

What Do Computers Eat? Teaching Beginners to Think Critically About Technology and Art

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Abstract

This paper presents new curriculum for an introductory course in art and technology in which students compare the software industry with fast food to investigate patterns of consumption in our culture.

1 Introduction

Educators face a tremendous challenge in striking the proper balance between technique, craft, and theoretical knowledge in an introductory course in the media arts. What kind of course might orient students to the complicated history and cultural significance of both hardware and software while simultaneously teaching enough technological skills to allow them to create art works with substantive meaning and content?

In this paper, I will discuss an undergraduate course curriculum that I developed at the School of the Art Institute of Chicago. In “Fundamentals of Art With Technology,” students debate the similarities and differences between the fast food industry and the software business to gain a critical understanding of the forces that define patterns of consumption in our culture. In the following pages, I will describe the studio environment in which the course is taught and will provide details of reading assignments, class projects, and student evaluation.

2 Background

For the last six years, I have been teaching introductory and advanced classes in digital imaging and multimedia authoring at art schools, first in Baltimore, then Ann Arbor, and now Chicago. Of the two or three course syllabi I prepare each fall, the most difficult by far is the introductory class plan. At the School of the Art Institute of Chicago, this course offering is called “Fundamentals of Art With Technology” and is designed to orient students to the “concepts of electronic media, perception, inter-media composition, emerging venues, and other issues important to artists working with technologically-based media.” Every August, I anguish over which software packages to present to beginning students. Then I debate the merits of Flash versus Director and HTML versus Dreamweaver. I deliberate over readings: technical or theoretical emphasis? Have beginning students already read “Art in the Age of Mechanical Reproduction” in their art history classes? The questions are all too familiar to those faced with teaching an introductory course in the area of art and technology studies.

But the central question that challenges me each fall is ultimately far more consequential: how to introduce students successfully to the complicated history and cultural significance of the computer while providing enough technical instruction. The goal is to educate and empower students to create meaningful art works using tools unfamiliar and, in some cases, alienating to them. Computers are both medium and message, and in this duality lies the rub. No matter what the syllabus says, students prefer to think of the introductory class as a software-training

seminar. Instructors like me perceive the class to be a foundation on which to build critical thinking and problem-solving skills. The conflict of interest in the pedagogical focus inevitably produces unwanted friction between the instructor and students. Yet establishing the proper balance between technique, craft, and theoretical knowledge in “fundamentals” is critical to the department as a whole, because the atmosphere creates a ripple effect: the tone established in the beginning class often carries through to the upper level courses in the department.

This year, I had my most harmonious semester ever. I was thrilled to discover that students came to class informed and enthusiastic about the assigned reading. They arrived early to find out which new software package was to be placed under critical scrutiny, and they seemed eager to discuss the theoretical material and dive into hands-on software tutorials. What was the secret to the new rapport: fast food. My key to achieving group rapport and sustaining interest across all subject matter was to develop a curriculum that took a familiar subject’s history—the fast food industry—and compared it to the software business.

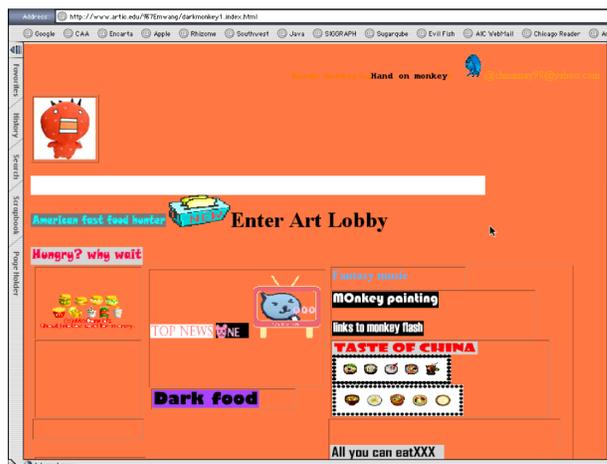


Figure 1 Personalized food portal, May Wang, 2001

3 First Class Meeting

We began our semester with a field trip to McDonald’s. Our guide led us through a whole world of gadgets designed to automate production of every menu item from the multi-layered Big Mac to the flawlessly blended McFlurry. Breathless with the excitement of a surprise outing, students compared notes about newly computerized cooking techniques—the sure-fire way to eliminate unwanted nasties like salmonella, E. coli, and other dangerous pathogens from the beloved burger. Back in the classroom, students divided into groups to react to the following general questions with the recent McDonald’s excursion in mind. What is the function of a menu? How does packaging affect perception of menu items? What strategies of production do fast food chains employ? What is brand loyalty and how is it created?

