



Mullen, Mark. (2002). "If you're not Mark Mullen, click here:" Web-based courseware and the pedagogy of suspicion. *Workplace*, 9, 72-79.

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**"If You're Not Mark Mullen, Click Here:"
Web-Based Courseware and the Pedagogy of Suspicion**

If You're not Mark Mullen, Click Here. This chirpy message will greet you if you log on to Amazon.com from any of the three computers I use on a regular basis; many of you are probably greeted by similar messages when shopping at Internet sites that enable the creation of a personalized user profile. This kind of functionality typifies the most recent developmental phase of the Web which has moved beyond a notion of interactivity limited to point and click, and into a world where soulless software nevertheless seems to recognize and respond to us as individuals—often more helpfully and expertly than real-world shop assistants. This has been made possible by the development of a class of software applications known collectively as “agents.” Agents are usually combinations of server-side (database search and retrieval, for example) and client-side (“cookies,” javascript, etc.) applications that talk to one another to produce the effect of an autonomous agent working on your behalf (locating the best travel deals, recommending books you may like, and so on).¹ Agents offer many advantages (limiting the need to transmit your credit card number over the Net, for example), and the kind of enhanced functionality that has been the promise of the web all along would be unthinkable without them. Nevertheless, agents do represent a couple of fundamental shifts in the development of information technology applications. Understanding the nature and implications of these shifts is vital for teachers, because agents are the basis of some of the technological innovations making their way into our teaching practices, most noticeably through the development of student tracking in online courseware packages such as Blackboard, WebCT, and, one of the most recent entrants into the field, Prometheus.

While humanities scholars are often stereotyped as technologically traditionalist curmudgeons still muttering resentfully about being forced to give up the quill pen, many humanities teachers, particularly those working in the fields of composition and rhetoric were enthusiastic early adopters of and aggressive advocates for merging e-mail, listservs, networked writing environments, and the Web with existing teaching practices. A dominant line of argument in the mid-1990s was that bringing hypermedia in particular into our classrooms would democratize the entire educational project. According to George Landow, “It [hypertext] changes the roles of teacher and student in much the same way it changes those of writer and reader. Its emphasis upon the active, empowered reader, which fundamentally calls into question general assumptions about reading, writing, and texts, similarly calls into question our assumptions about the nature and institutions of literary education that so depend on these texts” (219). L.M. Dryden concurs: “hypermedia has the potential to transform the structure of both classrooms and entire institutions—schools and universities—and to make the teaching and practice of literate thinking and behavior a truly democratic enterprise that respects the needs of both the individual learner and the larger community of learners” (284).

There is a paradox at the heart of these arguments for technology-driven democratization. They assume,

on the one hand, that information technology will enable the classroom to influence the culture of the public sphere. At the same time early advocates for hypermedia in particular assume that the technological mechanisms themselves will remain relatively isolated from the central mechanism of the public sphere, the commercial marketplace. However, the commercial world is starting to invade the educational technologies we use in subtle and not-so-subtle ways. With regard to Internet applications in particular, enhancing the profitability of online commerce is now the driving force behind the creation of specific programs and the more general programming culture that sustains them. While many IT professionals regard software products as value-neutral, it is entirely possible to demonstrate, as Selfe and Selfe do in their 1994 article "The Politics of the Interface" that programs enact a variety of assumptions common to the specific and general cultures out of which they emerge. More importantly, even a programmer working in an academic setting has his or her particular project shaped by issues of platform and programming compatibility. Designing a courseware package for a university setting, for example, requires creating functions that will work with standard web browsers and operating systems—adapting, therefore, to constraints and opportunities not developed with specific educational practices as a fundamental goal.

The recent development of intelligent agents both responds and contributes to the emergence of a large-scale database culture, an idea of public discourse predicated upon the existence of a vast database of fact and opinion. Thus, one of the most common uses of agents is to situate your buying tastes against those of other users in the form of lists of other recommended products, or most recently, predict compatibility ratings for products that you are browsing. Not only does this database culture facilitate the reduction of complex knowledge (embedded in contexts, processes, and intentions) to the stripped-down, decontextualized, value-free concept of data, but it is fast creating the contemporary, technology-inflected equivalent of the older, and no less nebulous, ideal of a culture's "common sense." As Steven Johnson points out, the proliferation of agents also represents a reversal of larger trends in software development and design, particularly as they have helped to shape the user interfaces of the systems that we use (180). While the initial shift was away from computers operated by arcane coding languages toward interfaces that were more directly responsive to the individual user's manipulations, this next shift once again removes control of many elements from the user and replaces them with automated processes. Thus, auto-updating of certain classes of computer programs is relatively common. If you have your Windows Media Player open and you are online the program will automatically search for updates; the same is true of many virus-killing programs, web browsers, and multiplayer online games.

