The Humanities HyperMedia Centre @ Acadia University: An Invitation to Think About Higher Education

Richard Cunningham <richard_dot_cunningham at acadiau_dot_ca>, Acadia University
David Duke , Acadia University
John Eustace , Acadia University
Anna Galway
Erin Patterson , Acadia University

Abstract

With Humanities Computing and New Media identified as emerging fields of significant strength, it is time for well-funded and fully supported programs in Digital Humanities to be described, developed, and implemented in the university. This article is a description of an attempt to build such a program from the ground up, rather than from the top down. That is, the authors and others created a series of courses, both multi-disciplinary and disciplinary, a database, and a core course designed to make digital humanities a reality, even without having it certified as a program by the governing bodies of their faculty and university. In this article, the database and core course are described in some detail in order to offer what the authors believe to be worthwhile ideas to others who would advance the cause of digital humanities. The article concludes with some concrete suggestions on how to ensure support, to make faculty participation possible, to measure success, and to motivate students.

Preamble

In a report on "The State of Science and Technology in Canada" issued in September 2006 by the Council of Canadian Academies, Humanities Computing and New Media were identified as "emerging fields" of "significant strength" [CSSTC 2006, 24, 37]. From the humanities side of campus, only the visual and creative arts were also recognized in this admittedly science-oriented report as an area judged to have the "highest growth prospects" [CSSTC 2006, 37]. In the following paper we will discuss our attempt to establish a Humanities Computing foothold at a small university in order to help others think about how to incorporate the digital into the Humanities at their institutions. Ultimately, we want to encourage readers to re-imagine the way higher education works: from the way it is supported, to its disciplinary divisions, to the possibilities and limitations inherent in its pedagogical mission, to the need to innovate in order to answer those needs in the twenty-first century. But our present purposes are more modest. We seek only to share our best ideas and to offer a few cautions to others looking for ideas as they attempt to help their own departments, faculties, and institutions move fully into the twenty-first century. We believe our ideas are sound, and worth propagating, and we feel the best way we can test these ideas is in the arena of publication.[1]

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Introduction

The Humanities HyperMedia Centre (HHC), as our initiative is called, was developed thanks to the generous support of a three-year grant from the J. W. McConnell Family Foundation. The HHC was implemented to ensure that Arts and Humanities students in particular (although HHC courses are not closed to students from other parts of campus) are given opportunities to work in a more highly computerized environment than has been traditionally associated with the humanities. Now, with the undeniable success of projects like TAPoR, the Brown University Women Writers Project, and the Orlando Project at the University of Alberta[2] no one would question the fact that the computer has long been in the

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mainstream of humanities scholarship. It is sufficiently mainstream, in fact, to warrant its own section for discussion in the 2006 *Report of the MLA Task Force on Evaluating Scholarship for Tenure and Promotion*:

> Digital scholarship is becoming pervasive in the humanities and must be recognized as a legitimate scholarly endeavor to which appropriate standards, practices, and modes of evaluation are already being applied. The rapid expansion of digital technology has been fundamentally transforming the production and distribution of humanities scholarship. [MLA 2006, 43]

But there are still many humanities scholars who prefer to treat the computer as little more than an electric pencil, and this impoverished view of what it means to work in the humanities seems to be so prevalent among humanities students as to constitute their mainstream.[3] This must change.

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By a number of means, we sought to make a relatively complex level of computer literacy as much a part of a humanities education at our institution as is Shakespeare, the history of western civilization or of women, or the study of democracy or of the environment. We did this by shaping the available courses: through the explicit inclusion of computer and information literacy instruction in existing courses, through interdisciplinary courses designed specifically for humanities hypermedia instruction, through the institution — and indeed institutionalization — of a multi-disciplinary core course. We also worked technologically, through the incorporation of a database specifically designed to allow HHC students to see each others' works, to make peer review a regular part of their academic experience, and to require them to comprehend and use metadata. That, in essence, is what the HHC is: an attempt to demonstrate the value of computing in the humanities. The HHC was our attempt to get students to, in Rockwell and MacTavish's term, "think through" the computer in order to understand the possibilities it opens up for humanities scholarship [Rockwell and MacTavish 2004]. Although the article in which Katherine Hayles writes the following only appeared in 2007, she captures our own thinking when she writes "Networked and programmable media are part of a rapidly developing mediascape transforming how citizens of developed countries do business, conduct their social lives, communicate with one another, and — perhaps most significant — think" [Hayles 2007, 187]. Unfortunately, as of this writing, for various reasons, some of which are historically contingent and beyond our control, others of which reflect a failure of planning from within the HHC due to institutional inexperience, we would have to admit our attempt is closer to failure than to success. But we write in the hope that we can help others succeed where we may fail.

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The authors of this paper have all participated in different ways in the development and initial deployment of the HHC. Four of us are faculty members at our university, and the fifth is a (now former) student. Of the faculty members, three are members of the professoriate, while the fourth is an academic librarian. Of the three members of the professoriate, two are members of the English Department, while the other is an Historian. One of the two authors from the English Department has been the project leader of the HHC from its inception, in 2003. Thanks to her education in the HHC, our student author is of above-average computer competence, and has an employment record to prove it. All four faculty-level authors can rightfully claim to be of above-average computer literacy, even on a campus that has been wired for over ten years, and that has from the same time until recently required all students and faculty to use the same model laptop with the same software template installed. We work and learn, that is, on a fully digital campus.

