

Digital Literacy for Moving Image Archiving and Preservation – Fall 2015

INSTRUCTOR

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ABSTRACT

Moving images have are, and have always been, inherently technical; their creation and enjoyment requires the mediation of technologies. Today, the technological ecosystem in which moving image collections are organized, preserved, and made available to users is increasingly a digital one. This situation is in many ways advantageous, as it means that the contemporary moving image archive professional shares a toolset with other digital communities. It also means that it is essential that professionals entering the field today are comfortable working with the tools of this ecosystem. By understanding how digital technologies work and how they impact collections and metadata, moving image archivists are better able to make informed decisions about collection management, as well as have the skills to act on those decisions.

This class will prepare incoming first year MIAP students for working with digital technologies throughout their academic and professional careers. The course will focus on web applications, databases, and data management tools — technologies that play a fundamental role in moving image collections management today. The course will emphasize digital literacy so that students will be equipped to make informed technology decisions in the future. By introducing these topics in their first semester, this course provides students with core competencies that will be utilized in subsequent classes in the MIAP program.

COURSE OBJECTIVES

Upon completion of this course, students will:

- Have improved their ability to communicate with technologists;
- Understand network infrastructures, standards, protocols, and technologies including operating systems (UNIX/Linux), networks (HTTP, SFTP, etc), file systems, and storage systems
- Be familiar with basic data management practices, including the importance of data quality, integrity, and portability
- Understand how databases work, and how they compare to spreadsheet applications (e.g. Excel, Google Docs)
- Be familiar with software version control repositories such as Github
- Understand application administration fundamentals, including rights and permissions
- Understand the role of languages including HTML, CSS, JavaScript, and SQL
- Understand the role of APIs
- Have been introduced to navigation and basic text and file manipulation through command line interfaces
- Understand that technology alone cannot provide solutions; best practices, policies, and procedures are key ingredients to successful technology usage for archiving and preservation of moving image collections

COURSE EXPECTATIONS

Laptop

Students are required to bring their own laptops to class each week. Both Windows and Mac are acceptable; pending they meet the following minimum requirements:

Mac

OS 10.6.8 or later

Intel Processor

At least 2 GB RAM

At least 30 GB available disk space

Windows

XP or later

Preferably 64 bit

At least 2 GB RAM

At least 30 GB available disk space

If you do not have access to a laptop, or do not have one that meets these minimum requirements, you may be loaned one for use during class. Please see the instructors.

Assignments

Each class will have one or more learning objectives and accompanying activities. Activities may be group or individual, and may be completed during class or as

homework. Students will be required to turn in or otherwise demonstrate the results of weekly assignments before the start of the following class meeting, regardless of whether the activity was completed in class or at home as homework.

There will not be a final graded paper or project, but the class will conclude with the each student creating an online exhibition that will compliment projects in the Introduction to Moving Image Archiving and Preservation course (MIAP students), or another course of the student's choice (non-MIAP students). By the end of the semester, students will have gone through all stages in the setup of a web application, including server setup, application installation, database creation and configuration, and front-end design. Students will also prepare media content and datasets for search and display.

Grading

Grades will be determined according to the following breakdown:

- Regular Assignments/Homework: 40%
- Participation and Attendance: 40%
- Final project: 20%

Attendance

Attendance at all classes is expected; more than one unexcused absence will affect grading.

Texts and Other Resources

There is no required textbook for this class. Most readings can be found online. Texts that are not available online will be on reserve in the Bobst Library and the Cinema Studies Film Study Center, or provided by the instructor.

In lieu of purchasing textbooks, students will be required to license a hosted Virtual Private Server throughout the duration of the course. The service we will be using is called Digital Ocean (<https://www.digitalocean.com/>). The cost for the semester will be approximately \$20-\$30 per student.

The course will also require the use of free or pre-licensed software, which students may be required to download in order to complete in-class and homework assignments. Please come prepared with software downloaded and installed in advance of the class when instructed.

We will be making use of NYU's subscription to Lynda.com for online tutorials through nyu.edu/lynda as well as other freely available online training modules.

Communication

We will be using [Slack](#) for communication about class topics. Everyone will receive an invitation a Slack account, and should install the application on their computers. There will be different channels set up within the application for each topic. Students are strongly encouraged to help each other with troubleshooting; this will factor into your participation grade.