In line with this loss of user control, what gives me pause about Amazon's ability to recognize my computer is that it anticipates that my real-world security could be breached at any time: that cheerful greeting, after all, implies that someone else, not Mark Mullen, might at some stage be sitting in my still warm chair, using my computer, and if they decided not to "click here" they would have unmediated access to a chunk, albeit a not very interesting one, of my life. This simple little phrase thus underscores not simply the potential and actual deployment of agent programs for surveillance purposes but the fact that such surveillance is integral to the information technology applications upon which we increasingly rely. In fact, this little phrase is curiously honest in its own way, for one of the major uses of agent technology is not interaction, but extraction: agents make possible the collection and storage of a huge amount of information, both for you, and about you.² In the almost complete absence of legal safeguards, when this information is strip-mined in the course of your online interactions, in most cases it is no longer your information, but instead becomes the property of the company.³ This use of software agents for information acquisition, together with assumption that users have no right to safeguard the privacy of their information are both evident in the new generation of online courseware.

These new web-based courseware packages such as Blackboard, WebCT or the one developed at my own institution, Prometheus, have, on the one hand, been a boon for faculty members interested in integrating information technology into the teaching. Not only have they vastly simplified the development, implementation, and maintenance of many individual IT elements (web site, class discussion lists, grade

books, etc.) but the ability to bring all these different functions together into a relatively seamless whole surmounts what was a major hurdle for many of us even two or three years ago. Moreover, all these packages do a good job in encouraging faculty to design their courses around specific instructional objectives. However, in their provision of “tracking” features that allow faculty members and administrators to collect information on students' use of the course materials these packages threaten to compromise all their pedagogical advantages. Not only are these kinds of features fundamentally incompatible with a pedagogy based around student learning (as opposed to faculty teaching) but they seriously undermine the educational goal of creating critically informed, responsible citizens, who can participate fully in the work of their disciplines and their culture.⁴

The Faculty User Manual for Prometheus notes that the package allows the faculty member to:

track the usage in the specific sections of Syllabus, Outline, Testing, Projects, Lectures, Files, Messages, and Discussions. This will reveal a page showing the total hits and cumulative time for each student. By clicking on the arrow next to the student's name, details about their navigation within Prometheus can be seen, including the date and time they accessed a section, any actions they took, such as downloading a picture, and how long they stayed in that section each time they were there (102).

Although it displays the results slightly differently, WebCT collects exactly the same kind of information. The purpose of these kinds of features, claims the WebCT manual, is to allow you to “monitor how students are progressing in your course” (67). Tracking, claim the Prometheus developers, “allows instructors to assess the depth of student interaction in a course” (101). Whatever your definition of progress, does this kind of information really tell you anything meaningful about the students' interaction? The information that Prometheus collects seems to provide an objective measure of student engagement, but in fact creates a dangerously decontextualized, essentialized image of your course in which levels of “participation” stand in for evidence of learning having taken place. Students are treated not as learners, as partners in an educational enterprise, but as users. Student Y, you discover, has downloaded every single one of your lecture notes, and you glow with satisfaction. But this tells you nothing about whether they read those notes or not, much less how effective was the use they made of those notes: the statistical data is simply the virtual equivalent of looking at the student's book to see whether or not they've cracked the spine.

For all the new technological capabilities that lie behind this kind of information collection, it is actually a manifestation of a very old set of educational assumptions which I term the “pedagogy of suspicion.” Under this model—and it is one that cuts across disciplines, institutions, and course types—students will resist the workload demands of your course with every means at their disposal. Now, using this kind of tracking functionality, we can finally catch the little bastards at it. We'll know if they haven't done the reading, haven't bothered with the practice problem sets, haven't bothered to check out the lecture notes. The Prometheus Faculty User Manual makes this usage of the tracking data explicit, when it notes that in addition to enabling faculty to “assess the depth of student interaction” employing tracking “provides valuable information and an electronic “paper trail” to assist in the assessment process” (101). Under this model, students have to be monitored constantly, and blame for non-compliance always rests with students, never with teachers for designing flaccid or even irrelevant courses. Of course there are students who fit the above profile, but it would be foolish to design a course or courseware based on the assumption that all students are like that. In the first place, courses have a nasty tendency to produce the kind of participants upon which their design is predicated. Suspicion also implies a need for punishment, and we now have a whole set of new information based on participation rather than learning that we can use to fail students.