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Typically, Humanities students on our campus seem to be pseudo-bibliophilic, and at best reluctant about technology and at worst technophobic. That is, they (or perhaps their parents) made the choice to attend a laptop university, but their reaction to the near-ubiquity of technology in their lives is sometimes agnostic, sometimes fearful and, sometimes one of avoidance. Rather than embracing technology, such students profess a love for the printed page — yet few of them can name the parts of a page or of a book, or are even aware that pages and books have parts, and almost as few willingly complete the reading assignments for any given course. They are, in short, much like many contemporary humanities students.[4] The student author in our group fit the general description just given very closely, with the exception that she was always a strong student and knew that being so requires doing the reading. But before being exposed to the HHC she was closer to technophobic than agnostic, while afterward she realized the value of having marketable computer skills and a healthier attitude to new forms of media production and consumption.

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As noted above, our purpose in writing this paper is to use our experience to help others develop similar initiatives. The

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Centernet International Network of Digital Humanities Centers provides a good idea of how many such initiatives there are, and within its site one can find links to as many examples as one might need. But in this paper we will describe in detail two elements of the HHC that we think make it a project worthy of emulation: its multi-disciplinary core course and its dedicated data management system. We will also call attention to infrastructural and professional issues an awareness of which may aid like-minded scholars at other institutions.

Infrastructure

Our University is small, and located in a rural setting from which access to major research libraries is difficult, expensive, and cannot be assumed for our students. Our size and location are relevant because both point to the inestimable value, especially to us, of the explosion of electronic scholarly resources over the past 10–15 years. No public university our size has the site-specific library resources to compete with major research institutions, but electronic resources enable us to close the gap farther than would have been thought possible a generation ago. No university with limited financial resources (and we suspect this describes all public institutions) located well outside an urban center can afford to bring in as many external speakers and visiting professors as can large institutions in urban settings. Similarly when a faculty member is removed from her or his department's cycle of course offerings for any reason — including participation in a multi-disciplinary program innovation — small, remote universities can find it next to impossible to replace that faculty member on a per course, or even on a limited-term contractual basis. These implications of size and location are substantial, but not, we think, insuperable.

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In the mid 1990s the decision was made to wire virtually our entire campus, and to require all faculty and students to obtain and use the same model laptop computer with the same software template on each machine.[5] Thus we became a laptop university. To support the laptop initiative, an innovative Institute for Teaching and Technology was established. This institute was staffed by computer experts and others devoted to the study of effective pedagogy. Some members of the Institute were expert in both areas.[6] The mission of this Institute was to bring teaching and technology together, and in our development of the HHC we leaned very heavily on their collective expertise. We believe that for most humanists to use the power of the computer effectively to overcome limitations of size and geography, institutional support is required. While such support might include development of a data management system such as the one we devised, it must include reference to faculty member's applications for renewal, tenure and promotion as well as financial incentives directed more at faculty and department levels than at the individual professor. We will have more to say on this topic below, under "Professional Issues."

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To make multi-disciplinary program innovation easier to try and more likely to succeed university administrations must offer clear expressions of durable administrative and infrastructural support, and such expressions must be made in writing. Even when an administration strongly supports an innovation, the machinery of university bureaucracy turns so slowly that the absence of a paper trail marked by the signatures of those who are really only transient inhabitants of more permanent offices may result in change being thwarted or even stopped by an office that had formerly seemed wholly supportive. For example, we were never able to establish the HHC as a program, even though we did succeed in getting courses designed and developed specifically for the HHC passed through the Faculty and University level curriculum committees, and thereby through the University Senate. Explicit support from our Dean's office or from more senior administration might have communicated to our colleagues in the Faculty of Arts that program status for the HHC was desirable for more than simply the comparatively small group of us trying to develop the Humanities HyperMedia Centre. Our failure to secure program status led to a situation in which few students can afford to take an HHC course because credit from such a course can only be used as a general credit, and does not materially advance a student's progress toward her or his specific major. What this means to a faculty member or a small group of faculty members who would found a humanities computing initiative elsewhere is that even before other faculty members are approached you would do well to negotiate a firm expression of support (i.e. get it in writing) from your administration.

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Pedagogy

As previously stated, in implementing the Humanities HyperMedia Centre we wanted to ensure that students, especially those in Arts and Humanities disciplines, would be given opportunities to work in a more highly computerized

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environment than that which typically characterizes an Arts degree, especially at the undergraduate level. Because we recognize that the near-ubiquity of the computer in the lives of scholars, students, and indeed citizens of developed countries is on the verge of becoming genuine ubiquity, we sought to provide our students a level of computer literacy broader and deeper than that obtained by the majority of their peers. We felt that with a complex and nuanced understanding of what computers can do well and what they are not so good for, our students would be better prepared to meet the demands of not only the computerized workplace, entry to which requires, at a minimum, what Stuart Selber calls "functional computer literacy," [Selber 2004, 30–73] but also to at least address and in best-case scenarios even answer larger social questions through imaginative application of computing power. HHC students would be in a position to know when to use a computer, and when to do a thing themselves, or ask a co-worker, employee, or fellow citizen for help. We believed, and we still believe, that we could make students who are self-declared technophobes sufficiently comfortable with computing hardware and software to enable them to choose to use it or to neglect it based on rational principles rather than prejudice or social pressure. To achieve these goals, we established a core course that we would encourage all HHC students to take, and a data management system that enabled them to see what their peers were doing in response to the same set of instructions they had received, and that imparted to them a level of responsibility students rarely experience as part of their undergraduate education.

