The Livingstone Online Instruction Manual
Version 1.5 (2020)

Developed by Adrian S. Wisnicki
With Nigel Banks and Megan Ward
Also with Kate Simpson

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Instruction Manual

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Introductory Materials
Versions of the Manual

*Livingstone Online* staff members should mark significant updates to the present manual by publishing new numbered versions and by outlining significant changes in the notes below.

1.0 (2017) – Initial draft by Adrian S. Wisnicki, with various notes provided by Nigel Banks
1.1 (2017) – Corrections by Megan Ward; new sections added by Adrian S. Wisnicki
1.2 (2017) – Corrections by Kate Simpson; new sections added by Adrian S. Wisnicki; division of the main “Drupal Layer” section into three separate Drupal sections
1.3 (2017) – Corrections, sections rearranged, and new sections added by Adrian S. Wisnicki
1.4 (2019) – Updates re: So You Start server and elimination of stage environment; refine existing workflows and add missing workflows; all work by Adrian S. Wisnicki
1.5 (2020) – Updates in sections on “Changing the Title of a Section/Page,” “Changing Content on the Browse by Location Page,” and “Key Livingstone Online Contacts”; addition of sections on “Revising Order of Pages in Section” and “Adding Tooltips” plus screenshots for “Outbound Link” (disabled); changing referencing to *Livingstone Online* file and production servers. Convert to PDF via Pages.
How to Use This Manual

Livingstone Online staff should familiarize themselves with the contents and overall organization of this manual (particularly the “Introductory Materials” and “Technical Overview” segments), but in many instances it may be found easiest to access relevant content by either skimming the table of contents or doing keyword searches based on development needs. It may also help to have a print copy of this manual on hand for reference.
Overview of the Manual

This manual documents the workflows used to develop the core data and front end content of *Livingstone Online* ([http://livingstoneonline.org](http://livingstoneonline.org)) between 2013 and 2017, during NEH grant-funded periods supporting the *Livingstone Online* Enrichment and Access Project (LEAP) and the creation of a multispectral critical edition of Livingstone’s 1870 Field Diary.

The manual attempts to outline these workflows comprehensively and so, above all, is an illustrative document rather than a prescriptive one. The focus falls on ensuring *Livingstone Online* remains sustainable by detailing the processes needed to develop site content in the present form of the site (2017).

In this spirit, the manual is pitched at a basic level so that even entry-level staff can use the different workflows set out here, although the manual assumes that users have a basic familiarity with using terminal, know how to use GitHub, and will take the time to familiarize themselves with the Drupal back end of the site and with the *Livingstone Online* file server.

As a result, not all workflows set out here need be precisely followed. More experienced staff will find some of the content unnecessary and/or will develop alternative (or more efficient) workflows as needed. Future versions of the manual should be revised and/or expanded as necessary.

Throughout the manual, the assumption is that manual users are logged into the back end of the site (see the section of this manual on “Accessing the Drupal Back End”). The manual illustrations are sometimes taken from the stage version of the site [now disabled], sometimes from prod. This makes no difference in terms of the instructions. The same workflows apply to both version of the site. That said, staff should plan to do most of their work on the prod version of the site, including the development of new section pages.

**Important note:** The manual refers to the local drive (where staff will normally carry out initial core data development), the *Livingstone Online* file server (housed at the University of Nebraska-Lincoln; where updated data from the local drive will normally be uploaded) and the *Livingstone Online* production server (also housed at the University of Nebraska-Lincoln; data from the *Livingstone Online* file server is sync’d to this server in order to be made public). Staff should keep the distinction between these three entities in mind when using the manual.
The Manual in Context

The present instruction manual offers an in-depth review of all the behind-the-scenes workflows that enable the work of Livingstone Online. However, the manual is not a substitute for other documentation found on the site and in GitHub. In particular, Livingstone Online staff are directed to the following elements of Livingstone Online for additional information on and illustration of the many workflows described in the present manual:

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**Theoretical and Practical Overviews**

**The Theory Behind Livingstone Online:** [http://livingstoneonline.org/about-site/theory-behind-livingstone-online](http://livingstoneonline.org/about-site/theory-behind-livingstone-online)

**The Design of Livingstone Online:** [http://livingstoneonline.org/about-site/design-livingstone-online](http://livingstoneonline.org/about-site/design-livingstone-online)

**The Livingstone Online Code:** [http://livingstoneonline.org/behind-scenes/livingstone-online-code](http://livingstoneonline.org/behind-scenes/livingstone-online-code)


**Credits and Permissions:** [http://livingstoneonline.org/behind-scenes/credits-and-permissions](http://livingstoneonline.org/behind-scenes/credits-and-permissions)

**Livingstone Online Site Guide:** [http://livingstoneonline.org/about-site/livingstone-online-site-guide](http://livingstoneonline.org/about-site/livingstone-online-site-guide)

**Manuscript Citation and File Naming Practices (Spectrally Imaged Manuscripts):** [http://livingstoneonline.org/spectral-imaging/manuscript-citation-and-file-naming-practices](http://livingstoneonline.org/spectral-imaging/manuscript-citation-and-file-naming-practices)

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**Project Histories**


**Livingstone’s Letter from Bambarre (2010-11):**


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*Project Documents*

**Livingstone Online Project Documents:** [http://livingstoneonline.org/resources/livingstone-online-project-documents](http://livingstoneonline.org/resources/livingstone-online-project-documents)

**Livingstone Online TEI P5 Encoding Guidelines:** [http://livingstoneonline.github.io/LEAP-ODD/leap.html](http://livingstoneonline.github.io/LEAP-ODD/leap.html)

**Project Documentation (Livingstone’s 1871 Field Diary):** [http://livingstoneonline.org/spectral-imaging/project-documentation-0](http://livingstoneonline.org/spectral-imaging/project-documentation-0)


**Project Documentation (Livingstone’s 1870 Field Diary):** [http://livingstoneonline.org/spectral-imaging/project-documentation](http://livingstoneonline.org/spectral-imaging/project-documentation)

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*Site Code*

**GitHub:** [https://github.com/livingstoneonline/](https://github.com/livingstoneonline/)
Technical Overview
OS and Required Applications

A number of workflows described in this manual have been designed for a Mac OS, although many will work equally well on Windows or Linux. As needed all workflows can be adapted for Windows and/or Linux, but in some cases the assistance of a programmer will be necessary. Additionally, it will benefit staff to have the following desktop and terminal applications installed. That said, many of these applications (particularly the terminal applications) are needed primarily for development of the Fedora layer of the site. When in doubt about the technical requirements of a particular task, staff should ask more experienced team members.

Desktop Applications

Filezilla – used to transfer files between the local drive and the Livingstone Online file server

FreeFileSync – used to transfer large numbers of files between the local drive and the Livingstone Online file server; requires that the server be mapped onto the local machine

GitHub – used to clone and update the Livingstone Online repos; alternatively staff can use the terminal version of GitHub

oXygen – used to edit TEI XML, XSL, CSS, HTML, and RDF files; also used to transform XML files to HTML files

TextWrangler [or a similar text editing program] – used to edit various text files

Abode Photoshop Elements [or a similar image editing program] – used to edit image files, to carry out batch conversions, and to read XMP metadata in image headers

Zotero – used to access and update the Livingstone Online bibliography

Terminal Applications

Exiftool and MiniExiftool – used for editing image metadata

Ruby – used for adding DC metadata to images

Groovy – used for generating MODS files

LaTeX – used in the process of creating PDF derivatives from TEI XML files

Rsync – used for data management

The present manual also makes the occasional reference to Automator (used for certain batch manipulations), but this desktop application comes pre-installed with most Mac OS’s so it is not listed above.
## Livingstone Online Specs and Stats

Updated 26 January 2019

<table>
<thead>
<tr>
<th>Item</th>
<th>Public/Private</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Islandora (version)</td>
<td>n/a</td>
<td>7.1.7</td>
</tr>
<tr>
<td>Drupal (version)</td>
<td>n/a</td>
<td>7.63</td>
</tr>
<tr>
<td>Fedora (version)</td>
<td>n/a</td>
<td>3.8.1</td>
</tr>
<tr>
<td>Docker (version)</td>
<td>n/a</td>
<td>18.06.1-ce</td>
</tr>
<tr>
<td>Site Size on Production (GB)</td>
<td>n/a</td>
<td>1516</td>
</tr>
</tbody>
</table>

| MODS files (Manuscript)                    | Public         | 3087    |
| MODS files (Illustrative)                  | Private        | 1206    |
| MODS files (Total)                         | Public & Private | 4293   |
| TEI files                                 | Public         | 787     |
| Items (Manuscripts)                        | Public         | 1290    |
| Items (Manuscripts)                        | Private        | 137     |
| Items (Spectrally Imaged)                  | Public         | 20      |
| Items (Total)                              | Public & Private | 1447  |
| Archival Packets (Manuscripts)             | Public         | 1290    |
| Archival Packets (Manuscripts)             | Private        | 16      |
| Archival Packets (Spectrally Imaged)       | Public         | 202     |
| Archival Packets (Total)                   | Public         | 1508    |
| Images (Manuscripts)                       | Public         | 12125   |
| Images (Spectrally Imaged)                 | Public         | 3174    |
| Images (Total)                             | Public         | 15299   |
| Images (Manuscripts)                       | Private        | 1283    |
| Images (no_Crop)                           | Private        | 1146    |
Note: To find these specs and stats, staff will need to look at different parts of the site and elsewhere. Some of the relevant site pages will require that staff be logged in as an admin. For more on the GitHub repos, the local drive, and terminal commands cited below, see the sections of this manual on, respectively, “GitHub Core Data and Code Repos,” “Useful Terminal Commands for Data Management,” and “The Local Drive”:

