HUM 380.02: Digital Labor
Professor Hicks
Fall 2015
Wed 5:00-7:40
Alumni Memorial Hall 222
Illinois Institute of Technology

Operating and programming early computers in the UK (Powers Samas Magazine, 1957 & ICT Data Processing Journal, 1964)

IBM's Watson Computer, c. 2013 (ibm.com) and Paro, a therapeutic robot designed in Japan, c. 2013 (nyt.com)

Mining for precious metals and other minerals used in electronic devices in Watsa, DRC (National Geographic, 2013)
Preparing outgoing shipments at Amazon Fulfillment Warehouse in Nevada, USA (wired.com, 2015)
Foxconn workers manufacturing electronics inYantai, China (Times of London, 2012)

Course Description:

What is digital labor? Since the mid-twentieth century, labor forces have radically changed in relation to new digital, electronic computing technologies. Perhaps the clearest example of this change is the evolution of computer programming as a respected and highly paid profession. But those who work directly with computers are not the only ones affected. As computerized systems have steadily reorganized aspects of society and the economy, the idea of what counts as labor has changed.

This course introduces you to historical and contemporary issues in the history of technology to explore how our national and global workforces are shaped by digital, electronic technology. We will look at everything from electronic codebreaking during World War II to present-day struggles over net neutrality. We will also look at the "hidden labor" behind our digital technologies, from hardware's origins in African mines and Chinese factories, to the strenuous manual and psychological labor hidden in the back ends of many ubiquitous online services. Throughout, we will look at how seemingly unrelated changes share a common history.

Readings must be completed for the day that they are listed. There may be unannounced reading quizzes to ensure that everyone is keeping up. Readings will be on reserve on our Blackboard site, or linked from the syllabus.

Your grade in this course will be comprised of:
Class participation and attendance, including quizzes and in-class exercises: 25%
Small Projects: 25%
Midterm: 25%
Final Project 25%

Resources that you will be expected to use in this class include the databases linked from Galvin Library's History Research Guide: http://guides.library.iit.edu/content.php?pid=114040&sid=986140. Contact Nichole Novak (nnovak2@iit.edu), the humanities librarian, for further help with these resources.

You can get help with improving your writing at the **Humanities Department Writing Center** located in Siegel 232-233. I highly recommend this resource to everyone in the class, regardless of whether or not English is your first language: http://www.iit.edu/csl/hum/resources/writing_center.shtml

Reasonable accommodations will be made for students with verified disabilities. In order to access these resources or get special provisions in class you must register with Aggie Niemiec aniemiec@iit.edu in the Disability Service Office (312 567.5744 or disabilities@iit.edu) at the **beginning of the semester** and you must **speak with me at the beginning of the semester** as well so we can plan for the needed accommodations.

Cheating, plagiarism, and academic dishonesty are serious offenses and will not be tolerated. They will result in a failing grade on the assignment and possibly in the course (at my discretion) and the University will levy sanctions as well. If you are in doubt about what constitutes plagiarism or academic dishonesty, re-read the code of student conduct and sections on academic dishonesty in the student handbook: http://www.iit.edu/student_affairs/handbook/pdfs/handbook_fy13.pdf (page 27).
If you are still confused, speak with me **before** you pass in an assignment. Remember that it is *never* appropriate to use someone's ideas or words without giving them credit, and that copying text from sources or peers--in addition to being plagiarism and cheating--short-circuits the learning process and is the exact opposite of what I want to see.

Class Schedule:

Aug 26
Class 1: What is Digital Labor?
Read in class:
"Utah Considers Cutting Off Water to the NSA's Monster Data Center" in Wired, November 2014
http://www.wired.com/2014/11/utah-considers-cutting-water-nsas-monster-data-center/

