

HSTAA 317: HISTORY OF THE DIGITAL AGE

Professor Margaret O'Mara
Department of History
University of Washington
Winter 2025

Lectures: MW 10:00-11:20 - Raitt Hall 121

Sections: F 8:30-9:20 (MGH 082A), 9:30-10:20 (LOW 222), or 12:30-1:20 (PAB B164)

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Office hours: M 12:00-1:00 and Th 11:00-12:00

Welcome! This is an upper-level undergraduate lecture course on the history of America's digital age, tracing the evolution of the computer hardware and software industries from the Manhattan Project and mainframes of the 1940s to the social media and software giants of today. We'll explore the historical origins of American technology companies and regions, trace the impact of digital technologies on global business and society, unearth the human stories and political histories behind digital tech, and historicize and contextualize today's debates about digital technologies and platforms.

This is a class for students who build, study, or use digital technology—in short, everyone. No prerequisites required.

Learning goals:

- Understand the key public- and private-sector catalysts of industrial development in the technology sector;
- Situate technology's history within broader developments in modern American history;
- Critically assess, and contest, common narratives about the technology industry, digital technology, and the people who lead and work in that industry; and
- Demonstrate in-depth knowledge of the historical context of data and digital data production, and understand data as a product of that social context.

Readings:

All required course texts are electronic and available via Canvas. You will be asked to rent two streaming films, which you are welcome to watch together with class colleagues and share the expense, or the popcorn. Expect to read 75-100 pages per week (or

multimedia sources that take approximately the same amount of time to consume). To read, make sure you are signed into your computer with your UWNet ID.

A resource that may be useful for general reference and chronology over the course of the quarter is the Computer History Museum's online exhibition featuring various [timelines of computer history](#).

Assignments:

- 1) **Class engagement:** consistent and active quiz section participation and associated assignments, attention and engagement in lectures and post-lecture Q&A, timely and consistent submission of ungraded homework assignments. (20 points)
- 2) **Five discussion posts:** 400- to 500-word discussion posts on additional short reading, to be posted on Canvas on Fridays by 11:59PM. You choose the weeks you want to post. See Canvas for full assignment details. (5 points per post, for 25 points total)
- 3) **Midterm exam:** 80-minute, closed-book written exam of original essays on lecture/reading content from the first six weeks of the quarter, taken in person during class time Wednesday, February 19. See Canvas for full assignment details. (20 points)
- 4) **Final mini exam:** 40-minute, closed-book written exam of original essays on lecture/reading content from the last four weeks of the quarter, taken in person during quiz section Friday, March 14. See Canvas for full assignment details. (10 points)
- 5) **Final research project:** on a topic of your choosing that relates to the history and evolution of the digital age, and/or historicizes a current digital phenomenon. You choose the format:
 - a footnoted paper of 1250-1750 words (8-12 double-spaced pages) in length;
 - a scripted podcast of 15 minutes or less;
 - a video presentation;
 - a web page;
 - an app, program, or widget;
 - a visualization, photodocumentary, or another piece of visual art.Whatever its form, it should make an argument based on primary and secondary sources, and should include a written bibliography or running credits. Proposal is due on Canvas on Friday, February 28 (5 points). Final project is due on Canvas Wednesday, March 19 (20 points). See Canvas for full assignment details.

Week One: Before the Digital Age

M 1/6: Thinking historically about digital tools and data

W 1/8: The pre-1940 information economy

READ

- 1) Nathan Ensmenger, "[The Environmental History of Computing](#)"
- 2) Stephan B. Adams, "[Arc of Empire](#)"

GOAL-SETTING

Send an email to instructor and TA by Friday 1/10 at 5PM, subject line "*HSTAA 317 GOAL SETTING*," telling us three things:

- 1) Your academic interests and/or major(s) and minors(s).
- 2) One or more things you are interested in learning about in this class.
- 3) One goal you have for the next three months – academic, professional, personal, anything – that you'd like to share with us as a way of our getting to know you better (and, if relevant) supporting you in reaching that goal.

