

CINE-GT 1808

Digital Literacy for Moving Image Archiving and Preservation – Fall 2017

INSTRUCTOR

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ABSTRACT

Moving images are as technical as much as artistic: their creation, management, and enjoyment requires the mediation of various technologies. Historically, the technological ecosystems in which moving image collections were organized, preserved, and made available to users were photo-chemical, mechanical, and electrical. Today, they are in whole or part digital.

This brings advantageous, as it means that the contemporary moving image archive professional shares a toolset with other digital communities. It also requires that professionals entering the field today are comfortable working with the tools of this ecosystem, and have sufficient understanding of how the tools work and may impact collections to communicate archival risks and requirements to senior management, technologists and vendors; are better able to make informed decisions about collection management; and 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 media files, databases, data management tools, and web applications—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 been introduced to the fundamentals of digital technologies:

- Digital moving image content (essence and metadata)
- Data/media management eco-systems, including operating systems, file systems, storage systems, and application layers
- Database functionality (including how databases compare to spreadsheet applications)
- Media asset management (MAM) systems (and the extent to which they can support digital preservation)
- Programming and computing languages including HTML, CSS, JavaScript, and SQL
- Navigation and basic text and file manipulation through command line interfaces
- Network infrastructures, protocols, and technologies

By the end of the course students will also have improved their ability to communicate with technologists and vendors including the importance of data quality, integrity, and portability, and will understand that technology alone cannot provide solutions; the implementation of community and industry standards; 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.

The final grade will be based on the final graded paper where students will create a business proposal for the creation of a Media Asset Management (MAM) collection, and on the actual creation of a small collection within a MAM application. (The collection and proposal need not be “real”, but must show understanding of the principles involved.)

Grading

Grades will be determined according to the following breakdown:

- Regular Assignments/Homework: 30%
- Participation and Attendance: 30%
- Final project: 40% (20% paper and 20% MAM collection)

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.

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

Mondays, 7- 9 pm in Room 652 at 721 Broadway. Note that individual classes may be re-arranged and topics may be revised, based on availability of guest speakers, issues that arise during class-time, and other factors. All changes will be communicated via Slack.

Class 1 (September 11):

Technology and the Moving Image Archivist: Digital Eco-Systems, Components And Communication

Homework:

- Read Introduction to Imaging,

Class 2 (September 18):

File Capture and Anatomy

What's inside a digital file? What are headers, containers, wrappers, bits, bytes? How are digital files created? What is sampling? What's the difference between file formats?

Class 3 (September 25):

Moving Image and Audio Files I

Time-based digital media files (i.e. audio and video) are extremely complex and heterogeneous, with multiple components and parameters, all of which need to be accounted for in preservation.

Class 4 (October 2):

Moving Image and Audio Files II

A deeper look at time-based digital media files. This class will deconstruct sample files.

Activity:

- Guest Speaker: Matt Rose & Paul Londino, HBO
- Download MediaInfo:
 - <https://mediaarea.net/en/MediaInfo/Download> (Windows or Mac via App Store and small fee)
 - <http://mediainfo.en.softonic.com/mac> (No fee)

(October 9, Fall Recess, No classes scheduled)

Class 5 (October 16):

Managing Content: Essence Data and Metadata 1

Whatadata? Metadata vs. data or content. Types of metadata. Metadata standards. Ways of organizing metadata and using it to create so-called “smart content” – content married to the information needed to preserve and access it.

Homework:

- Lynda.com Google Sheets Essential Training
- Optional Review:
 - Open Refine: http://enipedia.tudelft.nl/wiki/OpenRefine_Tutorial

Class 6 (October 23):

Managing Content: Essence Data and Metadata 2

Using metadata to create so-called “smart content” – content married to the information needed to preserve and access it.

- Relational database management systems vs. flat data management systems
- Entity-relation modeling
- NoSQL, triples stores, and graph databases

Homework: Lynda.com Learning Relational Databases

Class 7 (October 30):

Managing Content: Essence Data and Metadata 3

Topics: Digital Asset Management and Media Asset Management systems link metadata and content together and provide a search interface to assets. They also provide additional functionality, such as linking associated files (e.g. versions and proxies); workflow or business process modeling; processing; tracking; automation, etc. This session will review various MAM system types and capabilities.

Activity: Guest Speaker David Lipsey

Homework: To Be Assigned

Class 8 (November 6)

Managing Content: Essence Data and Metadata 4

Introduction to Axle: Radically Simple Media Management system. You will use this software to create your own example MAM collection, to be completed by the final class.

Homework: familiarize yourself with the Axle Knowledge Base:

<http://help.axlevideo.com/kb>

Class 9 (November 13)

Media Management Environments

Topics: Media management environments, of which a MAM or DAM system is likely to be only a component, or in which there may be multiple MAMs serving different user groups or technical functional, can be very complex, and now are likely to include cloud components.

- Moving Images in an IT Environment
- Archival components (or the lack thereof)
- The Cloud
- APIs

Homework: continue working on MAM collection

Class 10 (November 20)

Network components and communication

Topics: Review mechanics of internet communication and the standards and protocols joining networks together

- Clients (browsers) and servers
- Network communication - TCP/IP
- File transfer - FTP, SFTP, SSH
- Web pages are just text: Introduction to HTML, CSS
- What is a CMS? WordPress, Omeka and more

Activity:

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

Homework:

- Build your own website in 3 hours – CodeAcademy Make a Website: <http://www.codecademy.com/skills/make-a-website>
- Optional Review: HTML tutorial - <http://www.w3schools.com/html/default.asp>

Class 11 (November 27):

Creating an Online Exhibit (Using External Resources)

Topics: Introduction to Omeka, a free and open source web-publishing platform for the display of library, museum, archives, and scholarly collections and exhibitions.

- Domain creation
- Database setup
- Working with configuration files
- PHP basics

Activity:

- Demonstration installation of Omeka

Homework:

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

Class 12 (December 4):

Functional Requirements, Use Cases, and Design

Topics: no project is purely technical, and the more work put in understanding requirements and developing use cases before you build anything the more you will be prepared for problems that inevitably arise and the more elegant your final solution is likely to be:

- Meeting user’s needs and expectations
- Documenting requirements (in RFP –Request for Proposal—process)
- Understanding rights and permissions

Homework:

- Read sample MAM RFP (to be provided)
- Read articles in the “Site Planning Tips” section of the Omeka Documentation.

Available from: <http://omeka.org/codex/Documentation>

Class 13 (December 11):

Under the Hood: Command Line Interface

Topics: Command Line Interface (CLI) vs Graphic User Interface (GUI). While GUI is immediately more user-friendly, CLI can offer many functional and practical advantages.

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

Homework:

- 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 <http://journal.code4lib.org/articles/9158>

Class 14 (December 12, Tuesday):

Technical Best Practice from an Archival Perspective

Topics: Archivists are necessarily thinking long-term and aiming to build robust infrastructure and content that can survive into the future. Balancing this against real world short-term technical requirements and emergency work-arounds can be tricky, and one way to do it is to build best practices into everyday activity, and to disseminate them across institutions.

- Sponsorship
- Stewardship programs
- Training
- Incentives
- The expanding tool kit: machine learning, artificial intelligence

Activities:

- Review of any outstanding questions