Sept 2
Class 2: Can Digital Labor Win a War?
Readings:
M. Hicks, "War Machines: Women's Computing Work and the Underpinnings of the Data-Driven State 1930-1946" from *Compiling Inequalities: Gender, Technocracy, and the Computerization of Britain, 1930-1979* (MIT Press, forthcoming). (Chapter is on Blackboard—Please note, from here on out, anything listed on the syllabus that does not have a web link or give a source will be stored on Blackboard in the "Course Documents" section of our class.)
"Do you know what a 'Pip squeak' was?" from BT.com (British Telecom)
http://home.bt.com/news/bt-life/history-of-bt/do-you-know-what-a-pip-squeak-was-11363997864072#.VdG6Yp5kZ30.twitter

(Extra, non-required reading if you are interested in learning about the U.S. side of WWII era computer workers: Jennifer Light's article on the ENIAC women, "When Computers Were Women," *Technology and Culture* , 1999. You can find it in JSTOR, through the library's website.)

Sept 9
Class 3: Theories of Labor and Technology
Librarian Visit—presentation on good research practices
Readings:
U. Huws, "Labor in the Global Digital Economy," Chapter 1
B. Latour, "Where are the Missing Masses"
N. Balabanian, "On The Presumed Neutrality of Technology"
Article Exercise: Using insights from the three articles you've read for today, find one current news article (from within the past 3 years) that relates in some way to an idea from the readings that you'd like to discuss in class. Write a short essay (no more than 500 words) explaining the link between your article and one of the articles above. Discuss how your news article illustrates or builds on one of the points made by Huws, Latour, or Balabanian. (Due at the beginning of class, September 16th)

Sept 16
Class 4: Connecting Theory to Practice
Bring your article and essay to class, be prepared to discuss the readings from last class as well as your essay

Sept 23
Class 6: The Work We Do for Machines
Guest Lecture, Sarah Roberts (University of Western Ontario)
Readings:
Adrian Chen, "The Internet's Invisible Sin-Eaters," *The Awl* October 2014
Interview: http://www.theawl.com/2014/10/the-internets-invisible-sin-eaters
S. Roberts, "Commercial Content Moderation: Digital Laborers' Dirty Work," in *The Intersectional*
        Internet: Race, Sex, Class and Culture Online.
 "How Crowdworkers Became the Ghosts in the Digital Machine"
www.thenation.com/article/how-crowdworkers-became-ghosts-digital-machine
New York Times "Inside Amazon," August 2015
http://mobile.nytimes.com/2015/08/16/technology/inside-amazon-wrestling-big-ideas-in-a-bruising-workplace.html?_r=0&referrer=
Mother Jones, "I Was a Warehouse Wage Slave," April 2012
http://www.motherjones.com/politics/2012/02/mac-mcclelland-free-online-shipping-warehouses-labor

Sept 30
Class 6: The Work Machines Can Do For Us
Watch Clip from *Moon* in Class
Readings:
S. Turkle, Chapter 6 from *Alone Together*
"Will The Internet of Things Result in Predictable People (Reverse Turing Test)," *The Guardian*, August 2015
http://www.theguardian.com/technology/2015/aug/10/internet-of-things-predictable-people
See Turing's original 1950 paper, in which he lays out the Turing Test, here:
http://phil415.pbworks.com/f/TuringComputing.pdf
ACLU Stop and Frisk App:
https://www.aclu.org/blog/stop-and-frisk-watch-keep-tabs-nypd-your-smart-phone
https://www.aclu.org/issues/racial-justice/race-and-criminal-justice/racial-profiling
http://www.nyclu.org/content/nyclu-campaign
"Hackers Remotely Kill a Jeep on the Highway—With Me in It," *Wired* July 2015:
http://www.wired.com/2015/07/hackers-remotely-kill-jeep-highway/

Oct 7—No Class Today, but use this time to catch up on readings, review for midterm, and do the thought exercise below:
In the next 24 hours, do one thing that does not involve digital labor anywhere in the supply chain. And, write down as many things that you can think of that you did in these 24 hours that *did* involve digital labor. You do not need to pass anything in, but I suggest you write down your findings so that you will be prepared to talk about them in class. This is a mental exercise to help you review all the things we've talked about so far. I may offer you an extra credit question on the midterm based on this thought experiment.

