Description: Creating preservation quality digital images of cultural heritage resources (photographs, graphics, or texts) is an important strategy for online access. Using a mix of lectures and intensive hands-on lab exercises, this course explores current imaging and data standards, image and text analog to digital conversion techniques, metadata models, and project management requirements.

Learning Objectives
- Achieve literacy in the theories of representation and remediation in relation to the processes of creating preservation-quality digital surrogates.
- Master the ability to interpret and apply standards and best practices for digital imaging, text recognition, and metadata generation technologies to cultural heritage resources.
- Master design workflows associated with digitization projects from selection through online delivery.
- Achieve competency in applying descriptive, technical, and structural metadata to digital objects in one or more appropriate metadata schemas, as appropriate.

Required Readings and Resources: There is no required textbook for this course. The core resource for the course is standards promulgated by the Federal Agencies Digital Guidelines Initiative. Required readings (published articles, technical reports, websites) average 150 to 250 pages per week, with optional reading determined by each student’s interests and knowledge. All required readings are either on the World Wide Web (WWW) or accessible through the Canvas site for the course.

Resources: Weekly lecture slides and additional resources for class assignment will be posted on the Canvas course site.

Grading (before | after winter break)
- Participation in lectures and discussion 15% (10% | 5%)
- Lab Exercises 30% (10% | 20%)
- Course Lab Notebook 30% (10% | 20%)
- Team Project/Exhibition 25%

Workload: This is a lab-oriented course. It involves working together to create digital collections from valuable and unique collections of cultural heritage resources. For every hour of in-class participation,
students are expected to devote an additional two hours of class work in the lab locations or elsewhere. For the 80-minute lecture each week, students should spend a minimum of three hours in preparation by reading the required readings or extending their learning on the topic of the week with additional reading. For the 80-minute directed discussion and labs, students are expected to spend a minimum of three additional hours in a variety of learning activities, including compiling information for the Digital Lab Notebook, working with the collection to prepare it for digitization, digital conversion, or metadata generation, and preparing a briefing presentation. The Instructor is mindful of the overall workloads of graduate students at UMSI. He is willing to discuss various strategies for getting the work of the course done in a timely way.

**Student Mental Health and Wellbeing:** The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 or [https://caps.umich.edu/](https://caps.umich.edu/) during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (734) 764-8320 or [https://www.uhs.umich.edu/mentalhealthsvcs](https://www.uhs.umich.edu/mentalhealthsvcs), or for alcohol or drug concerns, see: [www.uhs.umich.edu/aodresources](http://www.uhs.umich.edu/aodresources). For a listing of other mental health resources available on and off campus, visit: [http://umich.edu/~mhealth/](http://umich.edu/~mhealth/)

**Academic Integrity:** Unless otherwise specified in an assignment, all submitted work must be your own, original work. Any excerpts from the work of others must be clearly identified as a quotation, and a proper citation provided. Any violation of the School’s policy on Academic and Professional Integrity (stated in the Master’s and Doctoral Student Handbooks) will result in severe penalties, which might range from failing an assignment, to failing a course, to being expelled from the program, at the discretion of the instructor and the Associate Dean for Academic Affairs.

**Students with Disabilities:** If you need an accommodation for any reason, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way we teach may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD) to help us determine appropriate accommodations. SSD (734-763-3000; [http://www.umich.edu/sswd/](http://www.umich.edu/sswd/)) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. I will treat any information you provide as private and confidential.

**Classroom Computer Etiquette:** Students are encouraged to bring portable computers to the lecture and to use them actively as learning tools. Students will greatly benefit from having a portable computer for the lab sessions. At all time, students should...

- ... use laptops for taking notes, conducting research required for activities, and other specific classroom tasks as assigned by the instructor. During class, students should not check e-mail, chat, IM, play games, or perform other off-task activities;
- ... engage in class activity as actively as they would in any other class. The computer should not become a barrier to one-on-one interaction, but instead should help facilitate the exchange of ideas and engagement in classroom contact;
- ... demonstrate sensitivity to others. Students should not display screen images, including wallpapers and screen savers that might be distracting or offensive to other members of the class.

**Office Hours:** Students are strongly encouraged to take advantage of at least one office hour session during the course. The instructor is available and willing to offer advice on project topics, specialized readings, and professional contacts in the digitization area.
Week 0 [Jan 10]

Lecture [NQ 2245]: Introduction to the Course

The first course session will review the structure of the course and outline its principal underlying theme of image literacy. The Instructor will review the syllabus, readings and assignments, and discuss the lab work in broad strokes.