POST

Read [the short entry on IBM](#) in the *Historical Encyclopedia of American Business*. Then explore [The Songs of the IBM](#), a corporate songbook used from the 1920s to the 1970s in IBM company meetings (this edition is from 1937). Write a discussion post (noting particular examples of songs and lyrics) on what this primary source tells you about IBM's corporate culture, organizational structure, and priorities of its executives c. 1937. What purpose does the songbook seem to serve? What does this tell you about the company and about the pre-1940 technology business generally? What might be an analogous practice or feature in corporate America today?

Week Two: The Bomb and Big Science

M 1/13: The Manhattan Project

W 1/15: The US government and American science

WATCH

- 1) "[I am Become Death: They Made the Bomb](#)" (1995, 56 minutes)

READ

- 1) Harry Truman, "[Statement by the President Announcing the Use of the A-Bomb at Hiroshima](#)"
- 2) Dwight Macdonald, "[The Bomb](#)"
- 3) Vannevar Bush, [Science, The Endless Frontier](#) (1945), pp. 1-42.

POST

In the same year that he wrote the report to the president on science that you are reading this week, Vannevar Bush also published an essay in *The Atlantic* magazine titled "[As We May Think](#)." In it, he proposed an information system he called the Memex, a mechanical device that would serve as something of a mega-library to sort and organize all the world's knowledge. While such a mechanical device was never built, the essay gained later fame after the development and commercialization of the internet, whose nonhierarchical organization and use of hyperlinks echoed the system that Bush proposed here. Read the article and write a discussion post (quoting or paraphrasing salient passages of the text) that assesses Bush's approach to organizing the world's

information, bringing in also what you learned from this week's reading about American attitudes towards technology and the uses and notions of "progress" at the close of World War II. How has today's digital information environment realized the ideas and predictions that Bush lays out here? How has it failed to live up to the Memex's potential? What did Bush get right about the future, and what did he miss?

Week Three: Loving and Fearing "The Electronic Brain"

M 1/20: MLK DAY – NO CLASS

W 1/22: The mainframe era

WATCH

- 1) ["Remington Rand Presents the Univac"](#) (1952; 17 min)

READ

- 1) Jennifer Light, "[When Computers Were Women](#)"
- 2) Sarah E. Igo, "The Record Prison," Chapter Six of [The Known Citizen: A History of Privacy in Modern America](#)
- 3) "[The Computer and Invasion of Privacy](#)," July 1966 – read opening statement of Rep. Cornelius Gallagher (pp. 1-4) and testimony of Paul Baran (pp. 119-128)

POST

Watch [Desk Set](#), a 1957 film starring Katherine Hepburn and Spencer Tracy. The plot revolves around the arrival of a mainframe computer in a corporate library that threatens to displace its team of human librarians (and comic and romantic antics ensue). Post a short commentary on the film, its strengths and weaknesses, and how it relates to and builds upon what we have learned thus far in class. How does the film reflect (or not reflect) the gender dynamics and concerns about privacy and identity covered in this week's readings? How does the response of these fictional characters to the arrival of a new technology compare and contrast to the way new technologies (for example, large learning models like ChatGPT and other advanced AI applications) are being discussed and debated today? Along with this general commentary on the film as a whole, identify your favorite scene, and tell us why it's interesting.

Week Four: White Places, Tech Spaces

M 1/27: How Silicon Valley came to be

W 1/29: The first startups

READ

- 1) Scott G. Knowles and Stuart W. Leslie, "["Industrial Versailles": Eero Saarinen's Corporate Campuses for GM, IBM, and AT&T](#)," *Isis* 92: 1 (March 2001), pp. 1-33
- 2) Leslie Berlin, "[Robert Noyce, Silicon Valley, and the Teamwork Behind the High-Tech Revolution](#)," *OAH Magazine of History*, Jan. 2010, pp. 33-36
- 3) Kim-Mai Cutler, "[East of Palo Alto's Eden: Race and the Formation of Silicon Valley](#)," *TechCrunch* (January 2015)

