

M3T4.MEDIA:

what it means to be digital

CP 1022-045 (2319)

where:	Sharp 410	professor:	Nick Briz
when:	Th 9am - 4pm	email:	nbriz@saic.edu
class website:	http://m3t4.media	office hours:	by-appointment-only

“The single most important thing you need in order to have a career in the arts is persistence. The second most important thing you need is talent. The third most important thing is a grounding in how the online world works. It’s that Important”

— Cory Doctorow¹

This course presents a view from the future when we will recognize that the true cultural innovators at the turn of the 21st century were those who engaged directly with the technologies that have come to define our age, rather than those whose fields remained relatively stable during this historical period. The course will investigate the ideas that have shaped contemporary technologies (computers, networks, algorithms, etc.) and consequently how those ideas affect society in the way that technology work as environments.

The themes will be explored from historical, theoretical (through research and discussions) and technical (through new media workshops) perspectives. Topics surveyed include networks, the web, social media, participatory cultures, online communities, memes, sharing, open source, remix, originality, versioning, algorithms, automation, artificial intelligence, code, programming, data mining, hacking, privacy and digital rights.

“The Web represents a grand emotional, sensory, and intellectual adventure for anyone willing to explore it actively. [...] For artists, ignoring the imperative to grasp the cultural implications of the Internet means risking irrelevance. [...] As human discourse adapts to its new home, everything we do and think as human beings will be and is being shaped by new values. [...] If it’s ever fair to say that anything has “changed everything,” it’s fair to say so about the Internet.”

— Virginia Heffernan²

¹ Doctorow, Cory. *Information Doesn’t Want to Be Free: Laws for the Internet Age*. McSweeney’s. 2014.

² Heffernan, Virginia. *Magic and Loss: The Internet as Art*. Simon & Schuster. 2016.

// Learning Goals

Our goal this semester is to develop a critical perspective on the technological age we're living in by becoming digitally literate artists and well informed netizens. We'll establish our digital literacy by learning how computers and the Internet work (including some fundamental code literacy) as well as *why* they work the way they do by exploring the individuals, organizations and ideas that have shaped the development of these technologies throughout history.

Our goal is also to learn how to recognize bias in technology (embedded by the culture that produced it) and in turn understand how those technologies affect us as environments.

"You will remember from the time when you first became acquainted with a petri dish, that a medium was defined as a substance within which a culture grows. If you replace the word 'substance' with the word 'technology,' the definition would stand as a fundamental principle of media ecology: A medium is a technology within which a culture grows; that is to say, it gives form to a culture's politics, social organization, and habitual ways of thinking"

— Neil Postman³

Lastly, we'll aim to make work that speaks to technology's biases and/or effects on society as well as consider how we might influence the development of these digital environments through studio work rooted in a digitally literate research methodology.

"I'd like to think that computers are neutral, a tool like any other, a hammer that can build a house or smash a skull. But there is something in the system itself, in the formal logic of programs and data, that recreates the world in its own image. (...) We think we are creating the system, but the system is also creating us. We build the system, we live in its midst, and we are changed."

— Ellen Ullman⁴

³ Postman, Neil. *Amusing Ourselves To Death*. Penguin. 1985.

⁴ Ullman, Ellen. *Close to the Machine: Technophilia and Its Discontents*. Macmillan. 1997.

// Topics / Outline

This outline is subject to change depending on the pace and interests of the class. Any changes will be communicated in class and updated on the class website (<http://m3t4.media>). Though we will generally be covering topics as they are ordered below, it should not be read as a week-to-week schedule, but instead as a general outline.

Digital Literacy

Introduction to MetaMedia: In the late 1970's computers were large (non-graphical) instruments used by mathematicians, scientists and academics. But that was about to change thanks to pioneers at the Xerox PARC (Palo Alto Research Center) like Alan Kay and Adele Goldberg who understood that computers were more than glorified calculators, they represented "a new kind of medium (...) a metamedium, whose content would be a wide range of already-existing and not-yet-invented media."

Code: The images we upload to Instagram and the apps we use to edit them both share the same fundamental DNA: binary code. We generally understand that 1s and 0s are at the heart of all things digital, but rarely can we imagine how the most complex systems ever created in human history can really be the product of a series of "bits." When we learn what code really is and how to write it, we unlock the ability to create the world everyone else lives in.

Computers: The machines of the Industrial Revolution were single-purpose; one might print newspapers while another transports cargo. The machines of the Digital Revolution are general-purpose, analytical engines that can record, process and create. We carry small ones in our pockets and interact with massive ones over the Internet. Siri, Alexa, Watson. Today we don't just program them; these machines learn.