**Islandora**: [http://livingstoneonline.org/admin/modules](http://livingstoneonline.org/admin/modules) (listed in the “Islandora” section)

**Drupal**: [http://livingstoneonline.org/admin/reports/status](http://livingstoneonline.org/admin/reports/status)

**Fedora**: [http://livingstoneonline.org/admin/islandora/configure](http://livingstoneonline.org/admin/islandora/configure) (listed underneath “Fedora Base URL”)

**Docker**: Not listed anywhere on the site. Contact the system administrator.

**Site Size on Production**: [http://livingstoneonline.org/admin/livingstone/import/fedora](http://livingstoneonline.org/admin/livingstone/import/fedora) (subtract “Free Disk Space” from “Total Disk Space” to derive the number)

**MODS files (Manuscript)**: Download the following GitHub repo: [https://github.com/livingstoneonline/LEAP-MODS](https://github.com/livingstoneonline/LEAP-MODS) then count the MODS files in the following location: /LEAP-MODS/MODS-files/Manuscript-MODS

**MODS files (Illustrative)**: Download the following GitHub repo: [https://github.com/livingstoneonline/LEAP-MODS](https://github.com/livingstoneonline/LEAP-MODS) then count the MODS files in the following location: /LEAP-MODS/MODS-files/Illustrative-MODS

**TEI files**: Access the following location on the local drive (/0_Core-Data/), use the appropriate terminal command to extract a list of TEI.xml files in the subdirectories, then count the number of TEI.xml files.

**Items (Manuscripts), public**: Access the following location on the local drive (/0_Core-Data/manuscripts/public/), then count the number of directories.

**Items (Manuscripts), private**: Access the following location on the local drive (/0_Core-Data/manuscripts/private/), use the appropriate terminal command to extract a list of TIFFs in the subdirectories, then use a combination of a plain text editor and Excel to determine the number of unique “liv” file names in the list of TIFFs.

**Items (Spectrally Imaged)**: [http://livingstoneonline.org/admin/livingstone/import/fedora](http://livingstoneonline.org/admin/livingstone/import/fedora) (listed under “Spectral Manuscript Pages/Images”)

**Archival Packets (Manuscripts), public**: Access the following location on the local drive (/0_Core-Data/manuscripts/public/), use the appropriate terminal command to extract a list of ZIP files in the subdirectories, then count the number of ZIP files.

| Images (no_Stitch) | Private | 216 |
| Images (Illustrative) | Private | 1206 |
| Images (Total) | Private | 3851 |
| Images (Total) | Public & Private | 19150 |
Archival Packets (Manuscripts), private: Access the following location on the local drive (/0_CORE-Data/manuscripts/private/), use the appropriate terminal command to extract a list of ZIP files in the subdirectories, then count the number of ZIP files.

Archival Packets (Spectrally Imaged): [http://livingstoneonline.org/admin/livingstone/import/fedora](http://livingstoneonline.org/admin/livingstone/import/fedora) (the number of archival packets will be equal to the number listed under “Spectral Manuscript Pages/Images”)

Images (Manuscripts), public: Access the following location on the local drive (/0_CORE-Data/manuscripts/public/), use the appropriate terminal command to extract a list of TIFFs in the subdirectories, then count the number of TIFFs.

Images (Spectrally Imaged): Access the following location on the local drive (/0_CORE-Data/manuscripts/spectral/), use the appropriate terminal command to extract a list of TIFFs in the subdirectories, then count the number of TIFFs.

Images (Manuscripts), private: Access the following location on the local drive (/0_CORE-Data/manuscripts/private/), use the appropriate terminal command to extract a list of TIFFs in the subdirectories, then count the number of TIFFs.

Images (no_Crop): [http://livingstoneonline.org/admin/livingstone/import/fedora](http://livingstoneonline.org/admin/livingstone/import/fedora) (listed under “No Crop Images”)

Images (no_Stitch): Access the following location on the local drive (/0_noStitch-Images/), use the appropriate terminal command to extract a list of TIFFs in the subdirectories, then count the number of TIFFs.


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Overview of Site, Code, Data, and Backup Configurations

We currently host Livingstone Online on a server purchased by Queen’s University Belfast and kept at the University of Nebraska-Lincoln in an Islandora framework that combines a front-end Drupal content management system with a back-end Fedora digital asset management system. We use Docker for deployment of code and dependencies, and Git for storing and managing code and configuration. We also have a number of GitHub Repositories (i.e., “repos”) where we share our code and configurations.

At present, our project team uses one online version of the site for development:

production (aka prod) – http://livingstoneonline.org/

Production provides the public-facing version of the site. Programmers also work with local (i.e., dev) versions of the site.

We use multiple strategies to backup our code and data. The distribution of data across all three disks of the server allows the data to be recovered easily should two of the disks fail. Our use of Pingdom (https://www.pingdom.com/free) allows us to monitor the site for free. We use Docker to manage our deployments so do not require any installation or configuration on the server. Code as well as TEI and MODS files are versioned in GitHub. The site’s Drupal database and files are backed up automatically on a regular basis using Drupal’s Backup and Migrate module to the project director’s external file server at the University of Nebraska; manual backups can also be triggered whenever necessary. Finally, the project director maintains local backups of all core project code, data, and files on a series of computers, external hard drives, and remote servers.

For more information on all of the foregoing points, see the “Practices, Standards, and Arrangements” page of Livingstone Online (http://livingstoneonline.org/behind-scenes/practices-standards-and-arrangements), particularly the sections on “Data Production Standards” and “Hosting, Site Setup, and Backup Arrangements.”

For more information on site setup, also see the documentation available on GitHub: https://github.com/livingstoneonline/livingstoneonline#livingstone-online. This documentation includes all information needed to set up the site from scratch on a server or on your local machine. It does not at present (2019) describe how to transfer the site from one server to another.

For more information on working with and updating core project data, see the section of this manual on “The Local Drive.”
Levels of the Site

*Livingstone Online* consists of five levels in its design. We reference these levels throughout this manual, so staff are advised to develop a clear understanding of the differences in the levels.

**Level 1** = Home page ([http://livingstoneonline.org/](http://livingstoneonline.org/))

**Level 2** = Site sections. Currently *Livingstone Online* consists of six sections. Each of these contains an array of associated tiles linked to individual section pages. The six sections are:

- **About This Site** – [http://livingstoneonline.org/about-this-site](http://livingstoneonline.org/about-this-site)
- **In His Own Words** – [http://livingstoneonline.org/in-his-own-words](http://livingstoneonline.org/in-his-own-words)
- **Behind the Scenes** – [http://livingstoneonline.org/behind-the-scenes](http://livingstoneonline.org/behind-the-scenes)
- **Resources** – [http://livingstoneonline.org/resources](http://livingstoneonline.org/resources)

**Level 3** = Section pages. These pages present a variety of content, including essays, narrative project histories, and various other pieces linked to project team practices, collaborative relationships, and our outreach program. Each section page has a carousel at the top that scrolls to the left and right and that includes hyperlinked images and text related to other section pages in the given section. Some example section pages are:

- “*Livingstone Online*: An Introduction” – [http://livingstoneonline.org/about-site/livingstone-online-introduction](http://livingstoneonline.org/about-site/livingstone-online-introduction)
- “*Livingstone Online’s* Staff” – [http://livingstoneonline.org/behind-scenes/livingstone-ontlines-staff](http://livingstoneonline.org/behind-scenes/livingstone-ontlines-staff)

The category of Level 3 also embraces critical edition home pages and regular critical edition pages, as in the examples of the following editions:

Level 4 = Custom-built section pages. These pages look, in some ways, like regular section pages (including the presence of a carousel), but have unique functionalities that have been implemented by our programmers. Level 4 pages fall into two categories:

The first category embraces all the “Browse” pages in the “In His Own Words” section of the site:

- “Browse by Addressee” – [http://livingstoneonline.org/browse/addressee](http://livingstoneonline.org/browse/addressee)
- “Browse by Repository” – [http://livingstoneonline.org/his-own-words/repository](http://livingstoneonline.org/his-own-words/repository)
- “Browse by Timeline” – [http://livingstoneonline.org/his-own-words/timeline](http://livingstoneonline.org/his-own-words/timeline)
- “Browse by Location” – [http://livingstoneonline.org/in-his-own-words/location](http://livingstoneonline.org/in-his-own-words/location)

Each of the above pages provides a route of access to the images, transcription, and metadata held in our core digital collection in the Fedora layer of the site.