- 4) Lisa Nakamura, "[Indigenous Circuits: Navajo Women and the Racialization of Early Electronics Manufacture](#)," *American Quarterly*, Dec. 2014, pp. 919-941

POST

Through online searching, find two primary sources (image/film/text, from a credited and credible source) from the 1950s or early 1960s, one a representation of suburban life, a second a representation of American science and technology. (Some places to start might be the online archives of [LIFE](#) magazine or the many YouTube clips of the 1950s television program [Disneyland](#).) How do these sources reflect and project ideas of race and gender in the places and institutions that nurtured the early technology industry? How do they help us understand and potentially remedy today's underrepresentation of female-identifying and Black and Latino employees in tech, particularly in engineering and managerial roles? In your post, be sure to include the images and a link to where you found them.

Week Five: From Moonshots to Hippies

M 2/3: The space race and the origins of the internet

W 2/5: The Vietnam generation pushes back

WATCH

- 1) [Dr. Strangelove](#) (1964) – watch on the streaming service of your choice or join the class screening on Wednesday Feb. 5 at 4PM in Allen Auditorium on the Ground Floor of Allen Library North.

READ

- 1) "[Cyberculture and Girls](#)," Talk of the Town, *The New Yorker* (1964)
2) Arthur Daemmrich, "[Spacewar: Collaborative Coding and the Rise of Gaming Culture](#)"
3) Stewart Brand, "[SPACEWAR: Fanatic Life and Symbolic Death Among the Computer Bums](#)," *Rolling Stone*, December 1972
4) Meredith Broussard, "[People Problems](#)," Chapter 6 of *Artificial Unintelligence: How Computers Misunderstand the World* (2018)

POST

Stewart Brand, whose *Rolling Stone* article you read this week, was also the mastermind behind the *Whole Earth Catalog*, an encyclopedic compendium of resources for back-to-the-land living that became a foundational document of Silicon Valley's techno-utopian culture. Steve Jobs later called it "[Google in paperback form, thirty-five years before Google came along](#)." Browse [the first issue of the Catalog \(Fall 1968\)](#) and write a post that analyzes the ideas about society, conformity, and self-sufficiency expressed within. Taking into account what you have learned thus far in this class, discuss how the document reflects the Baby Boom generation's emerging attitudes toward modern American society and the role of technology in that society. Identify one or two items in the *Catalog* that seem particularly interesting or curious to you, and discuss why Brand might have chosen to include them.

MID-QUARTER CHECK-IN

Send an email to instructor and TA by Friday 2/7 at 5PM, subject line “*HSTAA 317 CHECK-IN*,” telling us two things:

- 4) How you feel you’ve done in class thus far, assessing strengths and weaknesses, and outlining your goals for the remainder of the quarter.
 - 5) One thing you’ve learned in this course so far that you have been able to apply in another class, or that’s helped you better understand or contextualize what’s in the news.
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Week Six: The Computer Becomes Personal

M 2/10: The hobbyists and homebrewers

W 2/12: The personal computer moves in

WATCH

- 1) [The Mother of all Demos](#), December 1968
- 2) [Steve Jobs introduces the Macintosh](#), January 1984 (watch the first 15 minutes)

READ

- 1) Margaret O’Mara, Ch 10 “Homebrewed” and Ch 11 “Unforgettable” from [The Code: Silicon Valley and the Remaking of America](#)
- 2) Kevin Driscoll, “Computerizing Hobby Radio,” Chapter Two of [The Modem World](#)

POST

Explore the archives of [BYTE Magazine](#) (part of the Computer Magazine Archives hosted by the Internet Archive). Browse through 2-3 issues, choosing one from early volumes (1975-77), and 1 or 2 from later years. To make this easier, sort the collection by date published, which will place the issues in descending order from most recent to older. Based on your browsing of both articles and advertising, write a discussion post answering the following questions, providing evidence and examples. Please note the volume/issue numbers referenced and feel free to add screenshots or visuals.