In its planning stages the HHC had well in excess of twenty participants, with representation from our Departments of English, History and Classics, and Philosophy, from our university library, and from our students. We developed a few new interdisciplinary courses, and re-tooled several existing courses within our respective disciplines. The re-tooled disciplinary courses were offered first, primarily because they already had a base of students ready to take them because the courses would count directly and unproblematically toward the students' degree requirements. Due to contingent circumstances largely beyond our control and which we failed to anticipate, the interdisciplinary courses were never offered; thus, we cannot speak to their attractiveness to students, beyond saying that those students who participated in planning the HHC were of the opinion that they would find a very willing and interested audience among students. Beyond the disciplinary courses and interdisciplinary courses, the latter of which were such as *Visions of Heaven and Hell* (Classics and English), *Aspects of the Mediaeval World* (English and Philosophy), and *Colonial and Postcolonial Africa* (English and History), we envisioned a course that would form the core of the educational experience for HHC students, and it is to this course we will now turn your attention. |12|

Core Course

We intended that the HHC core course would be taught by different faculty from all disciplines involved, by academic librarians, and by staff from our Institute for Teaching and Technology. While there were four academic disciplines involved at the outset, those of us who assumed the administrative duties of the program wanted the core course to be flexible enough to allow professors from other, not-necessarily-humanities, disciplines to eventually be able to join the program and take on some of the teaching. We therefore designed a format that would allow this academic-year long course to break into multiple modules, all of which dealt with a common subject, each of which approached that subject from the perspective of a specific discipline. Thus, it is multi-disciplinary rather than interdisciplinary. |13|

The HHC core course would introduce students to the concepts and skills required for computing in the humanities, as well as demonstrating that naïve technophilia is not the only alternative to a technophobic malaise. The core course was to serve as the foundation for students who would go on to take other courses offered by the contributing units and apply the skills learned in the core in those discipline-specific offerings. Because of its multi-disciplinary nature, we decided that the core course should be team-taught by members from each of the involved units, and that it should be offered in a small, studio-based environment (we decided our physical, campus space suggested a maximum of 32 students per section). Our immediate goals with the core were to improve hypermedia literacy, to improve students' research skills and critical thinking, to help them build a digital portfolio, and to provide them some experience of working at the forefront of digital media studies. |14|

Because the participation and interaction of many different units was required if we were to create a viable core course for the HHC, we realized very early that for it to remain viable over the long term its structure needed to be content-independent. Our intention was that the team teaching the course would change in successive years; so, in order to |15|

attract other faculty and staff to lead the course in future, we had to create a structure such that prospective future instructors could integrate their own content specializations and interests into the course.

In its first offering, we decided that the content theme for the course would be *Citizenship and the Environment* because this theme matched up nicely with the research interests of three of four of the professors working to create the model for the course: one is an environmental historian, one an environmental philosopher, and the third an English Department scholar whose work focuses on environmental writers and topics. The content theme for our second offering of the course was *Print, Visual, and Digital Cultures*, but for present explanatory purposes, we will limit our description to its first instance, with its focus on the environment.

The first time we offered the HHC core course personnel from six different campus entities participated; the first six weeks the course was taught by a philosophy professor, two librarians, and a technology support person; the second six week module addressed the environment from the perspective of an historian, and the librarians and technician were ever-present, teaching a reasonable amount of the time, as they had with the philosopher. After the Christmas break, the course reconvened with a professor from the Department of English, the librarians and the technical support person, and for the final six weeks of the year a Classics professor co-operated with the librarians and the technician. While this sounds a tremendously costly endeavour, it was, in fact, less expensive than it sounds. Administratively, the HHC had to reimburse each academic department the equivalent of a single term (3 credit hour) course for the time the professor lost to his[7] department, and an equal sum to the library for them to spend as they saw fit. Coming as he did from our Institute for Teaching and Technology, the technological specialist cost us nothing, or, to clarify, he was doing in our classroom in a more consistent way what he might otherwise have been doing more spottily across the separate classes that those teaching the core course would otherwise have been teaching. If we had attracted sufficient students to fill two sections (we did not), then each professor would have taught two sections for half of one term — the equivalent of teaching a single section for one term. Thus, the core course was designed to be a break-even enterprise for the university, and an attractive option to any faculty member willing to work a little harder for half of the term in order to free up time in the other half.