The second category consists of multtext viewer pages. These are usually embedded in critical editions and allow comparative review of different XML-based transcriptions drawn from the Fedora layer of the site. Examples include the pages in use for the following editions:


Level 5 = Regular manuscript viewer and spectral image viewer. These two viewers allow detailed study of our archival images and transcriptions. Both viewers are accessible from the “Browse by Catalogue” page ([http://livingstoneonline.org/in-his-own-words/catalogue](http://livingstoneonline.org/in-his-own-words/catalogue)).

To access the regular manuscript viewer, click on the camera icon for any available item.

To access the spectral image viewer, click on the lightning bolt icon for any available item (to find these, select “View (w/ spectral images only)” from the “Access options” facet on the “Browse by Catalogue” page).
GitHub Data
GitHub Core Data and Code Repos

The following GitHub core data repos will be of particular interest to staff. Staff will usually have cloned copies of these repos on their local machines.

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**LEAP-MODS** ([https://github.com/livingstoneonline/LEAP-MODS](https://github.com/livingstoneonline/LEAP-MODS))

All of *Livingstone Online*’s MODS files plus MODS “generator” subdirectories which contain files used to generate MODS records and other supporting files for archival packets. Normally, staff will work on MODS files here, then move the files over to the local drive and then onto the *Livingstone Online* file and production servers.

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**LEAP-TEI** ([https://github.com/livingstoneonline/LEAP-TEI](https://github.com/livingstoneonline/LEAP-TEI))

All of *Livingstone Online*’s TEI files and supporting XSL and CSS files. Normally, staff will work on TEI, XSL, and CSS files here, then move the TEI files over to the local drive and then onto the *Livingstone Online* file and production servers. XSL and CSS files, in turn, will be copied to the LEAP-XSLT repo (see next entry) from where they can be added to the prod site.

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**LEAP-XSLT** ([https://github.com/livingstoneonline/LEAP-XSLT](https://github.com/livingstoneonline/LEAP-XSLT))

Copies all of *Livingstone Online*’s XSL and CSS files. Normally, staff will work on the XSL and CSS files in the LEAP-TEI repo (see previous entry), then copy the files over to this repo. From here the files can be added to the prod site.

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**LEAP-ODD** ([https://github.com/livingstoneonline/LEAP-ODD](https://github.com/livingstoneonline/LEAP-ODD))

Contains the *Livingstone Online* ODD (One-Document-Does-It-All) “leap.odd.xml” file, which is used to generate our “leap.rng” schema (also here; used to validate all *Livingstone Online* transcriptions) and the “leap.html” TEI guidelines (also here; used to guide all *Livingstone Online* transcriptions; also see [http://livingstoneonline.github.io/LEAP-ODD/leap.html](http://livingstoneonline.github.io/LEAP-ODD/leap.html)).

The “Makefile” in this repo uses “leap.odd.xml” to update the “leap.rng” and “leap.html” files, then combines the foregoing three files with “leap-doc.css” (needed to style the guidelines) and TEI templates for Livingstone letters and diaries (“leap-template-diaries.xml” and “leap-template-letters.xml”) to create a “leap.zip” file. The last named file can then be renamed “Livingstone_Online-Complete-TEI-Transcription-Materials.zip” and made available from various places on the site.

Normally, staff will work on files in this repo, then carry them over to the Drupal layer of the site. All relevant files in this repo are also enumerated, described, and published at [http://livingstoneonline.github.io/LEAP-ODD/](http://livingstoneonline.github.io/LEAP-ODD/)


PDF-Files (https://github.com/livingstoneonline/PDF-Files)
Previously used in the development of PDF versions of TEI files. The repo is no longer in use, but a subdirectory called “Use-to-setup-PDF-transformations” contains important information on setting up PDF transformation on local machines (the information is also found in the section of this manual on “Generating PDF Versions of TEI Files”).
Updating the Site with Files from GitHub Site Code Repos

In terms of site code, the following four Livingstone Online GitHub repos are the most important ones and constitute about 90% of the site:

https://github.com/livingstoneonline/livingstone_online_module (Browse by Catalogue, Importer, Manuscript viewer)

https://github.com/livingstoneonline/livingstone_online_theme (Look and feel of the site)

https://github.com/livingstoneonline/livingstone_online_features (Settings and configuration for site)

https://github.com/livingstoneonline/docker-livingstone (How to set up the site)

Except for special cases, Livingstone Online staff (other than programmers) will normally only need to modify the first two of these repos.

The first three (but not the last, i.e., the one for Docker) have the following branches: dev, stage, prod. Usually whatever is on each of those branches will be deployed to the corresponding environment. Changes that are accepted can be pushed up from branch to branch (dev to stage to prod), then moved to the corresponding environments.

So, for instance, you may want to test something on dev (if you have a copy of the site on your local machine), then, if satisfied, push the change to the prod and test it on the prod version of the site.

1) To update the site with changes from a branch from one of the GitHub repos cited above, first modify one or more files in the branch as needed, then commit the change(s), and sync to GitHub.

2) Once GitHub has been updated, access the “Deploy Code” option from the “Livingstone” menu:
3) From the “Deploy Code” page, select a branch from which you will update the environment and hit update. You must be logged in to that environment in order to update it (e.g., if you want to update the prod version of the site, you must be logged in to prod when performing the steps recorded here).
4) Your changes will now appear in the relevant environment. Review and, if necessary, further modify the GitHub files and then walk through the workflow again.

Note: The workflow described above deploys the selected branch for all of the following repos at once:

https://github.com/livingstoneonline/livingstone_online_module – responsible for the majority of the site's functionality; also see above

https://github.com/livingstoneonline/livingstone_online_theme – responsible for the display of the site (CSS, etc.); also see above

https://github.com/livingstoneonline/LEAP-XSLT – the XSL and CSS files needed to display HTML in the manuscript and spectral image viewers as well as multitext viewer pages; for more, see the section of this manual on “Updating the Site with XSL and CSS Files from GitHub”

In other words, if you make changes to one or more files in one branch of one repo and deploy them to the relevant environment, any changes in the other two repos that have not yet been deployed to that environment will also be deployed.

Also note: It is possible to update your current environment with a different branch (for instance, you might want to update the prod environment with the dev branch), but that means that the prod environment will be brought exactly into line with the given branch, i.e.,
there may be unanticipated changes to the environment beyond those you might have just made, as different branches represent different stages of development and are not always in sync with one another. Under normal circumstances, you will want to update an environment with the corresponding branch.

Also note: The workflow in this section only applies to site code. Should you like to carry over content (for instance, a page you created in local version of the site over to prod), you will need to copy this code over manually. There is no automated process for carrying over content. That said, normally you should work on content (such as a new section page) in prod and leave it unpublished until you have completed it (see the section of this manual on “Creating Section Pages”).
Updating the Site with XSL and CSS Files from GitHub

The following two GitHub repos will usually contain identical copies of the XSL and CSS files used on Livingstone Online:

LEAP-TEI: https://github.com/livingstoneonline/LEAP-TEI

LEAP-XSLT: https://github.com/livingstoneonline/LEAP-XSLT

The files in LEAP-TEI are used for testing purposes, while the files in LEAP-XSLT are deployed to the prod version of Livingstone Online.

As a result, Livingstone Online staff will normally work on the files in LEAP-TEI, then when satisfied with the results, copy them over the corresponding files in LEAP-XSLT and push them up from there to the prod environment.

The XSL and CSS files in LEAP-TEI are distributed over a number of subdirectories (usually with their corresponding TEI files), while the XSL and CSS files in LEAP-XSLT are all in the main directory. The “XSL-CSS-files-overview.txt” documentation file in LEAP-XSLT outlines the uses of each of the XSL and CSS files; this documentation file should be updated as needed.

1) To update XSL and CSS files (or to add new ones), first develop the relevant files in the LEAP-TEI repo, then commit the changes, and sync to GitHub.

2) When you have completed your work on the relevant XSL and CSS files in the LEAP-TEI repo, copy the final versions of the files over the corresponding versions in the LEAP-XSLT repo. When you do this, make sure you are working from the dev branch of the LEAP-XSLT repo.

3) Now commit the new files you have just added to the dev branch of LEAP-XSLT, then sync to GitHub.

4) Next open the main directory for dev branch of LEAP-XSLT and run the following file (Macs only) by double-clicking it: “update_github.command”:
This step will merge the dev branch into the stage and prod branches of the LEAP-XSLT repo and so bring all three branches into sync.

The updates to the XSL and CSS file are now ready to be deployed to the prod environment (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).

Note: When you run “update_github.command” per the steps above, you may get the following error:


This indicates an issue with your installation of OSX developer tools. To resolve this, open terminal then run the following command:

xcode-select --install

Then follow the onscreen options for installing the tools.
A Note about Using CSS Files on Livingstone Online

Livingstone Online uses a CSS reset sheet. This file (reset.css) is found in the main LEAP-XSLT repo. Use of such a sheet is recommended because it reduces browser inconsistencies in things like default line heights, margins, font sizes of headings, etc.

On occasion you will find that the reset.css causes unexpected renderings of elements in a TEI file that you transform with an XSL file and style with a CSS file. In other words, elements of the HTML file will take one set of properties when you view them locally, but will take a different set of properties when presented on the site in either the manuscript or multitext viewer.

