Learning from Past Efforts to Bridge HCI Communities

Jonathan Grudin
Microsoft
Redmond, WA, 87052, USA
jgrudin@microsoft.com

Author Keywords
Human-Computer Interaction; History; Human Factors; Information Systems; Information Science; Design; AI.

ACM Classification Keywords
K.2 History of Computing: Software; People

Abstract
I participated in a dozen HCI bridging efforts over 35 years. Most of the bridges were completed and some lasted long enough for researchers and practitioners to spend a few years crossing it to exchange information. Some bridges were not completed and not many lasted more than a few years. Perhaps they served a purpose, but many of us expected more durable structures. Architects learn from bridge failures as much as they learn from successes. Over the years I interviewed people who had participated in bridging efforts, seeking to learn why most of them eventually collapsed. My goal was to inform subsequent efforts such as this one.

Introduction

Human-computer interaction is inherently multi-disciplinary. Each of the contributing disciplines has a community. Without some form of communication, a bridge, every discipline can be driven to reinvent each of the others. Realizing this fact is only a small step toward determining the nature of a useful bridge of reasonable longevity. I had long assumed that a permanent bridge was the logical solution, but a careful analysis reveals possible targeted alternatives.

With disciplines emerging and co-existing over the centuries, shouldn't we have figured this out? New disciplines, with members who have not yet built a complex shared understanding, interact and can be

interacted with differently than established disciplines. Moore's law gave rise to a flood of new, rapidly-maturing disciplines, so our situation is quite distinct.

This essay has three parts. The next section marches through a dozen bridging efforts into which I threw myself. Others could have been added, including my shift from software development to study cognitive psychology and efforts that I benefited from but did not actively participate in, such as the 1980s interaction of SIGCHI and SIGGRAPH and CHI's effort to court Design in the Design of Interactive Systems (DIS) conference series. The following section outlines conclusions about what happened drawing on my 2017 book. The final section looks into community bridges as generally envisioned and the alternatives that more often prevail.

Past HCI Community Bridging Efforts

The first CHI conferences were cooperatively organized by the Human Factors Society and ACM's small new SIG. Many early CHI researchers were at the time publishing in the Human Factors literature. This bridge was in place for two CHI conferences. Previously, there had been considerable interaction between Human Factors and the Management Information Systems (MIS) community in business or management schools.

SIGCHI's older peer SIGOIS, Office Information Systems, led in areas such as collaboration support and hypertext. An effort to bring OIS and CHI communities together failed. (OIS is the ancestor of the GROUP conferences, though there is little family resemblance.)

CSCW initially bridged the CHI and MIS communities. Others created this bridge, but I benefited from it. It also lasted for two conferences.

For four years Chris Neuwirth of CMU and I were the two North Americans on both CSCW and ECSCW program committees, bridging communities that had sharp differences for a time, came into close alignment for a decade, then again separated to a great extent. I loved both groups and handled the split poorly.

I spent years working on HCI in AI groups and labs. I participated in Intelligent User Interface and other AI conference events. The IUI conference series continues, but tends to be a community to itself more than a forum for the broad CHI and AI communities.

Although a smaller effort than others on this list, as a faculty member at UCI in the 1990s I taught the first HCI courses while collaborating extensively with groups in Software Engineering and the management school.

The annual HICSS conference has been a unique community bridge for members of communities representing subsets of CHI, Software Engineering and MIS. I am one of the CHI researchers who organized minitracks and I gave papers in HICSS minitracks organized by CHI and MIS researchers.

Richard Anderson led two impressive bridging efforts. The Design of UX (DUX) conference series brought together CHI, SIGGRAPH, and AIGA members three times in the mid-2000s. A two-day Development Consortium prior to CHI 2005 drew HCI researchers and practitioners from the graphics, design, human factors, management, and computer science communities. It spurred the CHI technical program to expand efforts to recruit submissions from other communities, with limited success.

AIS SIGHCI's initial charter explicitly set out to build bridges to the ACM SIGCHI community. Several prominent CHI people attended SIGHCI meetings and promoted this effort. After a few years it lost steam. This workshop could be a renewal of that effort.

In the late 2000s, some envisioned a strong bridge between CHI and the emerging Information school community, itself a polyglot mix of communities. As co-chair of iConference 2011, I increased CHI participation and helped the iCaucus get proceedings into the ACM Digital Library. These bridges soon came down.