The Internet: Artists Julian Oliver and Danja Vasiliev define the Internet as, "a deeply misunderstood technology upon which we increasingly depend." Author Virginia Heffernan considers it to be "the great masterpiece of human civilization." The global scale of the collaboration mirrors it's physical size. Yet, when asked to imagine the Internet, many of us see "the cloud," when in reality most of the physical Internet lies quietly on our ocean floors.

Digital Ecology

Online Communities: In 1968, when the first two computers came online and before "online" meant anything to anyone, two of the Internet's founding fathers wrote, "life will be happier for the online individual because the people with whom one interacts most strongly will be selected more by commonality of interests and goals than by accidents of proximity." In 1973 email was the "killer app"; today it's social media. From BBSs (Bulletin Board Systems) to subreddits, the Internet has always been about community.

Participatory Culture: The web is a composition of “user-generated content.” Online culture is crowd-sourced and open-source: from ASCII/ANSI Art to net.art to fan art to sharing your daily stories. “Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain.” (Richard Dawkins)

the Deep Web: It’s been estimated that Google only indexes about 16% of the web, and over 90% of the Internet is inaccessible to most of us. Sometimes behind “paywalls,” other times operating as “hidden services,” the darkest corners of the Internet are lawless uncharted territories which the majority of users never visit and rarely know exists.

Digital Politics

Piratical Practices: “The act of creation is surrounded by a fog of myths. Myths that creativity comes via inspiration, that original creations break the mold, that they are the products of geniuses, and appear as quickly as electricity can heat a filament. But creativity isn’t magic. It happens by applying ordinary tools of thought to existing materials, and the soil from which we grow our creations is something we scorn and misunderstand even though it gives us so much, and that’s copying. [...] the interdependence of our creativity has been obscured by powerful cultural ideas, but technology is now exposing this connectedness. [Today] we’re struggling legally, ethically and artistically to deal with these implications.” (Kirby Ferguson)

Access: It’s rare for many of us to ever find ourselves without Internet, yet only a little more than half the planet has access to the Internet. For those on the favorable side of this “digital divide” the data does not always flow “neutrally.” Access can often be restricted, censored, tiered and/or inconsistent. This inequality is leading to dire social consequences.

Diversity: The first computer designs were steam powered and the first person to describe how to program these steampunk machines was Ada Lovelace, a woman. During WWII, Allied messages were encrypted by Navajo Code Talkers. Nazi messages were cracked most famously by Alan Turing, one of the fathers of modern computing and a gay man. In NASA’s earliest days, computation was done by human “computers,” almost exclusively black women like Dorothy Vaughan, who later would be among the first to program the first electronic computers. Despite this diverse history, today the majority of those studying and working in computers are white, able-bodied men.

Privacy: “A society in which people can be monitored at all time, is a society that breeds conformity and obedience and submission, which is why every tyrant, [from] the most overt to the most subtle, craves that system. Conversely, even more importantly, it is a realm of privacy, the ability to go somewhere where we can think and reason and interact and speak without the judgmental eyes of others being cast upon us, in which creativity and exploration and dissent exclusively reside.” (Glenn Greenwald)

Artificial Intelligence: We've been producing machines that imitate people long before computers. For most of computer history we've written rules for imitating intelligence, which is to say we've *programmed* AI: *if* this happens, *then* do that. Today, however, we *train* AI through a process called "machine learning." These Artificial Neural Networks were designed in the 1970s, but were not realized until recently because of the immense amount of data and processing power required to train one. Thanks to the demands of graphics-hungry gamers and the deep reservoirs of data mined by social media companies, today we are inching exponentially closer to the "singularity."

// Materials

You are required to bring your laptop to class, we'll be using it for nearly every workshop. On that computer you need to download and install the git utility (<https://git-scm.com/>) and Atom (<https://atom.io/>) a free and open-source code editor. Additionally, you need to create an account on <https://github.com/>, a website used by developers to collaborate on code projects. If you are new to github, I would recommend creating an account with your SAIC email so that you can apply for the <https://education.github.com/pack>.

There is also a required text from which I will assign most of the class readings:

**[100 Ideas that Changed The Web](#), by Jim Boulton
Published by Laurence King Publishing (August 19, 2014)
ISBN# 9781780673707**

// Assignments

Readings

As mentioned above, nearly every week there will be readings assigned from the book *100 Ideas that Changed the Web* occasionally accompanied by additional online articles and/or online videos. The readings will function as a starting point for further research. Accompanying each reading assignment will be a set of questions or prompts to guide your

research. The answers to these questions will be documented (submitted) weekly on your github account.

Code Experiments

Throughout the semester you will be creating code experiments. **The Goal** of these experiments is to consider more deeply what it means to have a "presence" online, to critically examine aesthetic conventions on the web and to experience the process of coding something from scratch, not in the interest of becoming expert coders, but instead to provide context and perspective for the course's larger digital literacy goals.