Should this happen, add a new rule to your CSS file to override the reset.css file. If you discover that the problem spans multiple CSS files of yours, you can also add a new rule to the common.css file that is also found in the main LEAP-XSLT repo so that the override happens across all CSS files.
TEI Files
Adding Metadata to the Header of TEI Files

To create a new TEI file, you will normally use either the letter or diaries template provided with the Livingstone Online ODD (see the section of this manual on “GitHub Core Data and Code Repos,” subsection “LEAP-ODD”). The templates can also be modified to accommodate other types of manuscripts.

Once you have a template open, you will need to fill out the various sections of the header. This information should be taken directly from the corresponding MODS record or from the Browse by Digital Catalogue (http://livingstoneonline.org/in-his-own-words/catalogue) entry based on the MODS record. So, for instance, to complete the metadata in the header of the “liv_000456_TEI.xml” file, you would copy over the relevant information from the “liv_000456_MODS.xml” file.

In other words, the header of the TEI file must be completed manually. During LEAP (2013-17), we created a file called “addMODSData.xsl” that could automatically copy the relevant metadata from the MODS file to the TEI file, but that XSL file depended on the header being in a form (the form it took for legacy letters) different from that currently used for the letter and diary templates.

Note: For further information on coding Livingstone manuscripts, see the Livingstone Online TEI P5 Coding Guidelines (http://livingstoneonline.github.io/LEAP-ODD/leap.html).

Also note: We have retained the “addMODSData.xsl” file cited above. It is found in the “LEAP-TEI” repo, in the following location: /LEAP-TEI/TEI-XSL-list-files/addMODSData.xsl

1) To use this file, put the file and the “saxon9he.jar” file found in the same in the same location into the directory that contains the TEI files to be updated and corresponding MODS files. In other words, the file list in the given directory might look something like the following:

    addMODSData.xsl
    liv_000456_MODS.xml
    liv_000456_TEI.xml
    saxon9he.jar

2) In terminal navigate to the given directory, then run the following command: for file in *_TEI.xml; do java -jar saxon9he.jar -s:$file -xsl:addMODSData.xsl -o:$file; done All TEI files will now be updated with the information from the corresponding MODS records.

Note: The “addMODSData.xsl” file has a bug in that it kicks out the <title type=“alternative”> line twice. After running the foregoing command, review all TEI files manually and remove all instances of the duplicated <title type=“alternative”>.
Listing Tagged Elements, Attributes, Values, and Content in TEI Files

LEAP (2013-17) resulted in the creation of two XSL files that list tagged elements in TEI files for review and potential correction. The files are located in the “LEAP-TEI” GitHub repo as follows:

/LEAP-TEI/TEI-XSL-list-files/listelements.xsl
/LEAP-TEI/TEI-XSL-list-files/find-xpath.xsl

The first of these files ("listelements.xsl") generates an alphabetized list of all tagged elements and corresponding attributes and values in the given set of TEI files.

1) To use this XSL file, either add all relevant TEI files to the “TEI-XSL-list-files” directory (where the “listelements.xsl” file resides) or copy the “listelements.xsl” and “saxon9he.jar” files to the directory with your TEI files.

2) In terminal navigate to the relevant directory, then use one of the following commands:

Mac, single TEI file (replace text highlighted in green as relevant): for file in *.xml; do java -jar saxon9he.jar -it:main -s:liv_000019_TEI.xml -xsl:listelements.xsl -o:`basename $file .xml`.xml.html; done

Mac, multiple TEI files (option 1, faster): java -jar saxon9he.jar -it:main -s:$file -xsl:listelements.xsl -o:0_element-attribute-value.html

Mac, multiple TEI files (option 2, slower): for file in *.xml; do java -jar saxon9he.jar -it:main -s: $file -xsl:listelements.xsl -o:0_element-attribute-value.html; done

PC, single or multiple TEI files: java -jar saxon9he.jar -it:main -o:0_element-attribute-value.html -xsl:listelements.xsl files=*.xml

Note: In some cases, the faster option 1 for Mac, multiple TEI files, may not work in the first instance. If this proves to be the case, put a single TEI file in the location where you intend to run the full transformation and run option 2. Once you have done so, add the rest of the files. You should now be able to run option 1.

3) Once you run any of the three variants of the command cited above, a file called “0_element-attribute-value.html” will be generated in the directory in which you are working. This file should open in a browser window and will list all tagged elements, attributes, and values:
4) You can now review the elements, attributes, and values in your TEI files and correct the TEI files as relevant.

If necessary, the above workflow can then be rerun to double-check your corrections.

The second of the files cited above (“find-xpath.xsl”) generates an alphabetical list of all content in one or more TEI files tagged with a specific element. There are also the options to display all content with a specific attribute and, separately, display all values of a given attribute along with the content.

1) To use this file, either add all relevant TEI files to the “TEI-XSL-list-files” directory (where the “find-xpath.xsl” file resides) or copy the “find-xpath.xsl” and “saxon9he.jar” files to the directory with your TEI files.

2) Open the “find-xpath.xsl” file in a program like oXygen and scroll down to the <xsl:variable> with @name that has a value of “xpath”:
3) Once you have found this <xsl:variable>, change the value of @select as appropriate. For instance, using the element <settlement>, possible options include (the part highlighted in yellow should be changed as appropriate following the models):

$docs//settlement – lists all content marked with the <settlement> tag. By default, this will also display in square brackets the value of the associated @type (if any) next to the content, as in the following example: London (2) [city]. This example indicates that there are two instances of “London” marked with the <settlement> tag and that each of these has a value of “city” for the @type.

$docs//settlement[@type='city'] – lists only content marked with the <settlement> tag that includes the value of “city” for @type. Anything else marked with <settlement> with a different attribute is not listed.

$docs//settlement[not(@*)] – lists only content marked with the <settlement> tag that does not have an attribute specified. Anything else marked with <settlement> and a specific attribute is not listed.

Note: To change the attribute whose value is shown by default (@type) in the output file, use your text editing program to batch replace all instances of “@type” in the “find-xpath.xsl” file with whatever attribute you prefer. Be sure to include the @ sign in your replacement attribute and be sure to save after replacing:
4) In terminal navigate to the directory with the TEI and XSL files, then run one of the following commands:

Mac (option 1, faster): `java -jar saxon9he.jar -it:main -s:$file -xsl:find-xpath.xsl -o:0_element.html`

Mac (option 2, slower): `for file in *.xml; do java -jar saxon9he.jar -it:main -s:$file -xsl:find-xpath.xsl -o:0_element.html; done`

PC: `java -jar saxon9he.jar -it:main -o:0_element.html -xsl:find-xpath.xsl files=*.xml`

Note: In some cases, the faster option 1 for Mac may not work in the first instance. If this proves to be the case, put a single TEI file in the location where you intend to run the full transformation and run option 2. Once you have done so, then add the rest of the files. You should now be able to run option 1.

5) Once you run one of the above commands, a file called “0_element.html” will be generated in the directory in which you are working. This file should open in a browser window and will enumerate the specified tagged content in two ways: a) by a compressed list of distinct values and b) by a full list of each occurrence of each value:
6) You can now review the tagged content in your TEI files and correct the TEI files as relevant.

If necessary, the above workflow can then be rerun to double-check your corrections.
Generating PDF Versions of TEI Files

It is possible to generate a reader-friendly PDF version of any TEI file created using the Livingstone Online guidelines (http://livingstoneonline.github.io/LEAP-ODD/leap.html). To enable this transformation to run on your computer (Macs only), use the following steps:

Initial, One-Time Setup

1) Clone the following Livingstone Online GitHub repos:

https://github.com/livingstoneonline/LEAP-ODD
https://github.com/livingstoneonline/LEAP-PDF-Files

Additionally clone the following TEI Consortium repos:

https://github.com/TEIC/TEI
https://github.com/TEIC/Stylesheets

2) Once you have these four repos on your computer, make a symlink from your version of /Users/awisnicki2/GitHub/Stylesheets/profiles/LEAP to wherever you have the “profiles” directory of your “LEAP-ODD” repo. Note: Further information on making symlinks on Mac can be found online via Google.

3) In the “PDF-Files” repo, navigate to the following subdirectory: PDF-Files/Use-to-setup-PDF-transformations/Changed-Stylesheet-files-for-PDF-transform

In this subdirectory, you will find a series of six XML and XSL files plus the following three PNG screenshots:

all_changed_files_with_directories.png
swap_this_file_back_in_to_make_pdf_conversion_work1.png
swap_this_file_back_in_to_make_pdf_conversion_work2.png

In the first instance, you should follow the directions in the latter of these two files to swap (i.e., copy) the relevant XML and XSL files from the present subdirectory over the corresponding files in the relevant subdirectories of the “Stylesheets” GitHub repo (see above).

Note: If PDF transformations fail to run (see below), you may need to return to foregoing step and use the instructions in the first PNG to copy all six of the XML and XSL files in the present directory over the corresponding files in the “Stylesheets” repo.