1. How does the look and tone of earlier issues contrast with later ones? What can this tell us about the evolution of the personal computer industry?
2. Who seems to be the target audience and market? Does this change over time?
3. What is one ad or article that you find particularly interesting, and why?

Week Seven: Wargames

M 2/17: PRESIDENTS’ DAY – NO CLASS

W 2/19: Midterm examination

There will be Friday discussion section this week. Come to section prepared to discuss the film and article assigned below.

WATCH

- 1) [WarGames](#) (1983)—watch on a streaming service of your choice or join the class screening on Wednesday Feb. 19 at 4PM in Allen Auditorium on the Ground Floor of Allen Library North.

READ

- 1) Stephanie Ricker Schulte, "[The WarGames Scenario](#)," in *Cached: Decoding the Internet in Popular Culture* (2013)

POST

Watch [Ronald Reagan's address announcing the Strategic Defense Initiative](#), March 1983 (29 min). What case is he making to his audience? How does his rhetoric compare and contrast with earlier sources we've examined from earlier in the Cold War? Reagan was known as "The Great Communicator." How does this speech support that characterization?

Week Eight: The dot-com boom

M 2/24: The commercial internet

W 2/26: Digital utopias and dystopias

F 2/28: Final project proposal due on Canvas 11:59PM.

WATCH

- 1) [Bill Clinton and Al Gore at Silicon Graphics](#), 1993 (start around min 11:00, go until around 23:00)
- 2) "[Yahoo! Jerry and Dave's Excellent Venture](#)" (1997, 32 min)
- 3) [Jeff Bezos on 60 Minutes](#) (1997, 13 min)

READ

- 1) Fred Turner, "[How Digital Technology Found Utopian Ideology: Lessons from the First Hackers' Conference](#)"
- 2) Mitchell Kapor, "[Where is the Digital Highway Really Heading?](#)" *Wired* (1993)
- 3) John Perry Barlow, "[A Declaration of the Independence of Cyberspace](#)" (1996)

POST

Read John Heilmann's WIRED cover story on the warring tech policy visions of Vice President Al Gore and Speaker of the House Newt Gingrich, "[The Making of the President 2000](#)." Write a post outlining the two approaches toward technology and government regulation of it offered by the two men (and the parties they helped lead at the end of the 1990s). What about these visions is similar to the policy proposals being offered today by the White House, Congress, and Democratic and Republican politicians? What did the policy debates of the 1990s not anticipate about the internet economy, and what does this article explain to you about why comprehensive tech regulation has been so difficult to enact in the years since?

Week Nine: Global Silicon Valleys

M 3/3: Immigration and globalization of the American tech industry

W 3/5: Search, social, mobile, and the cloud

LISTEN

- 1) [The Ghostworkers Behind the Tech Industry, featuring Mary Gray](#), *Innovation for All Podcast* (2020)

READ

- 1) Margaret O'Mara, Ch 22 "Don't Be Evil," and Ch 23 "The Internet is You," from [The Code: Silicon Valley and the Remaking of America](#)
- 2) Marc Andreessen, "[Why Software is Eating the World](#)," *The Wall Street Journal* (2011)
- 3) Marc Andreessen, "[The Techno-Optimist Manifesto](#)" (2023)

POST

Search out a city or region, anywhere in the world, that at one time or another called itself "Silicon ____." Find out what you can about this place and its high-tech ambitions, and whether they were realized. Write a microhistory with relevant links that introduces your class colleagues to this Silicon Something.

Week Ten: Big Tech and beyond

M 3/10: The age of AI

W 3/12: The digital age past, present, future

F 3/14: Final mini-exam to be held during quiz section

NO READING OR POST THIS WEEK

FINAL PROJECT due Wednesday of Exam Week, March 19, on Canvas by 11:59PM

Class policies, grade scale, and more can be found on the HSTAA 317 Canvas site.



DEPARTMENT OF HISTORY

UNIVERSITY *of* WASHINGTON

Faculty mailboxes are located in 318 Smith. T.A. mailboxes are located in Smith 315, but these boxes are not secure and are only available when the office is open, M – F, 8:30 – noon, 1 – 5. Papers, notes, etc. for T.A.s should instead be delivered to T.A. offices or given to T.A.s after class.

