

*Strategies for Integrating Informatics with Humanities and Social Science Research:
University of Illinois Urbana-Champaign*

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I-CHASS: Institute for Computing in the Humanities, Arts, and Social Science



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The University of Illinois Urbana-Champaign Strategic Plan identified both informatics and the creation of “bold new programs in the humanities, arts, and social sciences” as two of several initiatives that the campus should support in pursuance of its goal to create breakthrough knowledge and innovation. A key opportunity lies at the intersection of these two priorities. Information technology can enable humanities and social science scholars to make transformative advances in their research and teaching. Conversely, the demands involved in applying information technology to humanistic and social scientific scholarship pose new problems for informatics that can spur fundamental advances in computation.

The Institute for Computing in the Humanities, Arts, and Social Science (I-CHASS) and the Illinois Program for Research in the Humanities (IPRH) are two of the units that attempt to serve as bridges between these two stated priorities. They attempt to foster new collaborative initiatives between traditional research areas and informatics. This white paper identifies key requirements for effective collaborations and measures that can be taken to fulfill those requirements.

A key challenge in building bridges between humanists and social scientists, on the one hand, and information technologists, on the other, is translation across the different perspectives they bring to the table. For humanists and social scientists to engage productively with information technologists they must reframe their problems in algorithmic terms and understand the potential of information technology for their scholarship. For information technologists to engage productively with humanists and social scientists they must understand the differences between “hard” science and engineering research and scholarship in the humanities and social sciences.

There are no obvious or easy formulae for bridging this gap. The easy answers are

“interdisciplinary centers” and “networking across disciplines.” While these venues and activities are important to promoting interdisciplinary efforts between humanists/social scientists (H/SS) and information technologists (IT), they are not sufficient. It is also important to explore:

- Ways of thinking that promote and constrain H/SS-IT collaborations
- Productive and counterproductive ways of framing problems and research questions
- How to make ITs aware of H/SS approaches to research in ways that expose their technological possibilities
- How to make H/SSs aware of the knowledge generating potential of IT and moving them past thinking of IT as simply support or tool for their research
- Institutional promoters and barriers
- Data driven research
- Interplays of theory and inductive techniques such as text mining.

In preparing this white paper, I-CHASS organized a workshop attended by humanities and social science scholars who have developed collaborative projects with information technologists and by information technologists who have collaborated with humanists and/or social scientists. The intent of the workshop was to investigate some of the issues involved in integrating informatics, humanities, and social sciences, and some of the promoters and barriers to success. The following researchers participated:

- Bernie A’cs, National Center for Supercomputing Applications
- Jim Anderson, College of Education
- Simon Appleford, Institute for Computing in Humanities, Arts, and Social Science
- Peter Bajcsy, National Center for Supercomputing Applications
- Dora Cai, National Center for Supercomputing Applications
- Christine Catanzarite, Illinois Program for Research in the Humanities
- Wendy Tam Cho, Department of Political Science
- Alan Craig, National Center for Supercomputing Applications
- Ray Fouché, Department of History
- Ned O’Gorman, Department of Communication
- Mary Pietrowicz, National Center for Supercomputing Applications

- M. Scott Poole, Department of Communication
- Robert McGrath, National Center for Supercomputing Applications
- Ruby Mendenhall, Department of African American Studies
- Michael Simeone, Department of English
- John Unsworth, Graduate School of Library and Information Science
- Alex Yahja, National Center for Supercomputing Applications

Models for Good Collaboration

Participants were generally enthusiastic about the potential for collaboration between humanists/social scientists and information technologists and were able to identify from their own experiences some factors that had contributed to successes in their own research. The over-riding theme of the discussion was that clear communication between participants in a collaboration is absolutely critical. This involves having clearly stated and mutual goals that are agreed upon in advance, transparency during the work phase of a project, an understanding of what is considered a successful research result for each team member, and a willingness for at least some team members to become “multilingual” in disciplinary terms so that expectations are clear. Participants also stressed the importance of treating all team members with respect and that the leadership of a collaboration should nurture an environment in which all voices can be heard. Other factors that were considered important for a successful collaboration included:

- Structure that’s appropriate to the size of the collaboration
- Appropriate distribution of recognition/credit, perhaps based on MOUs that specify this up front; MOUs might be needed for other reasons as well (intellectual property, etc.)
- Stewardship and/or preservation of the products of collaboration (software, data, tools, hardware) after the project is over.

Barriers that Prevent Successful Collaboration

Despite this enthusiasm for the types of collaboration being conducted on campus, participants in the workshop nevertheless identified severe barriers that hinder or prevent more successful multi-disciplinary research on campus. One participant in the workshop framed the underlying issue in these terms:

Traditional humanistic research can’t be done with the proliferation of all different types of information. The archive has been let free. But how do we deal with this huge quantity

of information? How do we reshape scholarship to look at this large body of information?

In other words, the digital world has opened up an abundance of data and research possibilities that “traditional” humanities and social science researchers are ill-equipped to exploit because of a combination of institutional and individual barriers. Of these, the most significant are institutional hindrances:

- Traditional reward and incentive structures do not favor collaboration. This is especially true for junior faculty in the humanities, where tenure decisions, etc., are structured around the notion of single-authored volumes and actively discourage multi-author projects. Similarly, it is difficult to engage graduate students in the humanities in these types of collaborations as they tend to see little value in committing the time and resources necessary to make a digital humanities project successful when it will have little or no positive impact on their own careers.
- There is an uneven distribution of research support and research infrastructure across the campus. In units that have these resources it is very obvious who a researcher can approach to ask for help, but if you are not familiar with the way the campus is constituted it can be very difficult to figure out who you need to talk to.
- There is a relatively small pool of people on campus who are willing to participate in collaborations.
- There are discontinuous governing structures across departments, colleges, centers, and institutes, resulting in it not always being obvious to faculty and staff on campus if they are even permitted to join (or lead) collaborations.

Fundamentally, participants found that there is a substantial lack of resources—encompassing *expertise, funding, space, time, equipment, and incentives*—that make it difficult for them to engage in successful collaborations on this campus.

How to make collaborations work (especially on the University of Illinois campus)

How then can we facilitate the creation of successful collaborations between humanists/social scientists and information technologists on the University of Illinois campus? Clearly, there is a need to make both resources and information about potential collaborations more readily available to researchers. Participants at the workshop especially advocated for the creation of a “research concierge,” an interdisciplinary-collaborative facilitator who can assist researchers with their projects by helping to navigate the research infrastructure, matching requests for specialized expertise with faculty, assessing research needs, making recommendations for services, and facilitating

access to resources. In addition, participants stressed the need to offer fellowships or release time for faculty, as well as graduate student stipends and tuition waivers, to those who are interested in engaging in this type of research. Participants also stressed the need for a dedicated space where humanists/social scientists could meet on a regular basis with information technologists to discuss projects and potential collaborations. Although the I3 offices in the library provide a potential location for this, it was stressed that greater publicity would help make this a more utilized venue.

Participants at the workshop also articulated a need for information technologists to more directly explain to humanists and social scientists how their research interests might coincide. Specifically, they suggested that technologists should regularly visit with departments to a) provide examples of what impact technology might have on traditional humanities/social science research questions; and b) ask “What can I do to help you?”. There are also basic services—such as scanning, OCR, website building, and access to servers and administrations—and low levels of technical support that participants believe need to be more readily available to researchers on campus. Participants also believed, however, that humanists/social scientists should also take some responsibility in seeking out collaborative opportunities for themselves, suggesting, for example, that they could attend seminars and lectures from outside of their own disciplines to network with and meet other researchers.