4) In the “PDF-Files” repo, navigate to the following subdirectory: /PDF-Files/Use-to-setup-PDF-transformations/Change-buff-size-for-liv_000019
In this subdirectory, you will find a file called “texmf.cnf”. This file must be copied over the version of this file on your Mac in order for the PDF transformation of liv_000019_TEI.xml and, perhaps, other TEI files to work.

The easiest way to copy the “texmf.cnf” file to the relevant place (and over the relevant file) is to open terminal, then run the following command, changing the two paths as appropriate:

```bash
cp /Users/awisnicki2/GitHub/PDF-Files/Use-to-setup-PDF-transformations/Change-buff-size-for-liv_000019/texmf.cnf /usr/local/texlive/texmf-local/web2c/
```

Note: You may not need to only change the first path, i.e., the one that points to your version of the “PDF-Files” repo, highlighted in green.

Once this file is copied over, your computer should now be set up to run TEI to PDF transformations.

---

**TEI to PDF Transformations**

Once initial setup is complete, TEI to PDF transformations can be done from anywhere on your computer using the following steps:

1) In terminal, navigate to the directory where you have the TEI files that you would like to transform to PDFs, then enter one of the following commands:

Conversion of one file (change the part highlighted in green as appropriate):

```bash
/Users/awisnicki2/GitHub/Stylesheets/bin/teitopdf --localsource=/Users/awisnicki2/GitHub/TEI/P5 --profile=LEAP liv_000859_TEI.xml liv_000859_TEI.pdf
```

Conversion of all files in given directory (i.e., one or more files):

```bash
for file in *.*xml; do /Users/awisnicki2/GitHub/Stylesheets/bin/teitopdf --localsource=/Users/awisnicki2/GitHub/TEI/P5 --profile=LEAP $file `basename $file .xml`.pdf; echo done $file; done
```

2) Once you have run one of the above commands, you will find a PDF file for every TEI file in the directory. Because of minor bugs in the process, you may also occasionally find some extraneous latex files that are neither TEI or PDF files in the directory. These extraneous files may be safely deleted once the transformation is complete.

3) Review the generated PDF files. If necessary, correct the original TEI files, then run the above workflow again.
The Drupal Layer: Section Pages
Accessing the Drupal Back End

The URL for the prod version of Livingstone Online is http://livingstoneonline.org/. The dev version will exist only as a local version on programmer or regular staff machines.

1) To access the Drupal back end of the prod version of the site, add “user” to the end of the URL’s above, then enter your credentials in the relevant places:

2) This will take you to the user landing page in the back end of the site:
Once in the back end, you will be able to take forward any necessary work, including engaging in most of the workflows set out in this manual.

Note: Because of a limitation of Islandora, if you are logged into the site you will find that it takes considerably longer – initially – to load images/transcriptions into the manuscript viewer and spectral image viewer than if you are not logged in (once loaded, however, there will be no difference; so it’s only on startup that there is a delay). This issue boils down to authentication. The way Islandora is setup it needs to generate a token for every data-stream access. In case of manuscripts with only a few pages, there will be little difference but for those with more it begins to drain on the system. As a result, at present (2019) the logic has been set up so that only administrators need to do the relevant authentication. Anyone not logged in will not encounter this issue.
Creating Section Pages

Section pages are the pages that display the content of any given section of *Livingstone Online* such as “About This Site” or “Resources.” Any given section may have an unlimited number of section pages.

Note: Creating section pages is nearly identical to creating critical edition pages, but there are a few differences. For more on creating critical edition pages, see the section of this manual on “Building a Critical Edition.”

1) To create a section page, select “Section Page” from the “Add content” submenu of the “Content” menu:

2) You will then be presented with the form for creating section pages:
3) Complete all fields as relevant, but as you do take note of the following:

**Pre-Title** – Usually not necessary. The only pages that use pre-titles are in the “In His Own Words” section and are custom-built pages.

**Subtitle** – Use only if the page appears in an edition. If it does, than the subtitle should be the short version of the edition title: e.g., “Livingstone's 1871 Field Diary”.

**Table of Contents** – It is not necessary to use this dropdown unless the page is part of a critical edition. See the section of this manual on “Building a Critical Edition.”

**Teaser** – This is the italicized text that appears below the page title on section boxes (i.e., level 2 section page tiles). It should never be more than a short phrase. Use existing examples from the site to guide you.

**Tile and Carousel Images** – Normally the same image, but cropped to two different specifications. See the section of this manual on “Image Type Sizes.”

**Section** – Select the site section in which you wish the page to appear. Selecting a section will add the appropriate carousel to the top of the page. To add your new page to the carousel and to move the page to the appropriate place in the carousel, see the section of this manual on “Putting Section Pages in Order.”
Transcriptions – Not be completed unless the page is to be used as a multtext viewer page. See the section of this manual on “Creating a Multitext Viewer Section Page.”

Author(s) / Editor(s) – These two sections are used as part of the process of creating RDF files for NINES (see the section of this manual on “Generating RDF Files for NINES”). Each author and/or editor for a given section page should be listed in a separate field in these sections (the section page form allows you to add as many fields as necessary). Use the “Last name, first name [middle name or initial]” format for each person, as in the following examples: “Wisnicki, Adrian S” and “Ward, Megan”.

Revision Information Tab – The “Create New Revision” box should be checked by default. Keeping this box checked preserves any revisions of the page and allows you to go back to previous revisions if necessary:

When logged into the site, use the “Revision” tab at the top of the page, to review previous versions of the given page:
For more on working with revisions, see the section of this manual on “Comparing Section Page Revisions.”

Note: The revisions tab will not appear on a page unless there are previous revisions. So, for instance, it will not appear on a newly created page.

Also note: We do not usually add a “Revision log message” when saving a new revision of a page, although you can do so if you like.

Also note: You do not have to keep the “Create new revision” box checked. However, if you uncheck it, edit a page, and then save it, the next time you edit the page you will overwrite the previous version (i.e., the version on which you are currently working) and have no way to go back in case there is a mistake, information is lost, or any other problem arises.

**Publishing Options Tab** – “Published” is checked by default. If you are working on a page, but do not yet want it to be public, uncheck this box:
Note: Because of a bug in the system, if you repeatedly save an unpublished page, you may eventually get an error message that begins “Classes cannot be longer than 128 characters, but is currently....” as in the following example:
This error is due to the addition of classes to the page each time you save an unpublished page and results from the fact that you have accidentally checked “Provide a menu link” at the bottom of the page:
If you click on the “Menu Link Attributes” subsection in “Menu Settings” you will be able to see the issue:

To resolve this issue and save the page, you can remove the problematic text from the “Classes” field.

However, the “Provide a menu link” box should not be checked as we use a different workflow to add section pages to the “Main menu” and critical edition menus (see the sections of this manual on “Arranging and Editing Site Content in the Main Menu” and “Building a Critical Edition,” respectively) so ultimately be sure to uncheck that box. Indeed, you can uncheck the box (and resolve the issue) even before saving the page.

**Save Button** – Be sure to save the page when you first create it and each time you edit it or your changes will be lost.

Note: For more information on using the WYSIWYG that appears in the form sections for “Main text,” “Overview,” and “Teaser,” see the section of this manual on “Using the Drupal WYSIWYG.”

4) Once you create and save a new section page, you are ready to add it to the main menu, level 2 tile array, and level 3 carousel. See the section of this manual on “Putting Section Pages in Order.”

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Comparing Section Page Revisions

By default, the Drupal section page form is configured to keep a record of any revisions you save to a section page (see the section of this manual on “Creating Section Pages,” subsection on “Revision Tab Information”):

Once revisions to a page have been made, you can compare both the current version of the page and any previous version against any other previous version by clicking on the “Revisions” tab (Note: The “Revisions” tab will not appear unless a page has been revised):
To compare versions, on the “Revisions” page click inside the circles for the two versions you would like to compare, then click the “Compare” button:
You will then be presented with a comparative display that highlights any differences between the two versions in red font:

Should you find something in a previous version of the page that you would like to restore, you can open a new tab in your browser with another copy of the section page open and manually carry over the material. Should you like to restore a previous version of the page in full, you can return to the main “Revisions” page (by clicking on the “Revisions” tab again) and then “revert” to the desired version:
As the foregoing image shows, the main “Revisions” page also allows you to delete previous page versions, but this is not recommended and will usually not be necessary.

Note: By reverting to a previous page version, you will not delete the current version of the page. Rather, once you have reverted and created a new current version of the page, the previous current version of the page will become a previous revision.

Also note: The comparative view of revisions will usually display any revisions to a page, including those that involve images (such as tile and carousel images), as in the following example:
That said, there may be non-textual revisions that this comparative view does not display (this aspect of the site has not been fully vetted), so always be careful when reverting to a previous version of a page. When not sure whether something will be lost when you revert to a previous version, the best option is to manually carry over material from a previous version to the current version.
Rearrange the Order of Items on the Section Page Form

The Drupal layer of the site allows staff to create section pages by using a dedicated form (see the section of this manual on “Creating Section Pages”). On rare occasions, staff may need to edit the order of options on the section page form. To edit this order, use the following steps.