Covid-19 Recommendations and Resources

Guidelines for Covid: <https://www.ehs.washington.edu/covid-19-prevention-and-response/covid-19-illness-and-exposure-guidance>

Student Resources in Times of Need

We understand that with student life and possible health issues, there are emotional stresses and strains. We have compiled a list of helpful resources, and we encourage you to reach out to [our advisers](#), to your instructors, and to your peers for additional support. <https://history.washington.edu/student-resources-times-need>

Plagiarism & Academic Misconduct

Academic misconduct, such as unauthorized collaboration, cheating on exams, and plagiarism, is prohibited at UW and may result in disciplinary action. [Here is more information.](#)

Plagiarism is a form of academic misconduct at UW. It is defined as the use of creations, ideas, or words of publicly available work without formally acknowledging the author or source through appropriate use of quotation marks, references, and the like. Along with the University of Washington, the Department of History takes plagiarism very seriously. Plagiarism may lead to disciplinary action by the University against the student who submitted the work. Any student who is uncertain whether their use of the work of others constitutes plagiarism should consult the course instructor for guidance before submitting coursework. Disciplinary action on your school record can affect admission to graduate or professional schools.

The unauthorized use of artificial intelligence (AI), such as ChatGPT, can be academic misconduct at UW. We mean here tools that use AI and large language models to generate text or images, such as ChatGPT, GPT4, Bing Chat, and “Write with AI” in Google Docs. These are often prohibited by instructors in Department of History courses. The history department has a commitment to critical thinking and analysis. Different faculty have different positions about whether AI tools can be used in their classes, and about how they can be used. Make sure there are explicit instructions about this in your class. If not, please ask before using them. The unauthorized use of such tools can constitute academic misconduct and could result in disciplinary action.

Incompletes

An incomplete is considered only when the student has been in attendance and has done satisfactory work until within two weeks of the end of the quarter and has furnished proof satisfactory to the instructor that the work cannot be completed because of illness or other circumstances beyond the student's control.

Grading Procedures

Except in case of error, no instructor may change a grade that they have turned in to the Registrar. Grades cannot be changed after a degree has been granted.

Grade Appeal Procedure

A student who believes they have been improperly graded must first discuss the matter with the instructor. If the student is not satisfied with the instructor's explanation, the student, no later than ten days after their discussion with the instructor, may submit a written appeal to the Chair of the Department of History with a copy of the appeal also sent to the instructor. Within 10 calendar days, the Chair consults with the instructor to ensure that the evaluation of the student's performance has not been arbitrary or capricious. Should the Chair believe the instructor's conduct to be arbitrary or capricious and the instructor declines to revise the grade, the Chair, with the approval of the voting members of their faculty, shall appoint an appropriate member, or members, of the faculty of the Department of History to evaluate the performance of the student and assign a grade. The Dean and Provost should be informed of this action. Once a student submits a written appeal, this document and all subsequent actions on this appeal are recorded in written form for deposit in a Department of History file.

Sexual Harassment

Sexual harassment is defined as the use of one's authority or power, either explicitly or implicitly, to coerce another into unwanted sexual relations or to punish another for their refusal to engage in sexual acts. It is also defined as the creation by a member of the University community of an intimidating, hostile, or offensive working or educational environment through verbal or physical conduct of a sexual nature.

*If you are being harassed, **seek help**—the earlier the better. You may speak with your instructor, your teaching assistant, History Undergraduate Advising, the Department's Director of Academic Services (Smith 315A) or the Chair of the Department (Smith 308). In addition, the Office of the Ombud (206 543-6028) is a University resource for all students, faculty and staff. Community Standards and Student Conduct Office (cssc@uw.edu) is a resource for students.*

Equal Opportunity

The University of Washington reaffirms its policy of equal opportunity regardless of race, color, creed, religion, national origin, sex, citizenship, sexual orientation, age, marital status, gender identity or expression, genetic information, disability, or status as a protected veteran. This policy applies to all programs and facilities, including, but not limited to, admissions, educational programs, employment, and patient and hospital services. An discriminatory action can be a cause for disciplinary action.