Readings After the Lecture

Week 1 [Jan 15/17]

Lecture [NQ 2245]: Overview and Big Picture

We will examine the central premise of the course – that digitization has emerged as an appropriate preservation strategy since 2004. Digitization of cultural heritage resources is framed as a “critical practice” in the context of theories of representation [Mitchell and others] and remediation [Bolter/Grusin] and bolstered by a quick review of the state of digitization guidelines. The deeper issues of what it means to transform materials digitally and the role of human agency in the processes of digitization will also be covered.

Readings Prior to Lecture

Optional Depth
Week 2 [Jan 22/24]

Lecture [NQ 2245]: Workflow Overview

The lecture and related lab/discussion will highlight tiers of workflow involved in the digitization process and demonstrate how various tools support the establishment of image quality benchmarks. The FADGI guidelines provide guidance, but the issues may be more complex. The ideas presented this week will inform discussions of project management later in the term.

Required Readings
  - Introductory Material, pp. 1-10 [follow links to associated documents and skim]
  - Imaging Workflow, pp. 55-63.
  - Storage Recommendations, p. 91.

Week 3 [Jan 29/31]

Lecture [NQ 2245]: Technical and Descriptive Metadata for Images

The lecture presents an overview of the existing standards for descriptive metadata [primarily Dublin Core] and technical metadata for still images [NISO Z39.87-2006]. The lecture will also touch on metadata issues within the larger context of emerging metadata schemas for preservation. The lecture and associated lab lay the groundwork for metadata work through the remainder of the course.

Required Readings
  - Metadata, pp. 75-83.
  - Identifiers and File Naming, pp. 84-86
- NISO Z39-87 Technical Metadata for Still Images. [skim]
- NISO Metadata for Images in XML Schema [MIX]: http://www.loc.gov/standards/mix

Optional Depth
Week 4 [Feb 5/7]

Lecture [NQ 2245]: Materiality [how source characteristics affect bitmapping]

The lecture session builds a bridge between the physical materiality of analog source objects and their transformation into the coded structured grid of a digital bitmap.

Required Readings


Week 5 [Feb 12/14]

Lecture [NQ 2245]: Image Quality, how bitmapping works

The lecture is a technical briefing on the mechanics/optics of digital scanners, but also covers benchmarking scanning parameters to optimize text/image legibility, and the use of targets in scanning processes, and an introduction to the state of file formats appropriate for archival preservation masters.

Required Readings

  - Physical Environment, pp. 15-18
  - Digitization Equipment, pp. 53-54
  - DICE Evaluation Parameters, pp. 11-13
  - Appendix, pp. 97-101

Optional Depth:

**Week 6 [Feb 19/21]**

*Lecture [NQ 2245]: Image Quality, color science basics*

Preservation quality imaging may turn on the creation of a digital file that is independent of viewing and presentation technology and that faithfully represents the reflected or transmitted light values of an original source. Careful color management is an essential component of high-quality digital imaging. This session will review the state of technologies that deliver such fidelity today and promise even greater quality in the future.

**Required Readings**

  - Material Type Specifications, pp. 22-52. Choose two or three and compare the specifications closely

**ASSIGNMENT (Course Lab Notebook) Status Report due Friday, March 1 @ 5:00 pm.**

**Week 7 [Feb 26/28]**

*Lecture [NQ 2245]: Image Quality, more color science*

The lecture is a continuation of the technologies and ideas presented in the previous weeks, with particular attention to FADGI specifications.

**Required Readings**

  - Technical Overview, pp. 70-74.

**March 4-8**  
**WINTER BREAK**

**Week 8 [Mar 12/14]**
Lecture [NQ 2245]: Outsourcing and project management

Increasingly, it is unlikely that the best quality imaging is a do it yourself undertaking. Vended services, sometimes highly specialized in nature, are becoming the norm. This session will focus on working with a vendor for digitization services, particularly on the development of Request for Proposals [RFP] for services. This session will look broadly at project management and workflow with special attention to outsourcing. Attention to costs of digitization and managing the resulting bits.

Required Readings


Week 9 [Mar 19/21]

Lecture [NQ 2245]: Image Manipulation

The lecture and lab are an integrated whole. The lecture covers the philosophical and technical complexities of manipulating an archival master image for purposes of access, display, and printing.