Note: You must be logged into the site’s admin account to carry out this work. For access to this account, contact the site directors or system administrator (see the section of this manual on “Key Livingstone Online Contacts”).

1) From the “Structure” menu, navigate as follows:

Content types > Section Page > Manage fields

2) You will be taken to the “Manage fields” tab for section pages:
Once on this page, use the gray crosses at left to rearrange items on the section page form as necessary. Use the “edit” option to change labels, etc. Save your changes when finished.
Using the Drupal WYSIWYG

When using the Drupal form to create a new section page, content in the “Main Text,” “Overview,” and “Teaser” sections can be modified using the WYSIWYG (“What you see is what you get,” i.e. the array of formatting buttons at the top of the window), although normally you will only need to use the WYSIWYG, if at all, for the “Main Text” section:

Most of the options in the Livingstone Online Drupal WYSIWYG are self-explanatory and will not be discussed here. Additionally, all of the buttons have self-documenting titles that can be accessed by hovering over the buttons, as in the following example:
A few buttons, indicated in the image below, require further explanation:
**Source** – Use this button to toggle between the formatted view and the HTML view of the text. This is useful should you wish to work directly with the HTML for the purposes of, for example, using inline CSS. Note: To see how formatting will actually look on the site, it is necessary to save a page and study it in the normal view as back end formatting representation will not always match final display.

**Image** – Staff will not normally use this button, as we have a different workflow for adding images that simultaneously provides a title, alt text, and a caption (see the section of this manual on “Using Templates for Page Structure and Illustrative Images”).

**Table** – This button may prove useful, but staff may also find that it is easier to find other tables already on Livingstone Online that have the desired properties and to reuse those table properties for the case at hand.

**(Formatting) Styles** – By default, the margin for paragraphs is set to 0px above and 20px below each paragraph. To reduce the bottom margin to 0px, use shift-enter in the appropriate place for a soft return. Using the options provided by the “Styles” button, you can also increase the default bottom-margin by 10px or 20px or reduce it by 10px or 15px. To change the top margin on paragraphs, you will need to use inline CSS.

**Paragraph Format / Size / Font** – You will normally not need to use these three buttons, as regular text will be displayed using default properties. As a general rule, we use default properties for all parts of a given section page, other than occasionally reducing text size for things such as tables. Any other deviations from defaults in creating pages will be set using a separate workflow (see the section of this manual on “Using Templates for Page Structure and Illustrative Images”).

**Templates** – This button is used to add a Table of Contents to the “Overview” section of the section pages. For more on this button, see the section of this manual on “Adding a Table of Contents to the ‘Overview.’”

**Decrease Indent / Increase Indent** – These buttons provide the functionality specified, but for more granular control of indents, staff should use inline CSS.

**Block Quote** – We do not normally use this button for the site, so staff are advised to ignore it.
Using Relative Links for *Livingstone Online* Pages

When you develop a section page, you have two options for adding links to other web pages in the text.

1) If you are linking to a page that is external to the site, you should use the full link when hard coding:

You should also use the full link option when going through the WYSIWYG:
2) If you are linking to a page that is internal to the site, i.e., is a part of Livingstone Online, you should use a relative link when hard coding:

You should also use a relative link when going through the WYSIWYG:
Note that in the example above, the protocol that has been selected is “<other>” and the link in the URL field does not include the introductory http://livingstoneonline.org/

The use of relative links ensures that internal links to other parts of the site will not break even if the domain name of the site should be changed at some point in the future.
Using the Template for Section Page Structure

Section pages have a number of standardized features, such as section headings with links to the top of the page, anchors linked to the TOC, and a closing link to the top of the page. When creating a new page, it is necessary to implement these features.

To facilitate the process, we have created the “Drupal-HTML-template.html” file. The file is included in the Livingstone Online download packet that contains the present instruction manual (the file is found in a subdirectory called “Section-Page-Files”) and can also be downloaded from the Livingstone Online file server from the following location:

/Section-Page-Files

Once downloaded, the file should be opened through a text editor such as TextWrangler (not a web browser, despite the HTML suffix), then copied into the “Main Text” segment of the section page form, but only after clicking the source button on the “Main Text” WYSIWYG so that the pasted HTML text is recognized.

Once the HTML text has been pasted in, staff should modify text as appropriate for the new section page. Using the instructions embedded in the template for guidance. If necessary, refer to existing pages on the side to serve as models.
Adding Tooltips

Livingstone Online allows for the addition of tooltips as a way of providing information beyond that which is shown on the page. Such tooltips will normally be used for project histories, but may also be helpful in other contexts. The following pages offer some examples of tooltips in use:

https://livingstoneonline.org/about-this-site/leap-2013-2017-project-history-part-i
https://livingstoneonline.org/about-this-site/leap-2013-2017-project-history-part-ii
https://livingstoneonline.org/spectral-imaging/project-history
https://livingstoneonline.org/in-his-own-words/missionary-travels-manuscript/project-history

The addition of tooltips follows a simple procedure:

1) Open the “Edit” view of the given site page and scroll to the passage of interest (see highlighted text in the screenshot below):

2) Draft the text that you would like to appear in the tooltip, then put it in the following format:
Note the following things about this format: a) Square brackets surround the text, b) the text begins with “qtip:”, c) first the given text to appear on screen (“Adrian S. Wisnicki”) is presented, then with intervening spaces a vertical line, then the text for the tooltip, and d) the tooltip text can include special formatting like italics.

3) Once you’ve drafted and prepared the relevant text, paste it where appropriate (see highlighted text in the screenshot below):

Note that the format remains the same even in “Source” view:
4) Save. The tooltip will not be included in the given page. Onscreen in default view, the tooltip will appear in blue with a dotted underline:

Hovering over the tooltip will, in turn, reveal the text:
Note: On the site, the practice is to put a tooltip on someone's name the first time it appears in a section. The first time it appears in the next section, it will also get a tooltip, etc. Additionally, each time an image intervenes, the next instance of a name after the image also gets a tooltip, as per the following illustrative outline:

[First section of essay]:
First instance of name = tooltip
second instance = no
third instance = no
[image]
fourth instance = tooltip
fifth instance = no

[Second section of essay]:
First instance of name = tooltip
second instance = no
etc.
Adding Illustrative Images to Section Pages

Adding illustrative images to section pages has a custom workflow consisting of several steps. The workflow will result in the display of the images on section pages, the images being hyperlinked to zoomable versions, and the images having both title and alt text plus an image caption.

To facilitate this process, we have created an image HTML code generator file called “Image-HTML-code-generator-new-vers.xlsx”. The file is included in the Livingstone Online download packet that contains the present instruction manual (the file is found in a subdirectory called “Section-Page-Files”) and can also be downloaded from the Livingstone Online file server from the following location:

/Section-Page-Files

The code generator offers the options of creating code for images with rights info that should be displayed as either hyperlinked or as plain text. The generator also allows you to put individual images or two images side-by-side on section pages. Further manipulation of the generated code will also allow you to create other image displays, such as 4 x 4, etc.

1) To use the generator, identify an image that you will add to a section page and open the code generator file in Excel. Once the file is open, click on the tab that is appropriate for your image. Tab selection will depend on whether your image includes rights information that needs to be hyperlinked onscreen (e.g., a Creative Commons license) or will be shown as plain text:
2) Once you have clicked on the appropriate tab of the generator, identify the rows on the sheet that best correspond to the image you would like to embed in the section page (Note: The match may not be perfect). Each sheet contains lines of code to be used for individual images and, separately, to be used for two images side by side, as in the following example:
3) Once you have copied the appropriate rows, click on the “Use-this-sheet” tab, then paste the rows into the new sheet, as in the following image:
4) Edit the cells in the second and third columns (columns B and C) to correspond to the image with which you are working. The cells in the fourth, fifth, and sixth columns (columns D, E, and F) may also need to be modified:

![Excel spreadsheet screenshot](image.png)

Note: To get the creator(s), title, date, and copyright information for illustrative images, see the section of this manual on “Getting Metadata for Illustrative Images.”

Important note: If you enter information into any of the cells that includes quotation marks, make sure that you are using single quotation marks, not double. Double quotation marks will cause your code to fail once you paste it into Drupal.

5) Once you have updated information in the cells, copy the code generated in the first column:
6) Open a text editing program (such as TextWrangler or TextEdit) and paste the copied code into a plain text file. Review the code to ensure the item information you inputted looks OK:
Note that your added information appears three times in the code (except the file name, which appears only twice), so if you make any edits to your information in the code itself be sure to edit in all three places.