Religious Accommodations

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](https://registrar.washington.edu/students/religious-accommodations-request/) (<https://registrar.washington.edu/students/religious-accommodations-request/>).

Access and Accommodations

Your experience in this class is important to us. If you have already established accommodations with Disability Resources for Students (DRS), please communicate your approved accommodations to us at your earliest convenience so we can discuss your needs in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu. DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process

between you, your instructor(s) and DRS. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law.

Department of History Diversity Committee

The Department of History Diversity Committee initiates and facilitates an ongoing conversation about diversity, proposes measures to address institutional disparities, and also serves as a confidential resource for students, staff, and faculty who have concerns related to climate and diversity. Any member of the department's learning and working community may contact the committee with concerns and questions. <https://history.washington.edu/diversity-resources>

Standards of Conduct and Academic Integrity: (see WAC 478-121-020)

The following abilities and behavioral expectations complement the UW Student Conduct Code. All students need to demonstrate the following behaviors and abilities:

Communication: All students must communicate effectively with other students, faculty, staff, and other professionals within the Department of History. Students must attempt to express ideas and feelings clearly and demonstrate a willingness and ability to give and receive feedback. All students must be able to reason, analyze, integrate, synthesize, and evaluate in the context of the class. Students must be able to evaluate and apply information and engage in critical thinking in the classroom and professional setting.

Behavioral/Emotional: Students must demonstrate the emotional maturity required for the adequate utilization of intellectual abilities, the exercise of sound judgment, and the timely completion of responsibilities in the class. Further, students must be able to maintain mature, sensitive, and effective relationships with students, faculty, staff, and other professionals while engaging in the class and within the Department of History. Students must have the emotional stability to function effectively in the classroom.

Students must be able and willing to examine and change behaviors when they interfere with productive individual or team relationships.

Problematic behavior documented: Problematic behavior will be documented by the Department and if deemed appropriate forwarded on to Community Standards and Student Conduct. If a pattern of behavior or a single, serious lapse in the behavioral expectations becomes evident, the steps below will be followed so that the student is apprised of a warning indicating that the student's continuation in the class and/or major is in jeopardy. The student's instructor and/or appropriate program advisor or teaching assistant will document, either verbally or in writing, the concerning behavior and notify the student that they are receiving a warning. Notification of the warning will be forwarded on to the Chair of the Department and Student Conduct and Community Standards via email or in hard copy. The warning identifies what the concerning behavior was and that any further disruptions or concerning incidents will result in the student being asked to leave the class. When incidents occur that represent a significant impact to the program or its participants, students may be asked to leave immediately without prior warning.

Safety and Evacuation

Evacuation routes are posted throughout the building. In case of a fire, please evacuate and go to the evacuation assembly point, locations of which are posted on building walls. In case of a power outage or earthquake, please stay where you are and, for the latter, protect your head and neck. Students with disabilities which could impair evacuation should notify the instructor early in the quarter so accommodations can be made.

Concerns about a course, an instructor, or a teaching assistant

Instructors

If you have any concerns about the course or the instructor in charge of the course, please see the instructor about these concerns as soon as possible. If you are not comfortable talking with the instructor or not satisfied with the response that you receive, contact the Department of History's Director of Academic Services, Tracy Maschman Morrissey, in Smith 315A. If you are not satisfied with the response that you receive from Tracy, make an appointment with the Assistant to the Chair in Smith 308B to speak with the Chair.

TAs

If you have any concerns about the teaching assistant, please see them about these concerns as soon as possible. If you are not comfortable talking with the teaching assistant or not satisfied with the response that you receive, contact the instructor in charge of the course. If you are not satisfied with the response that you receive, you may follow the procedure previously outlined, or contact the Graduate School in G-1 Communications.

Rev. September 2024