic limitations), plain text format was accepted and converted into html at the co-chairs web site. Contributions were accepted from a total of sixteen people from eight countries, including Brazil, England, India, Japan, Norway, Scotland and the USA. As well as human and engineering scientists, an artist joined the event and brought an additional dimension to our exchanges, especially on the dynamic qualities of graphics and multimedia.

Before the Event

The position papers and agenda were distributed electronically to all participants before the Symposium, together with a program. A consequence of using the WWW as the medium of submission was that the distribution of the material was at source. In other words, we published URLs to WWW pages (one in the UK and another mirror of it in the USA) that were essentially a collection of the original URLs. That meant that any updates to work that was by definition ongoing were possible and that, in particular, revisions of the authors' work did not require a second round of distribution. They may be seen at (Europe) http://www.york.ac.uk/~law4/brs97/chi97_brs_program.html and at (USA) http://www-personal.engin.umich.edu/~sjul/brs97/chi97_brs_program.html

What Happened at the BRS This Year

The program was carefully arranged to ensure that maximum concentration and effort would be extracted. Extended presentations were alternated with working group and whole group discussion. Some of the participants, whose position papers were closely identified by committee review comments, were asked to collaborate on a joint presentation on one of the major themes to come out of the submission & review process: hypermedia. Materials were provided and their use encouraged throughout the event.

Presentations

Four sessions were scheduled for contributors to present and discuss their work and three open discussions. The presentation sessions are briefly described below, with URLs to the documents that fuelled them. It should be understood that all contributions were designed to stimulate debate and therefore have about them a quality of enquiry rather than representing definitive work. They should be consulted as an introduction to some of their author's research directions. The first of these sessions was "Research Methods for a Future HCI". In this session Rob Procter described a proposed research programme based on the social psychological Self-Categorisation Theory (http://www.dcs.ed.ac.uk/home/rnp/brs.html); Yvonne Wærn discussed ways of tackling the use of hypermedia in an educational context (http://www.york.ac.uk/~law4/brs97/hyperlearn.html), and Leon Watts argued about the epistemological clarity of HCI (http://www.york.ac.uk/~law4/brs97/Watts_brs_paper.html). A session entitled "Individualized Information Resources" saw Toshikazu Kato illustrating how a standardized profiling algorithm of preferences might be used to tailor information (http://www.etl.go.jp:8080/etl/taiwa/members/kato/

papers/CHI97-BRS/chi97_brs_kato.html) and Joe Konstan described the GroupLens approach to dealing with filtering information on the basis of an interest similarity register (http://www.cs.umn.edu/~konstan/BRS97-GL.html). The "Using Dynamic Graphics" session included Hari Narayanan discussing some of the cognitive factors in animating explanatory diagrams in an hypermedia setting (http://www.eng.auburn.edu/users/narayan/brs97.html) and Felipe Alfonso de Almeida described a proposal to extend web-TV into a full information system, activated via the moving image (http://www-personal.engin.umich.edu/~sjul/brs97/almeida.html). The remaining presentation session, "Advanced Development Facilities", looked at a tool-based approach to developing human-computer interfaces, with Joe Konstan describing a multimedia interface development toolkit (http://www.cs.umn.edu/~konstan/BRS97-MM.html) and John McGrew reporting some work on using cellular automata and self-organizing neural networks for generating test routines and usage patterns of alternative interface designs (http://www-personal.engin.umich.edu/~sjul/brs97/mcgrew.html).

Group Discussions

Dag Svanæs was scheduled to describe his work on interface design emphasing manipulation and movement, kinæsthesis (http://www.ifi.ntnu.no/~dags/brs97.html), but instead, he took advantage of the special atmosphere of the BRS to lead a discussion on approaches to the idea of knowledge in HCI, based on the "Research Methods" session of the previous day. This is worthy of note as it underlines the value of gathering in this way and for a two-day event.

But the best example of the BRS at work was probably the opening event. After a commendably brief welcome and introduction, everyone was hard at work in small groups, brainstorming on the idea of "Societal Impact of Proposed/Investigated Technologies". The idea was for each participant to think broadly about their work and to try to project the likely effects of this twenty years into the future. The groups had to be dragged back to the main room afterwards, wasting not one minute before plunging into the activity with gusto and relish, to share their thoughts. They were asked to "make real" their predications by presenting them in the form of a future newscast.

A list of the ideas cannot really do justice to the insight in evidence but some of them were as follows. The notion of 'info-lessness' as a new kind of poverty, analogous to 'homelessness', will arise. Changing demographics mean that older people will become an increasingly important part of society but at the same time represent the least computer literate sector. As computerization becomes endemic to the running of the developed world, continuing education in the use of networked applications will become one of the major challenges. Revenue will shift away from the physical movement of goods to the virtual movement of information, with the introduction of 'infotaxes'. Public participation in government will increase with the advent of the netpoll as a legitimate form of democratic participation. Unique personal identifiers will underwrite the process. The growth of 'narrowcast' information sharing will replace broadcast media and changes in perceptions of society will bring about a move away from national identity towards interest group identity. Language will change to a defacto standard of an evolved english: a "netsperanto". News will cease to be shared and communities will devolve into geographically very local entities and also very distributed entities, with ever more personal distance between them. In consequence, e-democracy will generate most interest at the local level.

The final part of the BRS to report here was a panel discussion on aspects of hypermedia design led by Yvonne Wærn, Filipe de Almeida and Hari Narayanan. Their introduction had been planned by email in advance of the BRS and provoked a great deal of discussion, overrunning its timetabled slot by a considerable margin. Given that it was the end of a very busy weekend, we feel that this level of involvement, beyond even the last minutes of the event, says more about the commitment and reward of those attending than any hyperbole we can muster.

After All That, Was It Worthwhile?

From 9am on the Saturday morning until the Symposium was closed by a concerned hotel official after overrunning on the Sunday, there wasn't a single moment of inactivity at the BRS. In fact, one measure of the event's success is that I can report having completely exhausted the supply of OHP transparencies I made available. So the answer is a resounding "yes", it was more than worthwhile. As organisers, of course we would say that, wouldn't we. But because the BRS is (at the moment, at least) more than a one-off, there is substantial continuity from one year to the next and the chairs benefit from lessons learned by their predecessors. A short questionnaire was circulated to the participants of this year's event to be filled in and returned anonymously. All respondents reported that they were glad they had taken the trouble to invest their time, money and considerable energies in the event. And one of the great things about this information age is that, if you don't believe us you can always ask them...

Contributors and Participants

Parentheses indicate authors who contributed material to the BRS but who in the end didn't make it to the event:

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The 1998 Basic Research Symposium?

Although the BRS does have a fairly visible presence at CHI, however much it means to those of us who have been a part of the BRS, it has no hallowed status. A case must be made for its continued existence to every new CHI Conference organising committee. I am happy to say that there will be a BRS '98, for which Joe Konstan <konstan@cs.umn.edu> and Jane Siegel <j.siegel@cs.cmu.edu> are to take the helm. Contact either of them for details on how to contribute to and benefit from the Basic Research Symposium experience.

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About the Authors

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