7) Open File Browser and navigate to the section page subdirectory that corresponds to the section page to which you are adding the image. Upload the image to this subdirectory (see the section of this manual on “Using File Browser”). Note that in the example below, the site section directory is called “about-this-site” and that the section page subdirectory is called “the-design-livingstone-online”:

8) The code that you have pasted into the plain text file (see step #6, above) includes two instances of a relative URL that will point to your illustrative image. It is now necessary to modify both instances of this URL so that they include the relevant directory/subdirectory information from File Browser. In the following two screen shots, the added information has been highlighted:
In other words, as the two examples show, the code generator created the following relative URL:
This was then modified to include the relevant directory/subdirectory information (highlighted in yellow in the text below):

```
/sites/default/files/about-this-site/the-design-livingstone-online/liv_003006_0001-article.jpg
```

9) Next, add any caption that you would like to accompany the image. See the example below for the exact location in the code where this caption should be placed. Note that the addition of a caption also requires the addition of a period to the end of the rights information that will preceded the caption:

```
<figure>
  <img src="/sites/default/files/liv_003006_0001-article.jpg" alt="David Livingstone, Map of Central African Lakes, [1869]. Copyright National Library of Scotland and Dr. Neil Imray Livingstone Wilson (as relevant). Creative Commons Share-alike 2.5 UK: Scotland (https://creativecommons.org/licenses/by-nc-sa/2.5/scotland/)." type="image/jpeg"/>
  <figcaption>Caption for image would go here.</figcaption>
</figure>
```

10) Select all the text in the plain text file and copy it.

11) Open the section page where you plan to add the image, click on the “Edit” tab, and scroll down to the “Main Text” segment of the section page form. In the “Main Text” segment, click on the “Source” button to display the main text as HTML code, then scroll down to where you intend to add the image in the text. Paste the code you copied in the previous step:
The code will appear as one big undifferentiated mass, as in the image above. Scroll down to the bottom of the section page form and save the page.

12) Return to the “Edit” view of the section page and find your pasted code. You will see that Drupal has slightly reformatted the code. This is OK and, in fact, makes the code easier to read:
13) You do not need to save the page again at this point. Rather scroll back up to the top of the section page form and click on the “View” tab. If you have done everything correctly, your image with a caption (andmouseover text) should now appear in the correct place on the page.

14) In some cases, you may not want the single image to take up the full screen width, but rather have a width of 80%, 90%, etc., as in the case of the example image below, where width is set at 80%:
Adjusting the width requires three steps: a) you need to center the image by adding an additional class (rtecenter) to the image code; b) you need to reduce the image width set in the code to the desired size; and c) you need to adjust the properties of the span that encompasses your image caption in the code. The image below indicates the three places where the image code must be changed:
Note: These changes to the code can also be made in the plain text file before you paste the code into the Drupal form (see step #10, above).

Also note: The opening span tag around the caption for an image with a width of 70% would take the following form, as it does in the image above:

```
<span style="font-size:12px;display:inline-block;text-align:left;max-width:70%">
```

15) In the case of side-by-side images, if you follow the steps above correctly you will find that the size of the images on the page is exceptionally small:
This is OK and is set as a reminder to you that the image height for these images needs to be adjusted. The height will vary depending on the images and so must be set manually in each case.

The images will normally need the height increased to the maximum extent possible, but the height should not be increased beyond a point where the height-to-width ratio of one or both of the images becomes distorted. Setting the height will require some experimentation, as follows:

a) Right click on the first image, select “Inspect Element” (in Mozilla; in other file browsers this feature may work differently), then adjust the height as needed, then repeat for the second image, adjusting back and forth between the images until you find an ideal height. Once you have identified the ideal height, take note of it:
b) Click on the “Edit” tab for the section page in question, scroll down to the “Main Text” segment, click the “Source” button, then scroll down to the HTML code that corresponds the images for which you will be setting the height. In the code for each image, change the height to the desired value. Normally, this value will be the same for both images:
c) Once you've adjusted the height for each image, scroll down to the bottom of the section page form and save. Your images will now have the correct height on the section page.

16) In some cases, you may also want to show three images side by side, as in the following example, which is drawn from the critical edition of Livingstone’s 1871 Field Diary, from the “Livingstone’s Composition Methods” page (http://livingstoneonline.org/spectral-imaging/livingstone-s-composition-methods):
In such cases, you will not use the code generator, but rather will turn to the triple-image code:
To use this code, edit it in a Word file so as to a) replace the green and yellow text and b) remove the red text (if you paste the red text into a Drupal form, it will break the code). Once you’ve done that, copy the code into a plain text file (to remove any unnecessary Word formatting such as the colors), then from there copy the text directly into the “Main Text” window on the “Edit” view of the given section page. Save the page.
If you previously added the three relevant images to File Browser per step #7, above, and to the code have added the corresponding URLs per step #8, above, the images should show up side by side on the saved page. Per step #15, above, you will then need to edit the purple field in the code (now directly in the “Main Text” window) so as to ensure that the images are the correct size.
Getting Metadata for Illustrative Images

Our workflow for adding illustrative images to section pages requires knowing the following information for each illustrative image: creator, title, date, copyright information. To get this information, there are several options available.

Getting metadata via the LEAP-MODS GitHub repo

1) Navigate to the following GitHub directory and clone it:

https://github.com/livingstoneonline/LEAP-MODS

2a) Open the newest version of the following file:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/14-MODS-DC-xxx.xlsx

2b) In the case of images in the liv_013000 or liv_016000 series, open the newest version of the following file:

/LEAP-MODS/ MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Illustrative-MODS-xx.x.xlsx

3) Once one of these two foregoing files is open, locate the image using its base file name (e.g., liv_000455 is the base file name for liv_000455_0001.jpg) and copy all relevant metadata from the given row of the spreadsheet.

Getting metadata via the Livingstone Online site

Note: This method will not work for images in the liv_013000 or liv_016000 series.

1. In the search box in the header of any Livingstone Online page, enter the base file name for your given image (e.g., liv_000455 is the base file name for liv_000455_0001.jpg) and hit enter:
2. The given item will usually be the first entry that appears on the “Search results” page:
3. Once you click on the result, the first page of the item will appear in the Livingstone Online manuscript viewer. Click on the “Item Details” button:

4. Use the “Item Details” pane at left to get the creator, title, date, and copyright information:
Getting metadata via "Preview" (Mac only)

1) In Mac, open the image in "Preview," then simultaneously hit “command” and “l” to open the “More Info” window:
2) Once the “More Info” window is open, click on the “IPTC” tab to get the creator, title (and date), and copyright information:
Using Illustrative Images on Section Pages: General Notes

We have illustrated the essays and other critical materials on Livingstone Online by using a variety of critical strategies. In developing new content, staff would do well to be aware of precedent in this respect in order to maintain the site’s overall aesthetic uniformity, which is one of the site’s distinguishing features and which does represent a critical intervention in its own right.

Put simply, we use a fair amount of critical reflection when adding illustrative images. A key objective is to use the visual realm to enhance and/or extend (and in some cases, play off of) points made in the prose, but other goals also come into play. These include:

- alternating prose with images in a harmonious fashion;
- using a variety of images plus employing diverse presentation strategies (i.e., cropping, zooming, varying height and width, etc.) to maintain reader interest; and
- critically mediating images wherever relevant via captions in order to highlight the historical and cultural contexts of the images.

For examples of all the above, staff are directed to the site itself and are encouraged to reflect on how images are used in various essays. It is also worth noting that not all our strategies in the use of images are explicit; some portion of critical mediation has been undertaken in an allusive or oblique fashion, including the occasional introduction of humor and/or irony.

From a practical perspective, staff should take note of the following when adding illustrative images to Livingstone Online essays and other such content:

1. On the average, we use an image every two or three paragraphs.
2. Sometimes we present a single image, sometimes two images side by side, sometimes two or more images (one above the other), sometimes four image (two and two), etc. In other words, there are a variety of distinct ways to present images; all should be used as necessary.
3. Often we treat a section break like an image in that the break provides a kind of visual relief from the prose.
4. Images can be a variety of sizes and shapes, although the layout of the site does tend to favor landscape orientation.
5. Our use of captions is standardized: first basic bibliographic information to identify the image, then rights information, and, finally, critically reflective text.

6. Since our digital collection is vast, we prefer to use an image only once on the site and will always check to see if a given image has been used previously. However, if it is essential to use a particular image in a new context, we will use it more than once. Note: To see if a given image is in use already, navigate to the following directory in the Livingstone Online file server (/Production-Site-Backup/files), then scroll through the list of files to see if your file appears in the list (with “-article” added to it at the end of the file name), as in these examples:

   liv_000200_0053_color-article.jpg
   liv_014030_0003-article

If the file does appear in this form, it is being used as an illustrative image elsewhere in the site. If the file appears without “-article” at the end of the file name, it is not being used as an illustrative image. Also take note of the following:

a) In some cases, you may also find multiple instances of a file being used:

   liv_002564_0004_color-article1.jpg
   liv_002564_0004_color-article2.jpg
   liv_002564_0004_color-article3.jpg

Multiple versions of a file indicate that the file is being used in differently cropped versions in different places.

b) Should you like to use a uniquely cropped version, download the existing version(s) of the file from the server and review so as to avoid duplication.
c) If a file is already being used, but you would like to use it again, download (but do not remove) the file from the server, then add it to the relevant section page folder in File Browser as you would any other image for the given section page.
Adding Entries to Bibliographies on Section Pages

*Livingstone Online* has a number of major and minor bibliographies scattered throughout the site. These include the main bibliography ([http://livingstoneonline.org/resources/david-livingstone-bibliography](http://livingstoneonline.org/resources/david-livingstone-bibliography)) and the spectral imaging bibliography ([http://livingstoneonline.org/spectral-imaging/integrated-project-bibliography](http://livingstoneonline.org/spectral-imaging/integrated-project-bibliography)).

