

LMC 6650 Project Studio: Visualizing Computer History

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TSRB 316B

We know quite a bit about who first designed home computers, where they were built, and how much money was made. We know far less, however, about who used them, for what purposes, and just how vast the early home computer user base was. In this project studio, students will design and theorize emergent practices at the intersection of history, digital humanities and data visualization in order to explore this tension. Primarily focusing on a developing dataset from the early 1980s Apple II enthusiast magazine *Softalk* (which has a vast collection of letters-to-the-editor), students will consider how contemporary data techniques may be employed to engage traditional historical methodologies such as epistolary analysis, discourse analysis, and reception studies.

In doing so, we will produce designs which can visualize and revitalize the contributions of otherwise non-obvious historical actors, namely home computer users and consumers. The historical period in question will allow students to engage knowledge about early home computing hardware and software, including video games. Activities will include reading across the disciplines of computer and video game history, digital humanities, and data visualization; engagement with primary documents; and the conceptualization, planning and production of digital media visualizations.

Please note: Since this is a class dealing with historical events, the first 6 weeks of this course will involve an extensive quantity of reading to get everyone up to speed on the state of the computer industry in the 1980s.

Course Texts:

All readings will be provided as PDFs.

Evaluation

Course grades will be based on Participation (5%), Primary Document Analysis Short Papers (25%), Visualize ANYTHING Assignment (20%), and Final Project (50%).

Participation (5%)

At the graduate level, students are expected to show rigorous engagement with readings and course content within the context of class discussion. Participation also, generally, addresses arriving to class on time, with your readings and other necessarily materials.

Primary Document Analysis Short Papers (25%)

A core part of our learning objectives in this course is to understand the culture of home computer usage among the user base. To do that, one of our best resources is the magazine culture of the late 1970s and 1980s. For the first 6 weeks of class, students will be assigned to read a 3month run of a specific computer enthusiast magazine *in addition to course readings*. For 4 of those 6 weeks, students will submit 2 required elements for their short papers:

1. a short (700-word) analysis of that specific magazine *as a historical document*. In other words,

what can be derived about computer culture, user practices, and consumer values by analyzing the form and content of the magazine?

2. 2-3 images from magazines (screengrabs) that you think are especially interesting/relate to points in your paper. These will be primarily used to springboard discussions in class. You may, but are not required, to discuss them in your paper.

Paper must be turned in by midnight before class via T-Square (assignment posting will close at midnight). Papers turned in late can receive no more than 2 points (out of a possible 5). Papers more than a week late will not be accepted.

Some week's magazine readings are mandatory, others are left to individual discretion. A schedule:

- 8/30: *Softalk*: February 1981-April 1981 [REQ] <https://archive.org/details/softalkv1n05jan1981>
- 9/6: *Creative Computing*: Oct 1981-Dec 1981 [REQ] <https://archive.org/details/creativecomputing-1981-10>
- 9/13: Free Choice
- 9/20: *Computer Gaming World*: December 1983-April 1984 (bimonthly schedule) [REQ] <http://www.cgwmuseum.org/galleries/index.php?year=1983&pub=2&id=13>
- 9/27: *Softalk*: May 1983-July 1983 [REQ] <https://archive.org/details/byte-magazine-1982-02>
- 10/4: Free Choice

Options for Free Choice include:

- *Softalk*, any 3 month range
- *BYTE*, February 1982-April 1982 <https://archive.org/details/byte-magazine-1982-02>
- *COMPUTE!*, May 1980-Nov 1980 (bimonthly schedule) [REQ] <https://archive.org/details/1980-05-compute-magazine>
- *Hardcore Computist*, no. 1-3, 1983 <https://archive.org/details/hardcore-computing-1>
- *MICRO 6502 Journal*, April 1980-June 1980 <https://archive.org/details/micro-6502-journal-23>
- *Family Computing*, Sept 1983-Dec 1983 <https://archive.org/details/family-computing-01>
- *Softline*, November 1981-April 1982 (bimonthly schedule) <http://www.cgwmuseum.org/galleries/index.php?year=1981&pub=6&id=2>
- *Electronic Games*, Feb 1983-May 1983 https://archive.org/details/Electronic_Games_Volume_01_Number_12_1983-02_Reese_Communications_US
- *InCider*, March 1984-June 1984 https://archive.org/details/inCider_84-03

Visualizing ANYTHING Assignment (20%) Due 10-25

Not all students in the course will have the same fluency with visualizing or coding data. This is intended as a safe, exploratory assignment to force students to simply get their hands dirty visualizing *anything* from the dataset created October 4 (see syllabus).

Students without coding backgrounds are recommended to explore Tableau, which is professional-grade data visualization software offering free licenses for students

[<https://www.tableau.com/academic/students>]. Students with coding and visualization experience are welcome to use any software they prefer.

This assignment should produce either:

1. A visualization or set of visualizations that draw relationships between 3 variables (ideal for non-coders in Tableau)
2. A visualization that draws relationships between 2 variables and has an interactive component

Students should be prepared to present their project and receive critique on October 25.

Final Project (50%) Proposal Due 11-8; Final due 12-6

For the final 6 weeks of class, students will work on a final project. This final project may take a range of shapes, and does not have to result in a digital/visualization object. Students who would prefer to offer a written final are expected to produce a high-quality seminar paper pertaining to the course content.