Required Readings


Week 10 [Mar 26/28]

Lecture [NQ 2245]: Text processing from OCR to markup

The lecture explores the complexities of representing text in electronic form, through the application of one or more optical character recognition software packages. The lecture will describe when it might be appropriate to create a full-text version from a page-image and discuss the notion of OCR quality. The lecture lays the groundwork for the lab exercise in using OCR software.

Required Readings


Optional Technical Readings
• Tesseract-OCR: https://github.com/tesseract-ocr/tesseract

Week 11 [April 2/4]

Lecture [NQ 2245]: Descriptive metadata standards for access + IIIF

The lecture explores the controversies over the quality and quantity of descriptive metadata required to provide access to digital surrogates, along with options for obtaining this metadata formally [from catalogers] or informally [from the public].

Required Readings
• Forthcoming reading on IIIF

Week 12 [Apr 9/11]

Lecture [NQ 2245]: FADGI and Total Quality Management

This lecture focuses on those components of the FADGI guidelines on total quality management. The lecture will also chart a path for near-term future development of the guidelines and supporting quality analysis tools.

Guest Speaker/Expert (SKYPE): Tom Rieger, Conversion Support Services Manager,
Office of Strategic Initiatives, The Library of Congress

Required Readings
  o Quality Management, pp. 87-90.

Optional Depth

• University of North Carolina, Southern Historical Collections. [2009]. *Extending the Reach of Southern Sources: Proceeding to Large-Scale Digitization of Manuscript Collections*. Project documentation at: [http://www.lib.unc.edu/mss/archivalmassdigitization/](http://www.lib.unc.edu/mss/archivalmassdigitization/).

ASSIGNMENT (Course Lab Notebook) Due Friday, Friday April 13 @ 5:00 pm

**Week 13 [Apr 16/18]**

Project Presentations. See additional documentation on the structure of the presentations.

ASSIGNMENT (Exhibition Documentation) Due Friday April 19 @ 5:00 pm

**Week 14 [Apr 23]**

*Lecture [NQ 2245]: Digitization for Preservation & Jobs / Careers in Digital Imaging*

The final lecture of the course focuses on the emergence of a “philosophy” of digitization for preservation, which by now we should be able to critique for its strengths and weaknesses. The Instructor will also provide guidance on identifying professional career opportunities where digitization for preservation is recognized and rewarded.

*Required Readings*


Assignment Summary

**Participation (15%)**  [15%]

This assignment assesses your engagement in the course throughout the term, including: preparing for the lectures by reading and thinking about the assigned readings; asking questions, challenging assumptions, and otherwise helping create a dynamic classroom experience. At the first class session, students will have the opportunity to choose two of the weeks of the course during which they will provide particularly active commentary and insight into the topic of the week and the associated readings. The extent to which students exercise participatory leadership during their chosen week will factor into the grade for this assignment.

**Lab Exercises (30%)**  [10%|20%]

Hands-on exercises are introduced in the lab/discussion section and then reinforced through individual and team-based practice. Some of the exercises are directly related to learning and mastering the software and hardware needed to complete the team project, while others reinforce concepts introduced in the lectures. See separate handouts for details.

**Course Lab Notebook (30%)**  [10%|20%]

Students will compile a lab notebook of notes, findings, examples, and insights gained from the lab work in the course. The notebook will follow the workflow journey of an analog collection as it makes its way toward digital surrogacy. The notebook is an individual project that, nevertheless, is likely to share some common elements with the other members of the discussion section. The notebook will be shared with the instructor just prior to spring break, so that comments and suggestions, along with a preliminary grade, can be conveyed by the mid-point of the course. The notebook can be a work in progress through the end of the term. Grading will turn on the completeness understandability of the presentation and the extent to which the notebook conforms to the structure of the assignment prompt. See separate instructions for compiling the information for the notebook.