Neither Prometheus nor the other courseware packages inform students at any point on the class site that this kind of information is being collected. The default option in the most recent version of Prometheus,

thankfully, has the tracking options turned off; I leave them off, and now inform my classes in my syllabus that the tracking options are there and that I've turned them off. For other classes in which students are using Prometheus, I encourage them to find out from their professors whether the tracking functions are operative in that class, and if so, how the faculty member proposes to use the information that they are collecting. Because of the obvious power imbalance between professors and their students, however, I think it would take an extremely courageous student even to ask the professor for this information, much less stand up for their rights if that information was being used inappropriately. There are two reasons why something as apparently obvious as a privacy notification is not provided by these packages. The first is that designers and many faculty alike just do not see the issue of consent as being relevant; the student's participation in our class is taken in itself to be consent to our ownership of whatever they produce. And it's a simple matter to extend that notion of ownership, via data collection, to ownership of their educational process, under the assumption that what we are collecting is simply information about their participation in the classroom; it's not “personal” information in any way. But it is impossible to compartmentalize the personal and the educational in that way. For this time in their life, the educational is a major component of the personal for all our students.

These packages also can't let students in on the collection of information about their actions because to do so would bias the data. Herrington and Moran have pointed out that one of the potential problems with the programs that are being designed to automatically grade student writing is that they will produce an “unnatural rhetorical situation” in which people don't simply write on the machine, but write to the machine, shaping their writing around its peculiar grading algorithms . The same thing is true on potentially a much larger scale once students are let in on the collection of information about their participation in the class. Because none of this data tells us whether any real learning or even any real work is taking place, but only the frequency with which the various commonly agreed upon markers describing the appearance of learning are met, it's easy for a student to simulate engagement: download everything, make regular visits to the site and surf mindlessly for a while, post regular “off the top of my head” messages to the discussion list, and voila! you are a serious, committed student. Tracking thus threatens to produce and exacerbate exactly the kind of student behavior, cultivated and rewarded in high school, that so many of us detest at the college level: the “will this be on the test?” mentality, where learning is all about shaping oneself into the kind of student you think your teacher wants you to be.

I don't use Prometheus for surveillance purposes, and it would be easy to argue that what other teachers use it for is their business. But web-based courseware makes such compartmentalization untenable, given that students are using the same package for several classes. So if my students are only encouraged to use the courseware for downloading lecture notes and taking online tests in their other classes, that will condition their expectations as to what are the appropriate uses of that application—expectations that are challenged when they get into my class. And if the deployment of these surveillance features in other classes causes students either to “write to the computer” or, worse still, to avoid the machine in justifiable suspicion, that is my problem.

It is likely that tracking functions will continue to proliferate and, indeed, become more comprehensive in future educational software due to a host of interlocking cultural factors. While I have been criticizing the way in which elements of information technology designed with business-sector interests in mind have been making their way into the educational domain, it is also true that education in the US has quite independently developed in a way that perfectly exemplifies some of the core beliefs of the commercial sector. Education in the United States is, at the level of policy and administration, and despite all pretense to the contrary, concerned primarily with measurement rather than learning. As every student knows, it's all about taking tests and racking up numbers, which are then alchemically translated into college admissions, cultural validation, and money. The driving assumption in US education is that education should be an efficient process for teachers and students alike, and that like all efficient processes it is capable of being measured. The five paragraph essay and the Scantron exam are thus linked in the way that they take vastly complicated learning processes and boil them down to a product susceptible to

mechanical processing.

While courseware packages began life with the aim of encouraging the use of information technology as a complement to traditional pedagogy, they have quickly evolved into tools for new distance education initiatives. I am decidedly not an opponent of distance education; indeed, I think it's one of the few glimmers of hope that four-year state and private colleges in the United States will begin to take seriously the idea of providing educational opportunities for groups other than 18-22 year olds. Leaving aside the fact, however, that the rush to distance education on the part of most institutions has more to do with money than it does with pedagogy, the very nature of distance education promotes a pedagogy of suspicion. How can you prove that learning has taken place when you don't control the physical movements and attention spans of your students? However it is also the case that educational courseware tends to encourage traditional rather than innovative pedagogy. This will come as a surprise to many people, because it's the innovative uses of educational technology that draw the most attention. But nothing that is novel lasts for very long unless it can attract the support of the status quo. All of these courseware platforms, despite the new features they introduce, also ably support one-to-many broadcast-type teaching styles, together with passive information display and the possibility of automatically administered and assessed exams. They are thus perfectly in tune with the traditional, large-lecture classroom format, where students passively absorb canned content that passes for knowledge, and which are a feature of most large universities.