In the first six weeks, while the philosopher taught the students to consider non-anthropocentric ethical approaches to understanding the world, the librarians taught them basic research skills in a more involved and more consistent fashion than is typically possible in a first year course. This is because our librarians were members of the team who designed our course; the information literacy they have to teach was not conceived of as merely an afterthought or an appendage to what our students need to learn.[8] During this first module the students were also taught how to use word processing software and presentational software at a much higher level than even most professors, much less the general public, ever come to know. Students were evaluated at the end of this module on the basis of an exam, a presentation, and a library research assignment.

In the second six week module the disciplinary prism through which students were exposed to environmental issues was historical. During this period they studied the phenomenon of industrialisation, its past and present impact on the environment, the way human actions affect the environment, but also how the environment has affected and continues to affect the historical development of human society. In the History module student skill development included web design and analysis, source analysis and research, and intermediate metadata tagging. Their grades were generated through construction of a website describing and analysing an aspect of industrialisation and the environment, and through the presentation of that website to the class. The elements of the website were marked up in accordance with the Dublin Core Metadata Initiative, and graded accordingly.

In the third section of the core course, students were led by an English professor to develop a poetics of place (following Bachelard's expanded idea of poetics in *The Poetics of Space*). The texts explored in this module were offered as a means to help sensitize students to the qualities, meanings, myths, and ideologies invested in spaces. Students were asked to consider how places are produced, and how places produce people, both as societies and as individuals. Students were encouraged to attend to the ways places from the mundane to the spectacular address human senses and imaginations; they were asked to analyze how places seem to encourage people to be certain types of beings and to imagine environments in specific ways. To earn their grades in this module, students were required to explore some

quality of place through audio-visual technology, and their exploration had to include some significant aspect of the place's auditory and visual aspects. Students were required to capture somewhere local, but they were then allowed to incorporate other audio-visual material into their projects. The projects were allowed to be realistic or imaginary, and were intended to enhance ordinary experience or to lead to an invention of some new sense, quality, or myth of place. The digital movies they produced could be stored in our database, posted on-line, or saved to portable media.

In the fourth and final section of *Citizenship and the Environment*, a Classics professor exposed students to works of Hesiod, Homer, Plato, Longinus, and Vergil. By organizing this module under the sub-headings of "Gaia, the Earth Goddess," "Nature and Human Nature," "Nature and the City," and "Urban Nature, and the Golden Age" our Classics colleague taught our students that the environmental and citizenship concerns about which they had been learning and thinking so much were not new, but had a long and interesting history, and that by looking to the past they could help forge thoughtful, ethical, and even technological approaches to the future — both on a global and a local level. The grades for this section were generated by the students' bringing together into a single multimedia portfolio all they had learned during the year. They used the presentations, written work, websites, and digital movies they had created to demonstrate their abilities to correctly identify source material, to describe the material they used and the material they created with a Dublin Core-based system of metadata tagging. The results were impressive, and beyond anything most undergraduates produce for a single course.

Data Management

In addition to the course we developed to sit at the core of the HHC experience, we also developed a data management environment unlike any then available, and quite possibly still unique in the balance it strikes between what students and faculty can do with it, and its service as a means of teaching students the importance of metadata tagging. We named this data-management environment the Acadia Humanities Hypermedia Archive, which we abbreviate to AhHa! AhHa! was designed to enable students and faculty to retain all of a hypermedia project developed in the HHC program, or to subdivide any such project so as to retain only its most valuable parts. The database provides a tiered environment to which a student initially contributes her or his work, and within which other students can move the work — or portions thereof — closer to the permanent archival core. Because this core will be publicly accessible, the database has been designed to allow only faculty-level administrators of the system to move work to the public level. By this means we plan to protect our institution against abuses of copyright.

AhHa! deserves fuller explanation because its design reveals the degree to which we believe our innovation educates students to make informed, intelligent judgements about the quality of work — digital or otherwise — in the humanities, or within a humanities discipline. When complete and more fully populated the database will consist of five tiers, each of which is designed to serve a distinctive purpose. Students submit their work as a compressed, or "zipped," folder to the first tier. For example, a student's project on a poem might include, when she submits it to Tier 1, an HTML page with the text of the poem and the author's name backgrounded by a color or image of her choice. If a color is chosen, then an image in some way appropriate to the poem might share the foreground with the poem itself. Because of copyright considerations, it is likely the student will have chosen a poem from a period that pre-dates current copyright laws. Suppose the poem is from the sixteenth century, when spelling, grammar, and punctuation were sufficiently different to be of interest in and of themselves to early twenty-first-century students. The student might therefore also submit a version of the poem with the original spellings and as far as possible the typography and layout of a sixteenth-century imprint. Think of this as the second piece of the project. To enhance understanding of the poem, the student submits, as her third piece, a paraphrase of the poem. The fourth piece is an explication, the fifth an audio file of her reading the poem, the sixth an essay about the poem or about the poet or about some topic of direct relevance to the poem. The seventh piece might be an explanation of the significance to the poem of the background color and accompanying image chosen for the poem on the html page that opens the project, what would now be recognized as the first piece. There might also be other poems by the same author to demonstrate a common theme or style, or some aspect of rhythm or metre, along with a piece containing the poet's biography, etc.