In the lively discussion that followed the brainstorming session, we quickly generated a correlation between the interfaces of the fast food industry and digital imaging software. For example, we compared the “Best Value” grouping of popular meal choices to groupings that software manufacturers use to establish default preferences, palette groupings, and unit settings. Products were more desirable when fresh—French fries become obsolete almost as quickly as software versions today. Brand name products seemed preferable to lesser known ones—most students admitted that if choosing from among Adobe Photoshop, Adobe PageMaker, and CorelDraw to add text to a photograph, they would select Photoshop since it was an acknowledged “brand-name.” Our laboratory activity for the afternoon involved an investigation of the Actions Palette in Photoshop and methods to automate the production of images in relation to one another. Further similarities to assembly line food production were noted after the demonstration of batch processing images for the web.

Readings assigned for the first class juxtaposed the history of the fast food industry with the history of Silicon Valley. In his book, *Fast Food Nation*, journalist Eric Schlosser dismantles the carefully constructed feel-good veneer of fast food and shows how the industry's astounding success has been achieved at astounding cost to the nation's health, environment, and culture. The book chronicles the events giving rise to the fast-food restaurant, beginning in 1948 when Richard and Maurice McDonald invented the Speedee Service System, introducing assembly-line efficiency into a commercial kitchen. In chapter 1, Schlosser describes the industry's pioneers—self-made entrepreneurs who pursued the American dream with old-fashioned ingenuity and a strong work ethic. Among these was Ray Kroc, who bought out the McDonald brothers and became the driving force behind the hamburger empire that is now the world's most recognizable brand name. Students found this journalist's text engaging, fact-packed, and straightforward. A selection from *The Silicon Boys* by David Kaplan complemented the Schlosser reading. Kaplan's book is a history of Silicon Valley since the 1930s, when Stanford professor Frederick Terman encouraged David Packard and Bill Hewlett to establish their own company in a garage. While the greed and excesses of venture capitalists prove distracting in later chapters, the initial ones provide an exciting account of the events that preceded the invention of the first personal computer and graphical user interface.

4 Daily Schedule

The Fundamentals studio course met for six hours weekly. Prior to each class meeting, students read articles selected from two very different subject areas—generally one article focused on fast food and the other on the software industry or an artist's work. I required students to email me reading responses prior to class—this procedure worked remarkably well in that I was able to gauge individual performance while preparing discussion questions based on student contributions. Our daily schedule included three morning hours allotted for technical demonstrations and guided practice with lab tools. Ninety minutes of the afternoon hours were devoted to discussion of readings and peer writing. Guided questions encouraged students to draw their own comparisons between multinational corporations based on their inventive campaigns to capture and hold public taste: McDonald's and Microsoft, Taco Bell and Macromedia, the Mongolian Barbecue and Maya. Screenings of artist works and occasional collaborative class assignments occupied the final hour.

To give a specific example, the fourth class of the semester was set up in the following manner. Students read and responded to Schlosser's chapter entitled “Why McDonald's Fries Taste So Good.” In addition, they reviewed Simon Penny's article, “Consumer Culture and the Technological Imperative: The Artist

in Dataspace.” A media artist and theorist, Penny warns readers to approach seductive new technologies with a critical eye:

“The design of GUI's (graphical user interfaces), with their free choice among a fixed range of choices, is a mirror of the diner menu (ranch, thousand island, blue cheese, oil and vinegar) or the supermarket array. At the computer, as in the supermarket, one submits to the interactive scenario and the limited freedoms it offers: total freedom among a set of fixed options. A postmodern capitalist paradise!” [Penny 1995].

In this class devoted to comparing HTML web scripting to Dreamweaver's point and click interface, the Penny article provided an appropriate backdrop for students who struggle all semester to master the basics of tools like BBEdit and Dreamweaver as well as Photoshop and Director. Penny's description of a condition called “technofatigue” was particularly resonant with students. Throughout the semester, I work to select reading that will expand our dialogue during technical demonstrations beyond the basic queries regarding pull down menus and file sizes. Penny's essay is a must-read for all beginning students.