It is clear that if the spread of surveillance features in online courseware is to be limited, it is concerned faculty who will have to take action. We certainly cannot wait around for someone else to formulate meaningful privacy initiatives in response to new technologies. Issues surrounding privacy and the use of our personal information preceded the Internet and even with evidence of real abuses (unauthorized access and use of DMV and social security data, for example) they still haven't been resolved. So it is unrealistic to expect anything substantial to happen in relation to the vastly more complicated domain of the Internet. Moving at the speed of business today means moving at a hundred times the speed at which even the most ill-considered piece of legislation is capable of being passed. The second problem is precisely that we are moving at the speed of business. The government has proven extremely reluctant to take the lead in relation to privacy issues, and as a result privacy protocols have been established by the business community. The widespread suspicion on the part of Americans about the actions of “big government” has tended to obscure the degree to which the greater threat to individual privacy is posed by the corporate world. Commercial privacy policies have, for example, been configured according to an “opt-out” standard; information about users will be collected unless users actively tell the company not to do so. These practices are strikingly at odds with the results of a report released as part of the Pew Internet & American Life project which indicates that “86% of Internet users favor an “opt-in” privacy policy and say that Internet companies should ask people for permission to use their personal information” (Fox 2). The lack of any privacy notification attached to Web-based courseware demonstrates how thoroughly the “opt-out” standard of online commerce has infiltrated educational technology.

The larger reason why nothing will be done in relation to privacy initiatives is that in functional terms few people really care that much about the issue. Concern over privacy issues in relation to the Net certainly seems to be high; a June 2001 Gallup poll found that 82% of Internet users polled were either “somewhat concerned” or “very concerned” about the misuse of their credit card information, and concern over corporate abuses of personal information and the use of cookies was also very high (Jones and Carlson). However, there is a significant gap between people's concern, and their willingness to do anything substantive about that concern. Our recent history is littered with polls articulating people's concern about the state of the US education system, but we've yet to see any substantive improvements take place in that arena. And just as one reason for the lack of educational improvements has to do with people's conscious or subconscious realization that many of them benefit from the current inadequate system, so the kinds of online dynamics I have been describing are embedded in a set of cultural beliefs with which most people are entirely comfortable: the personalized user profile that is one of the chief uses of agent technologies

plays into the fantasy of an autonomous, authentic, individual self; the evolution of a database culture of statistical assurance on the other hand fits with the desire that most people have to be part of some larger group identity. So perhaps one of the things that is making these kinds of online interactivity such satisfying experiences is that we are having it both ways, we feel ourselves becoming both individual and representative. If we as teachers want our students to be critical of such ideological formulations, we are, therefore, going to face problems in the degree to which our everyday interactions with instructional technology actually abet those assumptions.

As teachers who believe that information technology has intriguing pedagogical possibilities but who are concerned by developments such as the ones I have been describing, there are a few actions we can take. If we use courseware that has these features, we should disable them for our own classes, and make sure that our students are aware that other classes could be collecting this information. At the same time, we should lobby the designers of these courseware packages for their immediate removal. A pedagogy of suspicion has no place in a vital and transformative educational environment, and we should argue vehemently against educational technologies that support the maintenance of that approach in traditional-style classes, or encourage its spread into areas of pedagogical experimentation. This will of course be an uphill battle, not simply because designers (and marketers) are generally reluctant to take out what they have put in, but because, as I have shown, the existence of those features is supported by a substantial network of cultural influences. In addition, the kind of intelligent agent technology that supports this sort of functionality is becoming increasingly ubiquitous in online commerce, and we can expect more of these abuses as the spillover from the commercial push towards interactivity, personalization, and customization continues.

In 1994 Selfe and Selfe advocated three sets of practices that faculty could adopt to respond to the “interested” nature of computer interfaces; while their argument was primarily directed toward composition teachers it does, I think, generalize at least to all humanities faculty. They argued, in the first place for “encouraging a general level of critical awareness about technology issues on the part of both pre-service and in-service teachers” (496). The key term here is “critical;” all too often we learn how to use particular applications but give little thought to the larger implications of their design and implementation. Faculty also need to translate this critical awareness into active engagement at the decision-making level. Some colleges have treated the decision to adopt particular courseware packages largely as an administrative issue that does not require faculty deliberation; in these situations faculty should demand the right to be arbiters in a matter that could have a profound influence on their teaching mission. Faculty should also feel free to demand changes from the courseware developer to accommodate the particular pedagogical needs of their institution; if the developer is unwilling to make such changes, that reluctance should be a deal-breaker. In addition to promoting a critical awareness of technology issues, Selfe and Selfe also advocated humanities faculty becoming involved in technology design. While this was a lot easier in 1994 when the field was, as the authors themselves pointed out, “embryonic” (497), it is still entirely possible for faculty to develop their own information technology applications. Knowledgeable faculty can also offer their services as consultants to courseware design teams and volunteer to serve as beta testers for new applications. More immediately, faculty can, as Selfe and Selfe suggested, go beyond educational technology as an invisible classroom tool to make the technological application the visible subject of their teaching. They suggest a class project to envision new forms of computer interfaces, but it's also possible to imagine class projects to explore and critique the assumptions behind commercial software applications and to develop new conceptual models for online courseware.