All other students in a class can see material submitted to Tier 1. From the submission to Tier 1 described above, other students might decide that the essay is a poor effort, and not the sort of thing they would want someone in a future class

to emulate, or not the sort of thing they would want associated with their class, so they would not award it sufficient credit to move it to Tier 2 of AhHa! where students can move a classmate's work if they perceive it to be of sufficient scholarly value. Although the classmates find the essay to be sub-standard, they do see the project's main page (piece # 1), its audio file (#5), the paraphrase (#3), and the explication (#4) as positive models of their respective genres, and so worthy of being moved forward. They see no other part of this hypothetical project as worthy of further attention, so they vote only to advance parts # 1, 3, 4, and 5 to the second tier. The professor might intervene at some point to advance the 7th piece, the explanation of how the various elements of part #1 fit together, since it is something that she wants other students to emulate, even though it was not explicitly described in the original assignment.

Depending on how the course is structured, students might have been taught how to use Dublin Core to attach metadata to their assignments before initial submission, or they might be taught this subsequent to the Tier 1 evaluation. Either way, the elements that appear on the initial page are fully indexed before making it to Tier 3. While occupying Tiers 1 and 2, the submission is visible only to classmates in the same HHC course; once the pieces are raised to Tier 3 they become visible to students in any HHC class, but not beyond. This facility is built into the background of AhHa!'s information management system, and is made possible by the fact that all students at our university have a computer access password. This password allows student access to HHC material once a professor enters her class spreadsheet into the administrative portion of AhHa! Once material is raised to Tier 4, which any individual HHC professor has the power to do, the material is available to all who possess an active university computer password, i.e. not only those affiliated with the HHC.

To submit her project to AhHa! the student submits the various, separate, pieces — html files, text files, image files, sound files, movie files — in a compressed folder. Our programming automatically unzips the folder and places the various files within the database such that the hyperlinks between works remain intact during the move from the student's computer to the database. The course professor can pre-determine the number of students who need to evaluate a work in order to advance it to Tier 2, and the cumulative "grade" a work must achieve (from the student evaluators) to advance. If achieved, the work will be advanced to the second tier independently of the professor. For example, if the professor decides ten students from the class must evaluate a work before it can advance to Tier 2, she can then decide on an appropriate average score from the evaluating students. Suppose the professor decides an average score of 7 / 10 is required, and that ten students must evaluate any work before it can advance. This would mean that if seven students score the work at 10, the other three could score it as low as 0 and it would still rise, automatically, to the second tier. More realistically, if seven students score it at 7, one at 9, and two at 6, the work will rise automatically. Contrarily, even if six students score it at 10, unless amongst the other four students there are at least 10 points awarded, the work will not rise. Through this system we hope to have anticipated and avoided the possibility of any one student expressing their personal animosity toward another through an undeserved negative evaluation of her or his work. We have striven to emulate the peer review process, and have recognized that in most classes we will have the numbers to allow an even more comprehensive review process than most publications (typically reviewed by only two or three readers) experience.

By this system we empower students to evaluate their peers' works, and to call to the professor's attention works deemed valuable by the audience for which they are primarily intended, those learning the material for the first time. Our model also allows the professor to learn from her students during the course, rather than waiting until evaluations are submitted after the course is over. For example, the situation described above, wherein the student included a description of the decision-making process that led her to choose the color and image for her opening page, was one in which the professor learned how to incorporate instruction in making editorial and design decisions a conscious part of the composition process.[9]

Our data-management system enables a professor to disable the Tier 2 option, in the event she or he is uncomfortable for any reason with sharing such responsibility with students.[10] Whether or not Tier 2 is disabled, the next step for a student's work is to advance to Tier 3, if the professor feels others in the HHC, beyond the student's own class, could benefit from having access to it. At any point, because the student's work was submitted as multiple files within a compressed folder, a single piece or any number of pieces of the entire work can be advanced independently of other

files not seen to be worthy of advancement. For a work, or any part thereof, to move beyond Tier 3 requires the agreement of at least three HHC professors, ideally from more than one discipline. Thus works that reside on Tier 4 have the imprimatur of professors who have seen both similar and dissimilar projects, and ordinarily view the world from distinct disciplinary perspectives. From the fourth tier, those works deemed to be most valuable to humanities scholarship generally and found to be in conformance with copyright law will be moved to Tier 5, which resides permanently within a commercially available and fully searchable database situated on our university library's server. From Tier 1 to Tier 5, those students who have access to an HHC work can also make use of it in their own scholarship. Thus, students can see themselves becoming part of the scholarly community not through some occult rite of passage but through the production of thoroughly-researched and well-composed contributions to scholarship.

Disciplinary and Other Demands

Professional issues, both anticipated and unanticipated, will crop up as a result of the development of any new initiative, and the HHC was no exception. Professional issues are those characterized by the demands placed on participants by their discipline, their department, and their institution. We recognize that the demands placed on academics vary widely according to rank and time in rank, teaching load and other institutionally specific expectations, but we hope to start a discussion of a range of issues potentially faced by any of those whose profession places them in an institution of higher learning. The issues we will enumerate here will not represent a comprehensive list, or even necessarily be the issues of greatest importance to a majority of readers. Our intention is to get people thinking about professional issues that accompany new initiatives such as ours by offering a specific account from within our range of experiences.