**Team Project/Exhibition (25%)**  [25%]

In this assignment, students working in teams of 3 or 4 will create a unified presentation on the story of digital transformation that emerges from their work on the collection case study. The raw material for the presentation will likely be drawn from the Digital Lab Notebooks that each student compiles during the term. The project presentations will be delivered during the next to last week of class. Each student team will be expected to research the nature of the source materials and the stories in the content. They will present their findings on the digitization process, and prepare an online “exhibition” in the Scalar toolkit that showcases the collection, its transformation, and its possible uses. Each student will be expected to participate in the development of the briefing and the presentation of some of the content. A brief “debriefing” questionnaire from each student will document the roles and contributions that each student made to the overall project.
Discussion and/or Lab [80 min]:
    Thursday, 4:00 pm to 5:20 pm
    Other times as mutually established

Mobile Carts: Some of the hands-on work of the course utilizes mobile carts equipped with hardware and software. One of the carts also has space for the archival materials on loan from the Special Collections Library and a private collector. The carts are located in North Quad Room 1287. The room is available 24/7 and is secured by a MCard reader, which will log all entries to the room. The room is also used by some faculty to conduct research. Any of the carts may be checked out of NQ 1287 for use anywhere in North Quad. There is a clipboard for your use in checking out the carts. See the separate handout that lists the equipment for each cart.

Software: All of the software that you need to complete the lab exercises is located on the computer workstation on each mobile cart. You may find that you have more flexibility to complete some of the exercises if you download the following two software programs.

Week 0 – NQ 2245
    • Complete survey on individual skills and knowledge
    • Quick demonstration of mobile cart checkout and use

Week 1 – NQ 2245
    • Scanning process and software overview
        o Monitor calibration
        o Scanner calibration
        o Epson Scan / SilverFast
        o GoldenThread/GoldenTouch

Required Preparation
        o Physical Environment, pp. 15-18
Week 2 – NQ 2245

- GoldenThread and OpenDICE – targets and software

**Required Preparation**

  - DICE Evaluation Parameters, pp. 10-12.

Week 3 –

*Special Collections Library – Classroom on 6th floor of Hatcher Library South*

- Tuesday evening (5:30 to 8:00 pm): Selection of materials for digitization (where appropriate)

**North Quad 2245**

- Thursday: Care and handling of photographic materials

**Required Preparation**


Week 4 – NQ 2245 or Hatcher Library Scholarspace (2nd Floor)

- Briefing on Scalar (tool for preparing exhibitions)

**Required Preparation**

- Create account on Scalar.
- Version 2.0 Guide. [http://scalar.usc.edu/works/guide2/index](http://scalar.usc.edu/works/guide2/index)
- Getting started: [http://scalar.usc.edu/works/guide2/getting-started?path=index](http://scalar.usc.edu/works/guide2/getting-started?path=index)

Week 5 – NQ 2245

- TBD – Likely work with collections and plan exhibition

Week 6 – NQ 2245

- Technical metadata exercise
- Discussion of final exhibition in Scalar – guidance on scope and research

**Required Preparation. Review and familiarize with the following:**

NISO Z39-87 Technical Metadata for Still Images

NISO Metadata for Images in XML Schema [MIX]: [http://www.loc.gov./standards/mix](http://www.loc.gov./standards/mix)

**Week 7 – NQ 2245 – Guest Expert**

- Interpreting results in Golden Thread or OpenDICE
- Golden Touch demonstration and discussion

**Required Preparation**

- GoldenThread and GoldenTouch manuals. [Canvas]
- Handouts on using GoldenTouch for batch imaging processing. [Canvas]

**WINTER BREAK**

**Week 8 – NQ 2245**

- ResCarta for MODS
- [optional] Load ResCarta Toolkit on personal notebook

**Required Preparation**

- Familiarize yourself with the documentation on ResCarta
- Come prepared with notes from lecture and work to date on collection processing

**Week 9 – NQ 2245**

- Lab on Tiff Headers
- Load Tiff Reader on personal notebook + manual

**Required Preparation**


**Week 10 – NQ 2245**

- ResCarta for OCR [optical character recognition]
- Exercise on OCR quality and cleanup

**Required Preparation**

- Succeed* Text Digitization. [2013]. [https://sites.google.com/site/textdigitisation/](https://sites.google.com/site/textdigitisation/)

**Optional Technical Readings**

• Tesseract-OCR: [https://github.com/tesseract-ocr/tesseract](https://github.com/tesseract-ocr/tesseract)

**Week 11 – NQ 2245**
- Refresher on Scalar operation
- Planning an exhibition
- Derivatives: Formatting content for upload in Scalar

**Week 12 – NQ 2245**
- Exercise on cost modeling of digitization projects (see handouts)

*Required Preparation*
- Download Excel spreadsheets for exercise (on Canvas)
- Read handouts on estimating costs of digitization workflow

**Week 13 – NQ 1265**
- Tuesday: project presentations (3 teams)
- Thursday: project presentations (3 teams)
Some of the hands-on work of the course utilizes mobile carts equipped with hardware and software. One of the carts also has space for the archival materials on loan from the Special Collections Library and a private collector. The carts are located in North Quad Room 1287. The room is available 24/7 and is secured by a MCard reader, which will log all entries to the room. The room is also used by some faculty to conduct research. Any of the carts may be checked out of NQ 1287 for use anywhere in North Quad. There is a clipboard for your use in checking out the carts. See the separate handout that lists the equipment for each cart.