COURSE SCHEDULE

Class 1 (Sept 14): Technology and the Moving Image Archivist: Network components and communication

Topics:

- Course introduction and syllabus review
- Why does a moving image archivist need to understand digital technologies?
- What is the web? What is the internet?
- Clients (browsers) and servers
- Network communication - TCP/IP
- File transfer - FTP, SFTP, SSH
- Web pages are just text
- Introduction to HTML, CSS
- HTML DOM
- What is a CMS? WordPress and more

Activity:

- In-browser website manipulation
- Exploring the components and structure of a website
- Making a website

Tasks:

- Install
 - FTP client - Cyberduck (<https://cyberduck.io/>)
 - Text editor - Sublime text (<http://www.sublimetext.com/>)

Homework:

- Build your own website in 3 hours – CodeAcademy Make a Website: <http://www.codecademy.com/skills/make-a-website>
- Set up your Digital Ocean server
- if you are on Windows - download [Putty](#)

Class 2 (Sept 28): Under the Hood: Command Line Interface

Due:

- CodeAcademy Make a Website
- Digital Ocean server purchased

Topics:

- Connecting to the server via SSH
- Introduction to UNIX command line navigation
- Package management
- Introduction to Git and GitHub

Activity:

- Working with command line on your own VPS
- Using Git and Github

Homework:

- Complete the tutorial we started in class:
<http://www.ee.surrey.ac.uk/Teaching/Unix/>
- Code Academy Command Line Tutorial:
<https://www.codecademy.com/courses/learn-the-command-line>
- Read Anthony Cocciolo (2014), "Unix Commands and Batch Processing for the Reluctant Librarian or Archivist," Code4Lib journal, Issue 23, 2014-01-17.
Available from journal.code4lib.org/articles/9158

Class 3 (October 5): Data Management & Data Quality

Due:

- Surrey command line tutorial - text output

Topics:

- Introduction to data storage formats: CSV, XML, SQL, SQLite
- Best practices for data creation in spreadsheets (Excel and Google Spreadsheets)
- Techniques for data import, export, and exchange
- Data quality and consistency - Google Refine
- Relational database management systems vs flat data management systems (e.g. Excel)
- Entity-relation modeling
- RDBMS features – keys, fields, etc.
- APIs

Activity:

- Tutorial – Best practices for metadata management using Excel
- Developing a custom relational data model

Class 4 (October 26): Creating an online exhibit – Functional requirements, use cases, and design (aka step away from the technology)

Topics:

- Defining system users and their roles
- Meeting users needs and expectations
- Understanding rights and permissions
- Introduction to Omeka, a free and open source web-publishing platform for the display of library, museum, archives, and scholarly collections and exhibitions.
- Features of Omeka
- Planning features of an exhibition

Activity:

- Developing user personas and use cases
- Develop and plan for an online exhibition

Read:

- Read articles in the “Getting Started with Project Planning” section of the Omeka Documentation. Available from: <http://omeka.org/codex/Documentation>
- Design Thinking: Change By Design
- Stamford d.school mixtapes

Class 5 (November 2): Creating an online exhibit - Application installation

Topics:

- Domain creation
- Database setup
- Working with configuration files

Activity:

- Installation of Omeka

Tasks:

- Read articles in the “Getting Started with the Software Application” section of the Omeka Documentation. Available from: <http://omeka.org/codex/Documentation>

Class 6 (November 16): Creating an online exhibit – Adding and enhancing functionality + Adding data

Topics:

- APIs,
- Plugins and Templates
- Troubleshooting
- Creation of files suitable for access
- File import

Activities:

- Installing templates, plugins, and connecting Omeka to APIs

- Configuring User roles, rights and permissions
- Troubleshooting using StackExchange and other tech Q&A sites
- Creating/gathering files for exhibition
- File editing, transformation, and upload

Read:

- Ludovico Fischer (2013), "A Beginner's Guide to HTTP and REST," Tuts+. Available from <http://code.tutsplus.com/tutorials/a-beginners-introduction-to-http-and-rest--net-16340>

Class 7 (December 7): Creating an online exhibit – Adding data part 2 + Look and feel

Topics:

- The relationship between metadata and search engines
- Introduction to Dublin Core
- Introduction to web programming: PHP and JavaScript
- Reading source code

Activities:

- Basic metadata creation using Dublin Core
- Finalizing online exhibit

*****Class 8 (December 14): Presentations and Pizza Party??**

Topics:

- Presentation of final projects