We will use our environmental historian as an example, bearing in mind that any of the professors involved could have served as well. When the historian commits to teaching the HHC core course, the Department of History is paid by the HHC the cost of hiring someone to teach a course he would normally teach. However, it is unlikely that the money for the replacement will be used to hire someone who will teach precisely such a course as our historian would normally teach – i.e. a course on environmental history or, his other disciplinary specialty, Russian history. Secondly, it is very difficult to attract sessional lecturers to teach at a small, rural university, and this is even more true when all that is on offer is a single course contract. Small universities, especially those located outside large urban areas, do not have the pool of graduate and post-graduate students available to large, research-intensive universities located in diverse urban environments. Thus, the historian's participation in the development of our program initiative is not value-neutral to his department, and therefore to his colleagues, and therefore unless such a person suffers from profound professional myopia he has to see and weigh the cost to his "home" in the institution when he agrees to cooperate in our multi-disciplinary endeavour.

Recall, the HHC was developed thanks to a mechanism typical in higher education, a grant with a life cycle of three years.[11] We have learned the hard way that the staying power of an innovation may well depend upon a long-term funding commitment from the university's administration. For too long, academic units have been evolving in a zero-sum financial environment: any increase in funding for one unit has necessarily meant a concomitant decrease in funding for another. This has translated into gains and losses of faculty positions, research grants, equipment funds, and so on. Department heads are rightly leery of new, multi-disciplinary programs such as the HHC because they fear the new program will siphon off resources from the contributing units – if not immediately, then when the grant runs out. If real innovation is to be made possible, and for innovation to move from implementation to status quo, financial resources must be committed — in writing, because administrators and priorities change — by university administrators and boards of governors or trustees. Opting for the current status quo runs the very real risk, we believe, of having would-be university students opt to exercise other learning and career options, and therefore we think initiatives like the HHC or any humanities computing program are fundamentally necessary. Nonetheless, these changes have to be fought for.

The other professional issues we want to raise center upon concerns over questions of renewal, tenure and promotion (RTP). Faculty at all levels do not merely want, but indeed *need* to know how their involvement in a collaborative project will be interpreted by those who will be making the decisions to renew, to tenure and to promote them. Given that salary levels are tied to promotion decisions, and livelihood itself is tied to decisions to renew and to tenure, those who would get involved in a collaborative initiative, whether it be pedagogical like the HHC or research oriented, must know *in*

advance that their participation will not undermine their chances for renewal, tenure and promotion. In our case, all our stories ended happily. These happy endings *might* have been helped along by the project leader's inclination to send letters of commendation to department heads, deans, the VP-Academic, and to the university librarian informing them of the important work done by various contributors to the HHC. But what was certainly most important is the fact that all who made a positive contribution also were driven by their own angels and demons to ensure they had published sufficiently as individuals, had strong teaching records, and had provided appropriate other service to their departments, faculties, and to the university to ensure their worth to all was well demonstrated. That is to say, we all worked hard in the individualistic manner traditional to the Humanities, as well as contributing to the direction we believe even Humanities *scholarship* is going by contributing to the direction we believe Humanities *education* ought to go if it is to best serve its students. That direction is, of course, toward collaboration and public research (broadly defined), and away from the production of what remains the gold standard of RTP decision making in the Humanities, the single author monograph.

Overall Analysis

John Willinsky has argued that the academic dictum "publish or perish" needs to be rephrased as "index or perish" in recognition of the flood of information that has followed the emergence and spread of the Internet [Willinsky 2004]. We find it ironic that as indexing and the process it enables—retrieval—have become more important, students' understanding of indexing and retreival seems to have decreased; that the very medium that has made the information flood possible and indexing so imperative is also responsible in large part for the dumbing-down of much student research. This reality makes the HHC and similar initiatives imperative, not just for attracting students but for educating them in a manner consonant with their times. Information literacy and a sophisticated level of computer literacy can no longer be considered appendages to an Arts degree. They must be incorporated into the course work for the degree itself; thus we suggest fully integrating librarians and specialists in computer technology into the planning and implementation of both existing and new courses offered in the Arts and Humanities.

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The HHC offers one model of how to do so. Because all concerned — professors, librarians, and technologists — have been embarking on something new and making room for everyone else, the multidisciplinary class has ceased to be the professor's class and is instead, from its inception, "our" class, where "our" signifies all who participate in the initiative: Classicist, philosopher, historian, librarian, English professor, computer technician, and student. Instead of a professor "giving up time" to librarians or computer specialists, the latter two are recognized as integral to the whole thing. For example, rather than merely showing students this or that citation style, librarians can invoke a discussion about information ethics in the digital age. Instead of just showing students how to get information out of a database using subject headings or keywords, librarians can work with students to put information *into* a database with the expectation, now rendered reasonable, that by describing their *own* works for eventual retrieval by fellow and future students, they should come to understand far more about information indexing and retrieval, and be much more effective searchers, than if they had simply been shown how to retrieve someone else's work from a repository.