Software: All of the software that you need to complete the lab exercises is located on the computer workstation on each mobile cart. You may find that you have more flexibility to complete some of the exercises if you download the following two software programs.


Cart 1 - Scanner

Scanner: Epson 11000XL flatbed
- EpsonScan
- LaserSoft SilverFast

Workstation: HP ProDesk + 2 monitors (HP EliteDisplay E221i) + keyboard + mouse (mousepad)
External Hard Drive (for files storage and transfer) – see file management instructions

Software:
- Adobe Photoshop CS6 + Adobe Bridge
- Audacity
- BFW MetaEdit (for reading embedded metadata in BWF files)
- DataColor Spyder5Pro (monitor calibration)
- DICE (provisional)
- Dragon
- Golden Thread (scanner assessment)
- Golden Touch (post-scan adjustments)
- MediaInfo (Tiff header reader)
- Notepad ++
- ResCarta 6.0 (MODS/METS + OCR)
- Miscellaneous network tools

Extension cord (yellow) + multi-outlet surge protector + Ethernet cable
Cart 2 – Audio Conversion

Laptop – Dell #3 (Latitude E5410) + Keyboard + Mouse + charger
Monitor (Acer V213HL)
External Hard Drive (for files storage and transfer) – see file management instructions

Analog to Digital Interface Scarlet 6i6 (red)
Amp: Topping TP 22
Speakers: Klipsch monitor
Turntable
Reel-to-Reel tape deck (see threading instructions) + take up reels
Disk cleaning supplies
Various connecting cables (see connection instructions and diagrams)

Extension Cord
Internet cable

Cart 3 – Collections and Supplies

Workstation: HP ProDesk + 2 monitors (ViewSonic VA2431)) + keyboard + mouse (mousepad)
External Hard Drive (for files storage and transfer) – see file management instructions

Software:
  • Adobe Photoshop CS6 + Adobe Bridge
  • Audacity
  • BFW MetaEdit (for reading embedded metadata in BWF files)
  • DataColor Spyder5Pro (monitor calibration)
  • DICE (provisional)
  • Dragon
  • Golden Thread (scanner assessment)
  • Golden Touch (post-scan adjustments)
  • MedialInfo (Tiff header reader)
  • Notepad ++
  • ResCarta 6.0 (MODS/METS + OCR)
  • Miscellaneous network tools

If Needed:
Epson 11000XL flatbed
  • EpsonScan
  • LaserSoft SilverFast

Suitcase – supplies and stuff

ISa Test Targets + other targets
Spyder5Pro sensor
Rulers
Loups
Digital Lab Notebook (50%)

1. **Create** a single Google Doc and share it with the instructor [pconway@umich.edu].
   a. Naming convention: [yourlastname]_SI675_Digital_Lab_Notebook

2. **Use** the notebook document to compile information from each week of the course, beginning with Week 1 and concluding with Week 12. Compiling information from the last two weeks of the course is optional and should be done if doing so provides useful summative information for the lab notebook.
   a. You may use as many pages as necessary for each week’s notes. Mark each page in the top left with the appropriate week [e.g., “Week 4”]
   b. Keep the notebook in chronological order by Week.

3. **Compile** information in four categories (which should serve as subheadings for your notes):
   a. **Ideas gathered from required and optional readings.**
      i. Focus on ideas that spark your imagination, that provide the factual guidance needed to do the lab work or understand the larger significance of the lab work.
      ii. Do not summarize readings or otherwise keep detailed notes on the readings.
      iii. The purpose of noting information from the readings (required and optional) is to document lab-oriented recommendations, pointers to standards and best practices and the like.
   b. **Notes on collections**
      i. Focus on the material and intellectual nature of the materials being digitized, including contextual information on the origins and history of the materials and their content, published information on or about the collection, and links to relevant web resources. Since there is almost no limit to what could be put in this section, it will be important to exercise discretion.
   c. **Process documentation**
      i. Focus on documenting what you did in the lab and tie these activities to standards and best practices (or not), particularly the FADGI/Metamorfoze documentation.
      ii. It may be useful to reflect on complexities encountered in doing the lab work.
   d. **Outcomes**
      i. Qualitative information may include reflections on the work as well as examples of images or data completed.
      ii. Quantitative information may include counts of work done and/or time spent on various activities.