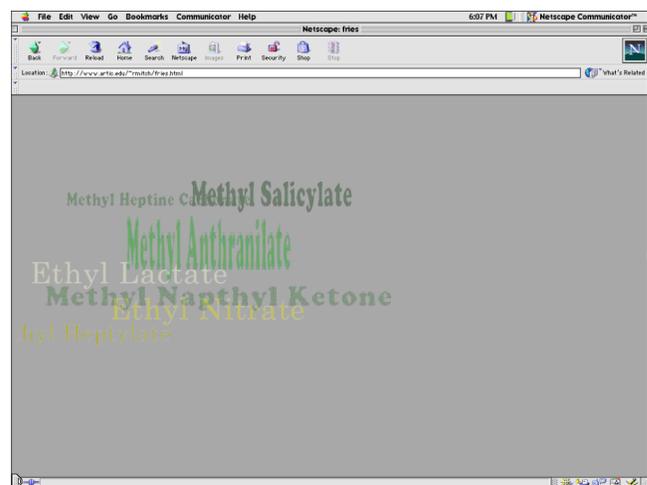


Figure 2 Animate composite, web site detailing French fry ingredients, Jeff Mitchell, 2001

For this fourth class, I designed technical demonstrations and practice assignments using Dreamweaver that would enhance our afternoon dialogue with the readings. In the morning session, I reviewed how to create web links using HTML code in BBEdit and then demonstrated how to create similar links in Dreamweaver. I also explain by example how to create a web page with links in Microsoft Word using the “Save as HTML” option. Students were asked to choose one software program to create a page devoted to the ingredients of French fries with multiple links to the manufacturers of each item. Many students created a text-based animation for the assignment, as shown in figure 2. In the discussion after lunch, we compared Penny's perception of the limited freedom allotted to each software applications' GUI with the factors that affect the flavor of French fries. According to Schlosser [2001], the taste of a French fry depends exclusively on the oil:

“For decades McDonald's cooked its French fries in a mixture of about seven percent cottonseed oil and 93 percent beef tallow. The mixture gave the fries their unique flavor — and more saturated beef fat per ounce than a McDonald's hamburger.”

Our conversation quickly led into the hazards of consuming processed foods that had hidden health risks or prepackaged meals with “secret recipes” like Colonel Sanders’ fried chicken. We noted the correlation between big-name manufacturers’ tendency to hide detail in the packaging and the composition of their product. Students compared the omissions inherent in ingredient lists boasting “natural flavors” with the Microsoft’s overly casual warning to the user that all margin and font settings would be changed during the conversion of a Word document to a web page. What you see is not necessarily what you get in a browser window or in a fast food restaurant.

After the discussion, I screened the Adbusters web site, the creation of a group of Canadian media artists who take an activist approach to cultural critique. The following quotation comes directly from their online mission statement:

“ADBUSTERS is dedicated to reinventing the outdated paradigms of our consumer culture and building a brave new understanding of living. We relish all truly political materials, whether they are scholarly probes into the decline of civilization, environmental forays into the forests, sci-fi carpet rides into cyberspace or humorous spoofs about commercial culture. More than anything, we seek compelling ideas that further the critical perspective and offer activist solutions. Our language is culture jamming: the new activism.”

Also featured on the Adbusters’ web site, the Ad Spoofs generated a good deal of interest and a meaningful lead-in to the afternoon studio hour. The collaborative assignment for the week was to create a “fast food spoof” web page. About half the class started to work to generate humorous images while half designed the web interface for our site. One individual began creating a banner ad for the site itself.

In general, students responded positively to the new curricular initiative although no one felt compelled to stop eating French fries. Final class evaluations indicated that the majority of students felt that the studio assignments, readings, and discussions relevant and meaningful to the course. Two students have continued to make artwork about patterns of consumption in our culture in advanced-level classes in the Art and Technology Department. For example, I am working with a student in my “Interactive Multimedia” course who is designing a breakout game designed to confound the user’s food preferences that were established previously in an online survey.

Most students indicated a desire on their evaluations to learn more in-depth skills to manipulate and control software. This outcome is very positive—the course was designed to entice a diverse group of students to focus their BFA study in our department. However, some students were discouraged that the class touched on several software applications instead of just one in depth. This kind of complaint seems to be common among students who hope to begin lucrative careers in web and multimedia design after graduation. As an educator, I believe that advanced software instruction can be easily accomplished with a manual or an online tutorial. From my standpoint, the critical ingredients of success in the class were the lively discussions provoked by the readings and screenings of artists’ work.

5 Conclusion

While I plan to rework some reading selections and study assignments, I will teach the Fundamentals class using the theme of fast food to spark interest and generate meaningful critique of the software industry and its products. Admittedly, the business of fast food is an arbitrary choice—interchangeable in some ways with other industries dependent on public taste and convenience. The comparison might not work as well in a different context. In

downtown Chicago, we are all but surrounded by the competing logos and combo deals offered by the restaurant chains desperate to lure us to lunch. The Big Mac will remain a favorite subject of mine to begin an important dialogue with aspiring media artists—the tools we use in the classroom come pre-packaged with all of the convenience, freshness and flavor that we demand from our burgers. How possibly, can we make art with software before we have some understanding of forces that generated that software’s popularity? That question can feed a class for a year.

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