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When there is a technology component to a course, time will be in short supply. Technology will make sometimes exceptional but always constant demands on class time, but these demands shrink relative to the individual class when technology is centrally important to a series of classes. That is, when the individual professor tries to make her course more relevant to the needs of twenty-first century students, she may find her students' time and her class time so intruded upon by the demands of technology that the students' technophobia is only reinforced, and not reduced at all. However, when the individual professor becomes part of a collaborative effort to offer courses in which technology is part of each course from start to finish, then the collective intelligence of the students, built on collective, collaborative, and cooperative experience, rises, and problems can usually be sorted out quickly, as they present themselves. The fact that some of these problems can be solved by some other student present, serves to empower all students. The fact that sometimes a technological specialist is required serves to impress on the students that their frustration is not due to their own stupidity, or to the machine's intransigence, but to the fact that — in an historical period characterized by high degrees of specialization — sometimes a specialist is required. This too is an education worth receiving.

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In developing the HHC we have discovered an unanticipated benefit of working as part of a core development team: the

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opportunity to work with like-minded scholars and teachers who share a focus of study, but come at it from different perspectives. The conversations that have been generated between professors and librarians and technical staff and other professors have provided a framework within which all concerned can fruitfully re-evaluate their own scholarly engagement with, for example, the environment or the history of communication. From such conversations new avenues of research and research methodologies, and new classroom techniques have been suggested. In short, these conversations have pointed out the shortcomings of the single-discipline silo mentality that is still all too common in postsecondary institutions. Unfortunately, that mentality is reinforced not only intellectually, but by a raft of administrative and financial props that, as we have discovered, can be exceptionally difficult to dismantle. And yet, if we were to summarize in a single term the overall analysis of our attempt to make humanities computing part of our students' education, we would choose the term "multi-disciplinary."

Concluding Recommendations

In our Preamble we stated that our purpose in writing this article is to share our best ideas and to make others aware of the infrastructural and professional demands with which they can expect to contend. We want to conclude by articulating our recommendations for developing a Humanities Computing program within (an) existing program(s), or as a complement to such (a) program(s).

1. *Our first recommendation would be to secure all promised support in writing.* Even though a current administrator is well disposed toward your innovation and understands the commitment it requires of all those involved, administrators change. A written commitment will ensure that new incumbents in any office understand that a commitment was made, by their *office* and not just by the previous occupant, to your ideas, your personnel, and the results you seek to achieve.

2. *Develop and articulate terms of evaluation that will enable your administration to see and measure your success.* This can result in positive impacts on individual applications for renewal, tenure and promotion, as well as on the innovation itself. It will also provide you with material to convince new students of the value of adding your classes to their timetables.

3. *Make explicit your intention to let your innovation wither on the vine if your administration is not willing to commit, in writing, to its continuation beyond an initial trial period* (probably that of an initial grant). This way, you do not fail to at least try to innovate, but you also do not commit yourself or your institutional "home" to support that neither you nor they can afford in the absence of administrative responsibility.

4. *Those who would get involved in innovation must know explicitly how their involvement will count toward renewal, tenure and promotion.* A good model might be one in which key innovators have a written statement from whoever has the authority to offer it indicating that involvement in the innovation will count, for example, as the equivalent of a peer reviewed publication.

5. We found in developing and implementing the multi-disciplinary course we placed at the core of the HHC experience that *through administrative and financial imagination it is possible to overcome seemingly insurmountable professional and financial problems*. We were able to implement our core course for less than the cost of a single replacement hire on a contractually limited term basis, despite the fact that we had seven university employees from six different campus units involved.

6. *Technical support and information literacy are now integral parts of a meaningful humanities experience*. By fully integrating technical support and information literacy into our courses, we have been able to offer students marketable computer skills and to incur in them a healthier and more informed attitude to new forms of media production and consumption.

7. *Students should be able to see that real scholarship is available to them to produce, and they can become participants in a scholarly field through the production of well-composed and thoroughly researched work*. AhHa!, our data management system, made it easy for us to track students' progress through the "program," and to let them see how they compared to their peers. The perennially asked "but what do you want?" questions evaporated when students could see how others had addressed themselves to assignments, and in fact the quality of student work improved as subsequent classes could see what had been done before. Students were no longer working in the artificial vacuum of individualistic student-

scholarship, where "real" scholarship is defined as that produced by unknown names followed by the three mysterious letters, PhD. Instead, students were able to see that real scholarship was available to them to produce as much as to read, and that they could become participants in a scholarly field not through some unexplained and occult rite that their professors had undergone at some specific place definable only as "not here," but through the production of well-composed and thoroughly researched work such as that of which they were demonstrably capable.

Notes

[1] This paper is based on a panel presentation given at the joint conference of the Association for Computing in the Humanities and the Association for Literary and Linguistic Computing, June 2005, at the University of Victoria. The authors wish to thank the conference program committee for their very helpful comments on the original panel proposal.

[2] The Text Analysis Portal for Research (TAPoR) is a Canada-wide distributed text analysis research infrastructure that provides access to texts, tools, and support for humanities computing researchers; the Brown University Women Writers Project is a long-term research project devoted to pre-Victorian women's writing and electronic text encoding; the Orlando Project is a dynamic textbase that offers a history of women's writing in the British Isles. It targets researchers, students, and readers with an interest in literature, women's writing, or cultural history more generally.