Technical Difficulty	Low Student employs, at a minimum, static visualizations made in Tableau, most likely in the context of a paper	Medium-Low Student builds out site/digital object with limited/no interactivity but modest use of dataset	Medium-High Student builds out site/digital object with modest interactivity and dataset	High Student produces highly interactive site with expanded dataset, offering an array of interactive visualizations; has qualities of a professional draft
Academic Difficulty	Low Assignment is largely technical, deals with dataset in un-interrogated way. Draws from selective primary sources, low engagement with secondary sources. Deals with cultural myths rather than academic arguments.	Medium-Low Project offers some new information about early computing culture, through either written or digital means. Draws from selective primary sources, low engagement with secondary sources. May deal with common cultural myths rather than academic arguments.	Medium-High Project offers some new information about early computing culture, through either written or digital means. Engages with primary and secondary sources. Emphasis on engagement with academic arguments.	High Student composes a serious, original, rigorous academic intervention within discipline of computer history or allied field (most likely in form of academic paper); extensive use of primary documents and engagement with secondary sources
Creative Intervention	Wild card category to be taken into consideration w/ above metrics, emphasizing extent to which student's final project engages with concept of data visualization or computer history as norms, or offers a provocative, creative interpretation of "visualization" as a technique.			

A 3-4 page extended proposal is due for the final project on November 1. This may take the form of a design document, an extended paper abstract, or some other appropriate format. Students should be prepared to offer a short presentation in class, with slides.

Final projects are due in class December 6. Student should be prepared to showcase their work in class.

August 23: Course Introduction

- Greetings + Primary Document Discussion
- *Wargames* (1983)

August 30: Crash Course in Computer History + Introduction to Softalk

- Paul Atkinson, *Computer*, Reaktion Books (2010). Chapter 1 “Polar Positions”, pp. 21-77.
- Paul Ceruzzi, *Computing: A Concise History*, MIT Press (2012). Chapters 1, 4, 5, pp. 1-22, 81-120.
- Computer History Museum’s “Timeline of Computer History”
<http://www.computerhistory.org/timeline/>
- *Softalk*: February 1981-April 1981 [REQ] <https://archive.org/details/softalkv1n05jan1981>

September 6: Grand Narratives, In Their Own Words

- Doug Carlston, *Software People*, Simon and Schuster (1985). Introduction, Chapters 7, 8, 10, pp. 1-15, 181-205, 221-245.
- Paul Freiberger and Michael Swaine, *Fire in the Valley: The Making of the Personal Computer*, Osbourne/McGraw-Hill (1984). Selections from Chapter 6 “Retailing the Revolution”, pp. 157-187.
- Steven Levy, *Hackers: Heroes of the Computer Revolution*, Penguin Books (1984). Chapter 12, 15 “The Woz”, “The Brotherhood” pp 244-267, 303-312
- 9/6: *Creative Computing*: Oct 1981-Dec 1981 [REQ]
<https://archive.org/details/creativecomputing-1981-10>

September 13: Academic Takes + Economic Dynamics

- Paul Ceruzzi, *A History of Modern Computing*, 2nd ed. MIT Press (2003). Chapter 8 “Augmenting Human Intellect”, pp. 243-280.
- Martin Campbell-Kelly, *From Airline Reservations to Sonic the Hedgehog: A History of the Software Industry*, MIT Press (2003). Chapter 9 “Home and Recreational Software”, pp. 269-284.
- Efram Sigel and Louis Giglio, *Guide to Software Publishing: An Industry Emerges*, Knowledge Industry Publications (1984) pp. 5-61.
- Melaine Swalwell, “History of Video Games as History of Technology?” Session Talk from Society for the History of Technology Conference, 10 October 2015.
http://www.academia.edu/download/39419547/Game_History_as_HoT.docx
- Primary Documents: Free Choice

September 20: Digital Humanities, Data Visualization, and/in History I

- Photogrammar: A New Look at New Deal Photography, <http://muse.jhu.edu/article/622100>
- NUKEMAP by Alex Wellerstein, <http://nuclearsecrecy.com/nukemap/>
- Lauren Klein. “The Image of Absence: Archival Silence, Data Visualization, and James Hemings.” *American Literature* 85.4 (Winter 2013): 661-88.
- Reading the *Softalk* dataset (on T-Square)
- *Computer Gaming World*: December 1983-April 1984 (bimonthly schedule) [REQ]
<http://www.cgwmuseum.org/galleries/index.php?year=1983&pub=2&id=13>

September 27: Digital Humanities, Data Visualization, and/in History II

- TBD
- TBD
- *Softalk*: May 1983-July 1983 [REQ] <https://archive.org/details/byte-magazine-1982-02>

October 4: Creating Your Own *Softalk* Dataset

- In class, students will come prepared to develop their own intake form for coding a minimum of 1 month of *Softalk*. Students may copy the professor's coding Google form or develop their own in a preferred format. Issues coded must be after Oct 1982. Students will use data for their Visualize ANYTHING Assignment, due October 25.
- Primary Documents: Free Choice

October 10: RECESS NO CLASS

October 18: Computers Were Our Destiny: Fucked Futures

- Time Magazine, "Machine of the Year" 1983.
- Shoshana Zuboff, *In the Age of the Smart Machine: The Future of Work and Power*, Chapter 4 "Office Technology as Exile and Integration," Basic Books (1984) pp. 124-173.
- Joseph Denken, *The Electronic Cottage: Everyday Living with Your Personal Computers in the 1980s*, Morrow (1981) Chapter 1, pp. 1-25.
- Roy Mason, *Xanadu: The Computerized Home of Tomorrow and How it Can Be Yours Today!* Acropolis Books (1983), pp. 155-187.

October 25: Visualize ANYTHING Assignment Presentations

November 1: Open Studio

November 8: Final Project Proposal Due

November 15: Open Studio—Small Group Crits

November 22: NO CLASS-CANCELLED

November 29: Open Studio

December 6: Final Presentations