There is, however, a limit to what we can achieve simply by trying to influence the development of the technology itself. Indeed, this risks granting technology applications an autonomy from our cultural processes that they do not in fact possess. As I've indicated, part of the problem is that these new technological developments fit seamlessly with traditional, and largely bankrupt, pedagogical ideas. So whatever changes we are able to achieve in the design of educational technology will be for nothing if the majority of our colleagues remain fixated upon an idea of education as content delivery and absorption,

with students designated as recipients and clients rather than partners in an exploratory enterprise. In the larger cultural arena, the idea of new forms of information technology in general, and the Internet and Web in particular, as presenting an opportunity for developing new notions of community and agency has been pushed to the margins by online shopping, pimply-faced cyber-vandals, and the cooperation of government and business in undermining a communal notion of intellectual property. The dream that these new technological forms could be used for something other than business-as-usual (or, indeed, for something other than business-of-any-sort) is still alive in education, but it is on life-support. We should, therefore, fight to ensure that the project of developing the agency of our students is not undermined by a world of secret agents, or our own status as unwitting double agents.

Notes:

This paper builds on work offered as part of two conference presentations: “Streaking Across the Pitch: Compulsive Visibility and Hypertext Pedagogy” at the annual convention of the *Conference on College Composition and Communication* in Atlanta, March 24-27, 1999; and “Too Much Information! Web-based Courseware and Classroom Surveillance,” presented at the conference on Rhetoric and Democracy in the Age of the Internet, held at Trinity College, Hartford CT. June 22-24, 200

1. Cookies are small micro-programs that are downloaded by your browser the first time you visit a particular site, and which are then stored in a special directory on your hard-drive. When you visit the site again, the cookie is invoked, usually through a javascript program: the cookie usually contains minimal data, or maybe only a function, that tells the website your identity, and occasionally some minimal configuration information. The programs themselves are almost always benign, and for some techies don't even count as real programs, but they are undeniably invasive in the sense that they represent a foreign entity installed by an outside party on your machine, frequently without your knowledge. You are not entirely defenseless however; major web browsers now allow you to refuse all or only certain kinds of cookies. When these kinds of applications first emerged a couple of years ago, many of my more technically literate friends carefully screened all their incoming cookies, or, indeed, didn't allow any kind of cookie to be set on their system. The use of cookies is, however, now so ubiquitous (to the degree that all users should assume that every commercial site at least is setting cookies on their system) that this kind of detailed micro-management amounts to a full time job; refusing cookies also deprives the web of much of its utility.

2. As an example, Amazon provides a full list of the kinds of information it collects using cookies: “the Internet protocol (IP) address used to connect your computer to the Internet; login; e-mail address; password; computer and connection information such as browser type and version, operating system, and platform; purchase history; the full Uniform Resource Locators (URL) clickstream to, through, and from our Web site, including date and time; cookie number; products you viewed or searched for; zShops you visited; your Auction history, and phone number used to call our 800 number” (“Automatic Information”).

3. Amazon acknowledges as much in its privacy policy: “As we continue to develop our business, we might sell or buy stores or assets. In such transactions, customer information generally is one of the transferred business assets. Also, in the unlikely event that Amazon.com, Inc., or substantially all of its assets are acquired, customer information will of course be one of the transferred assets” (“Amazon.com Privacy Notice”).

I'll be using Prometheus to illustrate my discussion, since this is the program with which I am most intimately familiar, but I should stress that this is a systemic issue that afflicts many courseware packages. As far as Prometheus itself is concerned, in terms of ease of use, and flexibility its one of the best courseware packages I've come across. The developers are also extremely attentive to faculty concerns, and are constantly soliciting faculty input and feedback on their efforts. More information on Prometheus

can be found at the following places: <http://www.prometheus.gwu.edu> and MACROBUTTON HtmlResAnchor <http://www.prometheus.com>.

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