[3] The MLA Ad Hoc Committee on the Future of Scholarly Publishing recently "document[ed] the comparatively limited place and value that processes of evaluation give scholarship that appears in electronic formats. . . . Refereed articles in digital media count for tenure and promotion in less than half as many departments as refereed articles in print; print articles count in some fashion in 97.9% of departments, as compared with 46.8% for articles in electronic form. Monographs in electronic formats have a place in the evaluation of scholarship for tenure and promotion in only about one third as many departments as print monographs — 30.1% as compared with 87.6%" [MLA 2006, 46–7].

[4] See [Quamen 2008]. This assertion is also supported anecdotally through informal conversations with faculty members at the University of Victoria, the University of Western Australia, Mississippi State University, and University College, London.

[5] Faculty were provided with a laptop by the university, which retained ownership of the machine. Every two to three years the machines were exchanged for newer models. Students were required to lease their laptops, for two primary reasons: laptops were then rare among the student population and prohibitively expensive, and much of the software made available to students could only be distributed freely if the university retained ownership of the machine onto which the software was loaded.

[6] We are forced to use the past tense here by an unfortunate administrative decision that saw the Institute dismantled and its personnel either let go or dispersed to other campus locations.

[7] In this instance all the professors were male.

[8] We accept the definition of information literacy put forward by Jeremy Shapiro and Shelley Hughes, viz, information literacy enables one "to use information and information technology effectively and adapt to their constant changes," [Shapiro and Hughes 1996, paragraph 13] and "[to] critically reflect. . . on the nature of information…and its social, cultural and even philosophical context and impact" [Shapiro and Hughes 1996, paragraph 13]. This definition has an obvious place in humanities computing, we think.

[9] The lesson we attempt to describe here is analogous to the idea expressed in the TEI's "Gentle Introduction to XML," that " markup, or (synonymously) encoding, [is] any means of making explicit an interpretation of a text" [Burnard 2007].

[10] After three years of partial implementation, only one professor ever requested that Tier 2's peer review function be disabled for her class.

[11] Although the pitfalls of three year grant cycles are well known anecdotally by all humanists who have managed to get research or project funding, the authors of the LAIRAH Project have taken a step toward initiating a much-needed discussion of this widely accepted model of funding in their final report to Britain's Arts and Humanities Research Council [Warwick et al. 2006], and in a forthcoming publication in *Literary and Linguistic Computing* [Warwick et al. 2007].

Works Cited

Burnard 2007 Burnard, Lou, and Syd Bauman, eds. *A Gentle Introduction to XML*. Text Encoding Initiative Consortium, 2007. http://www.tei-c.org/release/doc/tei-p5-doc/en/html/SG.html./.

CSSTC 2006 Committee on the State of Science and Technology in Canada. *The State of Science & Technology in Canada*. Ottawa: The Council of Canadian Academies, 2006.

Chambers 2000 Chambers, Ellie. "Editorial: Computers in Humanities Teaching and Research". *Computers and the Humanities* 34 (2000), pp. 245-254.

Hayles 2007 Hayles, N. Katherine. "Hyper and Deep Attention: The Generational Divide in Cognitive Modes". In *Professions*. New York: MLA, 2007. pp. 187-199.

MLA 2006 Modern Language Association. *Report of the MLA Task Force on Evaluating Scholarship for Tenure and Promotion*. New York: MLA, December 2006. http://www.mla.org/pdf/task_force_tenure_promo.pdf.

Quamen 2008 Quamen, Harvey. "Digital Humanities: Understanding the Student Experience." Draft copy of paper to be delivered at annual Society for Digital Humanities / Société pour l'étude des médias interactifs conference, Vancouver, May 2008.

Rockwell and MacTavish 2004 Rockwell, Geoffrey, and Andrew MacTavish. "Multimedia". In Susan Schreibman Ray Siemens and John Unsworth, eds., *A Companion to Digital Humanities*. Blackwell Publishing, 2004.

Selber 2004 Selber, Stuart. *Multiliteracies for a Digital Age*. Urbana-Champaign: University of Southern Illinois Press, 2004.

Shapiro and Hughes 1996 Shapiro, Jeremy J., and Shelley K. Hughes. "Information Literacy as a Liberal Art: Enlightenment proposals for a new curriculum". *Educom Review* 31: 2 (March-April 1996).

Shapiro and Hughes 2001 Shapiro, Jeremy J., and Shelley K. Hughes. "The World Wide Web, the Reorganization of Knowledge, and Liberal Arts Education". *Educational Technology* 41: 5 (September-October 2001), pp. 12-16.

Warwick et al. 2006 Warwick, Claire, Melissa Terras, Paul Huntington and Nikoleta Pappa. "The LAIRAH Project: Log Analysis of Digital Resources in the Arts and Humanities". Presented at *Arts and Humanities Research Council*. *Final Report to the Arts and Humanities Research Council* (2006).

Warwick et al. 2007 Warwick, C., M. Terras, P. Huntington, N. Pappa and I. Galina. "The Master Builders: LAIRAH Research on Good Practice in the Construction of Digital Humanities Projects". Presented at *Digital Humanities*. (2007).

Willinsky 2004 WillinskyJohn. "Plenary Lecture". Presented at *Digital Humanities Summer Institute* (June 27, 2004).