Explaining Outcomes

Some advocates for one discipline consider other approaches inferior and have no interest in building a bridge beyond running across to drag converts back. When they are influential it is a problem. But the people trying to bring communities together see potential value, so what else could get in the way?

Bridge-builders see commonalities but often overlook differences. Fields that overlap have different priorities, giving rise to different methods and theories. These can be worked around but must first be recognized.

Linguistic and cultural differences are significant, even in a field relying on English and a culture of science. I documented common terms with distinct meanings in different communities and resulting confusions. The "man-machine" military-oriented disciplines arising in the 50s and early 60s did not easily connect with the younger human-computer generation that followed.

Differing expectations toward conference content was a serious wedge that emerged in interviews. Increasingly conference-oriented CS communities felt the work-in-progress nature of journal-oriented or portfolio-oriented conferences was shabby, the latter felt that the former required to much polish for a conference submission.

As suggested earlier, bridges often involved a newly emerged discipline and one that is more established. The former sees the overlap in core issues whereas the latter has moved into specialized explorations. With two mature communities, this may be less of an issue than in the first SIGHCI-SIGCHI bridging effort.

Architectural Considerations

There are long lists of recurring physical bridge failures over the centuries. Didn't engineers learn from a failure? Yes. Some are due to neglect, but new materials and new production techniques introduce new uncertainties. Dynamic change can render experience obsolete.

When two groups will benefit from a collaborative effort, they can work together. Or, they can divide the labor, creating a standard interface and passing materials back and forth without direct interaction. If I am doing research on a hardware or software component or a system layer, I would like a predictable interface to other components and layers and not have to worry about them. I don't want to be tied to their experimental versions. If my system needs a small social element, I don't want to know about the latest controversies or new directions being explored in sociotechnical systems, I want something that is established and reliable. Most people making their first film would rather plug into an existing distribution channel than consider new experimental approaches.

You are working in one discipline and decide the work in another discipline could be relevant. Which is a

better approach to exploring the other discipline: (a) attend a good course covering it; (b) find and work with a bridging *person* who knows both disciplines: both terminologies, sets of priorities, preferred methods, and literatures; (c) attend its research conferences populated by people who have a large shared understanding that you lack and are focused on work mostly still 'in progress'?

Research conferences may comprise mainly graduate students with a narrow focus. Better opportunities for bridging may lie elsewhere. For example, organize an effort around a specific challenge that people in both fields agree should be addressed. This bridge would be the project, with a defined lifespan.

Most of the past bridging efforts were expected to be enduring associations. The fact that so many lasted three or four years suggests that in reality they were projects. Yes, people withdrew because of conflicting publishing practices, terminologies, and priorities, but these taxes outweighed diminishing benefits as the participants learned what they needed about one another. Discontinuation was not necessarily failure. People got a sense of what the other discipline could offer and some of its players and resources. They may have picked up some useful knowledge or methods. If something relevant arose they knew where to go.

Another possibility is that instead of trying to merge conferences by creating tracks and soliciting research submissions, an approach with a poor track record, conferences could organize a one- or two-day preconference event in which one community would put on an intense "course" for interested people in the other community in which their field would be presented thoroughly, from the basic foundation to a range of current research topics, perhaps drawing on some practitioners as well as researchers. At another time the other community would reciprocate. I would attend this for a range of fields, though I can't speak for others. A conference might rotate through a handful of other disciplines—traveling bridges—or perhaps the course would spawn a collaborative project.

Members of very young discipline do not yet have an extensive shared understanding, so someone from another discipline can show up and engage. In 1983, human factors researchers could catch up quickly on the research of the psychologists (and a few computer scientists) of SIGCHI. The reverse was not true. Had someone carefully explained the human factors discipline, more useful traffic might have crossed that bridge before it came down. Similarly, the first SIGHCI-SIGCHI bridging effort came about after the web brought industry into digital contact with "end-users" through B2B and consumer marketing. In this new context, technology adoption is more relevant than technology acceptance. It could seem to CHI people that the user focus they had in 1983 was being rediscovered. They did not have a deep grounding on the AIS contexts. A joint 2-day project starting with sharing background might have been appealing.

In conclusion, shared research conferences may not be ideal bridges. For example, if my project will benefit from machine learning, I'd love to engage with ML researchers, but not by attending research paper sessions on new tweaks to deep learning. Getting them to add sessions on applying machine learning to my field is unlikely to fly. What joint project might appeal to some from each group?