4. **Submission**
   a. Upload your final, completed Digital Lab Notebook as a PDF file to Canvas > Assignments.

5. **Assessment**
   a. The assignment is worth 30% of the individual course grade (30/100 points).
   b. I will assign a maximum of 10 points to your notebook work through the end of Winter Break. You can earn back up to 5 lost points through extra effort after the break.
   c. Grading will turn on the completeness and understandability of the presentation and the extent to which the notebook conforms to the structure of the assignment prompt.
   d. The notebook is a work in progress throughout the term and may be revised and enhanced at any point prior to submission of the final product.
University of Michigan School of Information
SI 675 Digitization of Cultural Heritage Material

Guidelines for Team Project Exhibition and Presentation

In this assignment, students working in teams (of 3 or 4) will create a unified exhibition (in Scalar) on the story of digital transformation that emerges from their work on the collection case study and then to present your exhibition to the class and any visitors we may choose to invite. The instructor will serve as a consultant, where needed, on the design and scope of the exhibition.

The project presentations will be delivered during Week 13. Each student must participate in the development of the exhibition and in the final presentation. This assignment is worth 25% of your final grade. Unless there are extenuating circumstances, each member of a given team will receive the same grade.

Scalar (University of Southern California)

Scalar Works Front Door. [http://scalar.usc.edu/works/](http://scalar.usc.edu/works/)

Establish account. Registration Key: Gfn3f75

In “My account”, create a “book” for your project with a title approved by the Instructor.
Exhibition Guidelines

1. Plan the story line and structure of your exhibition – whiteboard it. At minimum, the story line can be strictly linear, where one page leads to the next, as in a journal article. Slightly more ambitiously, the exhibition can have two or more themes unified through a “table of contents.” Another option is to imagine intersecting or overlapping story lines, each with cross-links.

2. Complete the secondary research beyond what you know about the material you are digitizing. It is unlikely that your physical materials will yield all of the information needed to prepare an exhibition that includes context. The amount of research on your topic is up to the team, and there is not a need to be comprehensive or fully interpretive. Think of the exhibition as a prototype that showcases the materials.

3. Decide on the specific illustrations. It will be useful to settle on a set of images drawn from your collection, perhaps choosing a few more items than you will actually use in the end. Images included in the exhibition must be scaled derivatives, since Scalar cannot accept and host archival or production masters.
   a. For some projects, derivatives for the entire set of materials (e.g. photo album) might well be included in the exhibition. But this is not required. The items uploaded should in most cases relate directly to the layout of the exhibition.

4. Draft out the text that goes on each page with the illustrations. There are no limitations on the text. A page can be all text with links to other pages. Or it can have a single or multiple images surrounded by text with various links to other pages. In a linear exhibition navigation could simply be via “next” and “previous” links. More elaborate designs are possible.

5. Prepare images (including screen shots where appropriate) and other digital objects for upload (think about file names); upload them to Scalar. Be sure to pay attention to size and format limitations.

Components of the Exhibition (in any order and with any internal structure you decide):

- Cover/title page with authorship information
- Context (historical and otherwise) of the material its creator(s)
- Media & Materiality (characteristics of the stuff itself)
- Content and substance of the material – interpretive story line or lines
- Technical Note
  - FADGI specs
  - Metadata model
  - Cataloging info, if appropriate
• Readings and References (a basic bibliography, formatted appropriately and consistently)

The instructor is happy to advise on source information for some if not all of these components, particularly the media & materiality section and the technical notes. The latter component should most likely be drawn from course readings and optional readings.

Presentation Guidelines
- Each team will be allotted 20 minutes for the presentation block (15 min presentation; 5 min questions)
- Everyone in the team should have something to say in the presentation
- Show all or part of your Scalar exhibition; do NOT supplement with PowerPoint or other slides. No need for a handout. If it is appropriate and makes sense, you may also have the physical materials present during the presentation and use whatever show and tell aids are needed, for example targets.