Oct 14
Class 7: When Culture Collides with Computing: The Inequities in Algorithms
Readings:
Matthew Kay, Cynthia Matuszek, and Sean A. Munson, "Unequal Representation and Gender Stereotypes in Image Search Results for Occupations," *CHI 2015 Proceedings*:
http://dub.washington.edu/djangosite/media/papers/unequalrepresentation.pdf
Amit Datta, Michael Carl Tschantz, and Anupam Datta "Automated Experiments on Ad Privacy Settings, A Tale of Opacity, Choice, and Discrimination" in *Proceedings on Privacy Enhancing Technologies*. Volume 2015, Issue 1, Pages 92–112.
http://www.degruyter.com/dg/viewarticle.fullcontentlink:pdfeventlink/$002fj$002fpopets.2015.1.issue-1$002fpopets-2015-0007$002fpopets-2015-0007.pdf?t:ac=j$002fpopets.2015.1.issue-1$002fpopets-2015-0007$002fpopets-2015-0007.xml or http://arxiv.org/pdf/1408.6491v2.pdf
"Algorithms and Bias: Q. and A. With Cynthia Dwork," *NYT,* August 2015
http://www.nytimes.com/2015/08/11/upshot/algorithms-and-bias-q-and-a-with-cynthia-dwork.html?abt=0002&abg=1

Oct 21
Class 8: When Culture Collides with Computing , part 2
Brief Midterm Review (2nd half of class)
Final Project Assigned
Readings:
Sweeney L. "Discrimination in online ad delivery," *Communications of the ACM*,
2013; 56(5): 44-54.
http://poseidon01.ssrn.com/delivery.php?ID=139127066017103029008108116006022069054036085052058061088102006088115112095084030004098048016023118004125084027071127119118092023007070001017091013079118013071083123008089003087095024073120026073031118066099098109002017122109074106116122086070114089&EXT=pdf&TYPE=2
John Blake, "Racism without Racists" CNN November 2014:
http://www.cnn.com/2014/11/26/us/ferguson-racism-or-racial-bias/
Bonilla, Chapter from "Racism without Racists":
https://anth1001.files.wordpress.com/2014/04/eduardo_bonilla-silva_racism_without_racists_color-blind_racism_and_the_persistence_of_racial_inequality_in_the_united_states_2nd_edition__2006.pdf
or:
http://cooley.libarts.wsu.edu/schwartj/pdf/bonilla.pdf

Oct 28
Class 9: MIDTERM EXAM in class

Nov 4
Class 10: The Telecommunications Infrastructure That Structures Labor
Selections from *Who Controls The Internet*

Nov 11
Class 11: Who Controls the Internet, continued
Readings:
Selections from *Who Controls The Internet*
Net Neutrality "Publication of New Internet Rules to Prompt Cheers and Challenges"
By Rebecca R. Ruiz April 5, 2015
http://bits.blogs.nytimes.com//2015/04/05/publication-of-net-neutrality-rules-to-prompt-cheers-and-challenges/
Articles in folder marked "Class 11" on Blackboard
Guest Lecture in 2nd half of class: A network attached storage device programmer will speak to us about the infrastructure of the internet

Nov 18
Class 12: Your Choice
Assignment: Bring in one article on a topic of your choice. Write a short essay (no more than 200 words) on how your article relates to the course and what new questions or issues it brings up that you would like to talk about. Be prepared to share your thoughts with classmates.
Readings:
 "AT&T Helped U.S. Spy on Internet on a Vast Scale," *NYT*, August 2015
http://www.nytimes.com/2015/08/16/us/politics/att-helped-nsa-spy-on-an-array-of-internet-traffic.html?action=click&contentCollection=U.S.&module=MostPopularFB&version=Full&region=Marginalia&src=me&pgtype=article&assetType=nyt_now
Julia Kirby, "An Inside Look at Facebook's Approach to Automation and Human Work," *Harvard Business Review* June 12, 2015
https://hbr.org/2015/06/an-inside-look-at-facebooks-approach-to-automation-and-human-work

Nov 25—NO CLASS: THANKSGIVING BREAK

Dec 2: Summation
Class 13
Final Projects due at beginning of class
Readings:
In folder marked "final class" on Blackboard