Minimal Computing

Penn DreamLab 2021

Course Description

Are you interested in publishing a small archive of manuscripts, art, photographs or other primary sources on the web? Have you ever wanted to create and control your own digital collection from start to finish?

In this week-long workshop, participants will build their own web projects that catalogue and present digital cultural artifacts using minimal computing principles. In the process, participants will learn the fundamentals of data preparation and management, static site generation, and version control. The result will be an impactful presentation as well as a portable data set—both of which can be repurposed and preserved without relying on institutional resources. In addition, participants will learn how to prototype beyond the collection site as a genre with examples for data visualization, mapping, critical essays, and interoperable image content.This workshop assumes some familiarity with HTML, and CSS.

Instructor and Communications

Instructors: Dr. Alex Gil (Columbia University), Marii Nyrop (NYU)

Discord: The best way to communicate before and during the workshop is through Discord, a Slack-like app. You can use Discord in your browser or download the app for Macs, PCs, and phones. All the Penn DreamLab courses are using a single Discord server.

Zoom: We'll use Zoom for the synchronous parts of our day. Once we get nearer to the June 14 start date, we'll share the Zoom link and passcode here and on Discord. In the meantime, make sure you've installed the latest version of Zoom!

Learning Objectives

By the end of this course students should be able to:

- Engage in intellectually valuable discussions about digital collections and minimal computing
- Collaborate with each other on a common project using GitHub
- Create your own digital collection & exhibit using Wax and Jekyll
- Understand some fundamental concepts of computation and networks

What You Need for the Course

1. **A Mac, PC, or Linux laptop or desktop computer**
   While it's technically possible to use a Chromebook or tablet for this class, for ease of use I recommend a laptop with a standard operating system on board. Any Windows, Mac, or Linux computer can run the software and tools you'll need.

2. **A web browser**
   My preferred browser is Firefox, though many developers use Chrome. What's important is that your browser lets you View Source and has some developer tools built in. If you don't know what I mean by "developer tools," don't worry…we'll get to that!

3. **A plain text editor**
   In many ways, working in code is as simple as editing a plain text file. Plain text is unadorned text with no special formatting. Whether we're editing HTML, CSS, or Javascript, we'll often use a text editor to do so. Ironically the default TextEdit app on Macs is not a plain text editor! We wouldn't use it. The default Notepad text editor on Windows is too barebones for us.

   We recommend Atom, a free and open-source text editor that works on Macs, Windows, and Linux.

4. **A place to host your work**
   We'll be sharing work with each other throughout the week and even working in teams. For this class we'll be using GitHub to manage the team projects but also to publish for free. Although there are many other options, and we'll be discussing those at the end of the class, GitHub is still the #1 go-to place for writing code together. Please get an account on GitHub before class begins.

5. **Git**
   To manage our projects and share them on the GitHub platform, we'll need to run the software behind it: Git. Please install Git before class. On Windows, we recommend GitForWindows. The easiest install for Mac is through GitHubDesktop. Linux users can find instructions here.

6. **Docker**
   In order to make it easy for all of us to be on the same page, we're going to all be sharing the same operating system. How is that even possible if some of us have Windows and some Macs? Through the magic of Docker we can flatten those differences. Docker allows you to have another computer within your computer. Please install Docker before class begins.

7. **Optional: Come with a collection of images related to your work**
   We are going to build digital collections together, so why not build one based on something you care about? Gather a dozen or so images that would be part of your dream collection. Start also thinking about how you would describe each of the artefacts they represent. In other words, what metadata would you use to describe them? If you would like to see what your finished product would look like, why not take an early peek at the toolkit we'll be using?—Wax. This will be the foundation of your project.

8. **Optional: Read up on Minimal Computing**
   Read these short readings on Minimal Computing: "The User, the Learner and the Machines We Make" by Alex Gil, "Minimal Definitions (tl;dr version)" by Jentery Sayers. Optional: Read any of the other thought pieces on the Minimal Computing site.

Minimal Computing Schedule

(All times are EDT, or GMT-5)

Monday, June 14

Big Idea: Introduction to the tools and the concepts of minimal computing and digital collections/exhibits.
Daily Project: Working on your metadata

9–9:30am: Hang out at #Watercooler voice channel on Discord (Optional)

9:30–11:30am: Introductions & General Concepts #1: Minimal Computing (Zoom) (Alex)

11:30–12:30pm: Lunch and Break (Offline)

12:30pm–2:30pm: General Concepts #2: Digital Collections/Exhibits (Alex & Marii); Working on your Metadata (Zoom) (Marii)

2:30–4:30pm: Work on Daily Project (Offline or On)

5–6pm: Marisa Parham Keynote (DreamLab Plenary Session)

Tuesday, June 15

Big Idea: Generating a static site
Daily Project: Build a working prototype of your site using your own data

9–9:30am: Hang out at #Watercooler voice channel on Discord (Optional)

9:30–11:30am: Setting up your work environment (Marii); Introduction to the Terminal; Introduction to Plain Text (Alex)

11:30–12:30pm: Lunch and Break (Offline)

12:30pm–2:30pm: Understanding Jekyll #1 (Alex); Understanding Wax #1 (Marii)

2:30–4:30pm: Work on Daily Project (Offline or On)

5–6pm: Discord Happy Hour (Optional)

Wednesday, June 16

Big Idea: Framing your collection
Daily Project: Add improvements to your Wax site

9–9:30am: Hang out at #Watercooler voice channel on Discord (Optional)

9:30–11:30am: Understanding Jekyll #2 (Alex): Markdown, YAML, Liquid (Alex)

11:30–12:30pm: Lunch and Break (Offline)

12:30pm–2:30pm: Understanding Wax #2 (Marii): IIIF, search, testing (Marii)

2:30–4:30pm: Work on Daily Project (Offline or On)

5–6pm: Discord Happy Hour (Optional)

Thursday, June 17

Big Idea: The big reveal
Daily Project: Publish a draft of your Wax site

9–10:30am: Work Time (Offline or On)

10:30–12:30pm: Demo MVPs (minimally viable projects) for rest of class (Zoom)

12:30–1:30pm: Lunch and Break (Offline)

1:30–3:30pm: Work time (Offline or On)

3:30–5pm: Share and Tell with all of Penn DreamLab (Zoom)