To this end, we will be learning to code throughout the semester in class workshops. You will be using the skills learned in these workshops to create these experiments. You will be hosting some of your experiments on your [github](#) account, others will be submitted directly to the class website using the class's code playGround.

Idea No. 101

As mentioned earlier, we will be reading *100 Ideas that Changed the Web* throughout the semester. The book was published in 2014, which is quite a while ago in "Internet years", so as we read and research the "Ideas" in the book we will also be keeping up with the news and researching the latest developments in this area. Throughout the semester you will be working on a studio project informed by this research which will culminate in documentation taking the form of a speculative next chapter in the book: Idea No. 101. You will be working on this project in phases guided by a set of research and documentation assignments assigned throughout the semester.

The final version of your project will be due the last day of class which is also the day we will be having our final critiques. Your project will be submitted via github and will take the form of a new chapter in *100 Ideas that Changed the Web*. We will be reviewing examples beforehand in the classes leading up to the final, but in short this means you will be producing documentation of your *research*, *process* and *finished project* and accompanying it with writing about the technological topic (Idea No. 101) that your piece is in conversation with, written in the same style (and same length, ~500 words) as in the book.

* see [class website](#) for updated due dates, these may vary based on class progress

// Attendance Policy

SAIC policy states that students are expected to attend all classes regularly and on time. **If the student misses a class for other than a reasonable cause the student will fail the class.** If a student needs to miss class with reasonable cause, it is the student's responsibility to contact the professor before the date of the class being missed to receive instruction for how to make up for the missed class. **If a student misses MORE than three (communicated and excused with reasonable cause) classes, the student will fail the class.**

If a student arrives to class more than **15 minutes after 9am or leaves more than 15 minutes before 4pm** it will be considered an excused **half absence**.

Reasonable cause to miss a class might include:

- Illness or hospitalization (the student should contact Health Services, who will relay information to the faculty in whose class the student is enrolled)
- Family illness or death (the student should also contact their academic advisor, who can relay information to all faculty)
- professional opportunities (should be communicated to the professor & approved ahead of time)

// Accommodations for Students with Disabilities

SAIC is committed to full compliance with all laws regarding equal opportunities for students with disabilities. Students with known or suspected disabilities, such as a Reading/Writing Disorder, ADD/ADHD, and/or a mental health condition who think they would benefit from assistance or accommodations should first contact the [Disability and Learning Resource Center \(DLRC\)](#) to schedule an appointment. DLRC staff will review your disability documentation and work with you to determine reasonable accommodations. They will then provide you with a letter outlining the approved accommodations for you to deliver to your instructors. This letter must be presented before any accommodations will be implemented. You should contact the DLRC as early in the semester as possible. The DLRC is located within the Wellness Center on the 13th floor of 116 S Michigan Ave. and can be reached via phone at 312.499.4278 or email at dlrc@saic.edu.

// Plagiarism

Academic misconduct includes both plagiarism and cheating, and may consist of: the submission of the work of another as one's own; unauthorized assistance on a test or assignment; submission of the same work for more than one class without the knowledge and consent of all instructors; or the failure to properly cite texts or ideas from other sources. Academic misconduct also includes the falsification of academic or student-related records, such as transcripts, evaluations and letters of recommendation. Academic misconduct extends to all spaces on campus, including satellite locations and online education. Academic integrity is expected in all coursework, including online learning. It is assumed that the person receiving the credit for the course is the person completing the work. SAIC has processes in place, including LDAP authentication, to verify student identity.

// CP Classroom Storage

Students' materials (defined as supplies, works-in-progress, and finished artworks) should not be stored in Contemporary Practices classrooms. If students absolutely need to store their materials in a CP classroom, they must adhere to the Bag & Tag Policy as outlined below. **BAG & TAG POLICY:** ALL materials (supplies, works-in-progress, and finished artworks) stored in the CP classrooms require a bag and tag at all times. Bags and tags are available for free in the CP Office (Sharp 318). HOW TO STORE YOUR MATERIALS:

- Get a stamped storage TAG and a clear BAG from the CP Office.
- Complete tag with all requested info. Please write legibly!
- Bundle ALL materials and put them into the bag.
- Tape your tag to the INSIDE of your bag. Make sure that all info is visible and readable!
- Store the bag in a designated storage area (registered lockers, shelves/cubbies, and yellow floor zones**)
- If your materials do not fit in a bag or in a designated storage area, you are required to speak with your CP faculty and visit the CP Office (Sharp 318) to discuss possible storage solutions.
- Warning: If your materials are not properly bagged and tagged, they will be removed from the classroom and thrown away. The Department will not be responsible for the loss of materials that are not properly bagged and tagged.