To update any existing bibliographies or to create new ones, staff should use the following workflow, which incorporates Zotero ([https://www.zotero.org/](https://www.zotero.org/)). This workflow maintains our Zotero database for future use, but also ensures that bibliographic entries across the site are consistent.

1) Open Zotero (staff will be given access to the *Livingstone Online* Zotero account), preferably in the desktop version:

![Zotero interface](image)

Note that all items may be accessed via the “My Library” directory at left, but that items are also organized via the series of subdirectories.

2) Search through the bibliographic list for any items you would like to add to a new or existing site bibliography.
3) If you do not find the given item, create a new bibliographic entry and sync (documentation for using Zotero is available online):

4) Once you have confirmed that all entries in which you are interested are in the Zotero account, select each one individually by holding down the command key and left clicking it, then right click on one of the highlighted entries and select “Create Bibliography from Item” from the options presented:
5) In the popup window that appears, select “Chicago Manual of Style 16th edition (author-date)” for the citation style, select “bibliography” for the output mode, and “Copy to Clipboard” for the output method, then click OK:
6) Next, open a plain text editor and paste the items from your clipboard (all that you selected should be pasted) to review. If necessary, add additional items by repeating the workflow above.

7) Once you have added all relevant items, copy the pasted text directly into the “Main Text” window on the “Edit” view of the given section page. Format the text as relevant by adding italics to titles, etc. Save.
Adding a Table of Contents to the “Overview”

The “Overview” of any given section page generally consists of two things: A solid block of text that provides a high-level overview of the given critical essay and, in some instances, a table of contents (TOC). The TOC only appears if the given essay is broken up into sections.

If there is a TOC, individual entries will usually be hyperlinked to anchors placed just above the corresponding parts of the main text. Where the anchors should be placed in the main text and what form they will take (arrow, triangle, etc.) will vary slightly based on the given text (section, subsection, sub-subsection, etc.); staff are encouraged to use existing examples from the site as their model (the different pages of the critical edition of the 1870 Field Diary are quite useful in this respect: [http://livingstononline.org/spectral-imaging/livingstones-1870-field-diary](http://livingstononline.org/spectral-imaging/livingstones-1870-field-diary)). Entries in a TOC may be numbered or unnumbered depending on the needs of the essay.

In the example below, the “Overview” contains both the prose overview and a TOC with unnumbered sections and numbered subsections:

![Notes on Processed Spectral Images](image)

When filling out the section page form per the usual workflow (see the section of this manual on “Creating Section Pages”), use the following steps to add a TOC to the “Overview”:
1) In the overview text, place the cursor where you would like to insert the table of contents, then click the “Templates” button from the WYSIWYG:

2) When the “Templates” button is clicked, you will be given only one option, "Table of Contents." Select this option and, when you do so, also make sure that you also leave "Replace Actual Content" unchecked:
3) This will add a list to the overview section that you can now edit by inserting text, adding links, etc.:
4) When you put your cursor on the list created, you can also change the list formatting:

However, note that *Livingstone Online* general practice is to use the "unnumbered" list formatting option in all cases, including for tables that will be numbered, as we normally add and hyperlink the numbers *manually* (if the “numbered” formatting is selected, conversely, numbers will automatically be generated and will not be hyperlinked):

5) Finally, use the indentation icons on the WYSIWYG to create subsections and sub-subsections in the TOC, etc.:
Note: While developing the table as a whole, you may find it more convenient to switch to the “Source” view (i.e., view showing HTML code) and edit the table that way.

6) Once you have created the list and added hyperlinks, you can place anchors in the relevant places of the “Main Text”:
In the case of the foregoing image, the HTML code for the relevant part of the table of contents is as follows (the link to the anchor is highlighted in yellow):

```
<li><span style="font-family:crimson text;"/><span style="font-size: 15px;">
<a href="#eec3">Widening Exploration in the Nineteenth Century</a>
</span></li>
```

The HTML code for the anchor itself appears in context thus (the anchor is highlighted in yellow):

```
<p>In North America, President Jefferson sent Meriwether Lewis and William Clark across the continent to collect information about the interior, then almost completely unknown to east coast inhabitants. Captain James Cook's two voyages to the “Antipodes” (1768-71 and 1772-75) claimed Australia for the British crown while natural philosophers measured the astronomical movements of the planet Venus and collected many thousands of natural history specimens, including the first kangaroo skin to be seen in Europe.</p>

<a name="eec3"></a>
<p>&nbsp;</p>
<h4><span style="font-family:crimson text;"/><strong>Widening Exploration in the Nineteenth Century</strong></span><strong>&nbsp;&nbsp;&nbsp;</strong><span>100</span>
```
In other words, the sequence (which adheres to usual Livingstone Online practice) is as follows: a) the last paragraph of the preceding section, b) a paragraph containing the anchor, c) an empty paragraph, and d) the heading for the new section to which the relevant table of contents line corresponds.

Note: Normally, the anchor would be placed beside the corresponding heading, but the overall configuration of the Livingstone Online site necessitates the configuration set out above.

Also note: The first anchor will usually not be placed in the “Main Text” section, but rather will appear at the end of the penultimate line of the table of contents, as in the following example:

In the foregoing image, the HTML code for the “Introduction” line of the table of contents is as follows (the link to the anchor is highlighted in yellow):

```
<li><span style="font-family: crimson text;"/><span style="font-size: 15px;"/>
<a href="#eec1">Introduction</a></span></li>
```

The HTML code for the penultimate line of the table of contents (which contains the anchor to which the “Introduction” line points) is as follows (the anchor is highlighted in yellow):

```
  <li><span style="font-family: crimson text;"/>Introduction</span></li>
```
Sponsoring Exploration
Image Type Sizes

A number of site image types currently have custom sizes. These are as follows:

Level 1 (Home Page) images: 2500px x 1390px
Level 2 (Section Page Tiles) images: 390px x 293px
Level 3 (Carousel) images: 65px x 65px
Level 4 (Timeline) images: 100px on longest edge

Level 1, 2, and 3 images are held in the Drupal layer of the site (see the section of this manual on “Using File Browser”; for home page images, also see the section on “Changing Banner Images on the Home Page”).

Timeline images are held in the archival directories (see the section of this manual on “Preparing Manuscript Images for Upload to Fedora,” subsection F on “Creating Thumbnails and Finalizing TIFF Item Directories”). That said, timeline images can also be reviewed but not edited via the back end of the site (see the section of this manual on “The ‘Content’ Menu”).

For levels 1, 2, and 3, the relative image size has been set by the configuration of the site. The images you upload can be larger or smaller than the dimensions given above (which still retaining the given ratios), but larger images will slow down page load, while smaller images will show up as grainy on the screen.

The timeline images (http://livingstoneonline.org/his-own-words/timeline), by contrast, will appear on the screen as sized, i.e. the relative image size is not fixed by site configuration. As a result, any changes to the size of timeline images should be made across all images systematically rather than ad hoc on a one-by-one basis.
Updating Section Page Tile and Carousel Images

In the process of creating section pages (see the section of this manual on “Creating Section Pages”), you will normally select images for the section page tiles on level 2 and the carousels on level 3:

The images that you upload for each these levels are managed by Drupal and are placed in the “section_page” directory of File Browser, in one of two subdirectories (either “carousel_images” or “grid_images”) as in the image below, where a handful of tile (i.e., grid) images are visible:
Should you decide to update these level 2 or level 3 images after loading them during the initial creation of the section page, use the following workflow.

1) Navigate to the “Edit” view of the page, then scroll down to the part of the section page form where tile and carousel images are selected. Do not click “Remove.” Instead, click “Edit”: 

![Image of File Browser with List of Images]
2) Put in the file name, alt text, and title for the new image; click “Browse” to navigate to the new image:
3) Scroll down to the bottom of the pop-up window and click “Save”:

4) Save the updated section page form as per normal practice:
5) The new tile and/or carousel images will now appear in the relevant places on the site.
Setting Titles and Alt Text of Section Page Tiles and Carousel Items

As part of the process of developing section pages, you should set the alt text (for screen readers) and the title (for mouseover tooltip) for the section page tiles (level 2) and carousel items (level 3). To do this, use the following steps:

1) Navigate to the given section page (level 3) and click on the main “Edit” tab:

2) The edit view of the page will appear:
3) Scroll down to the section that shows the tile and carousel images and click on the “Edit” button beside the relevant image (i.e., the images for these two options most first be selected before you can add title and alt text):
4) Change the alt text and title as needed. Note that the limit for alt text and title each is 255 characters (including spaces), so you may have to compress text in some cases. Use existing alt text and titles to guide you:
5) Close the pop up window, scroll down to the bottom of the page, and save:
Integrating New Section Pages into the Site

A handful of steps are necessary to ensure that any new section page you create is integrated into the site:

1) Navigate to the overview page of the section in which the page appears (for instance, the overview page for the “About This Site” section is: http://livingstoneonline.org/about-site/about-site-overview). Use existing entries on the overview page to guide your addition of the new section page.

Note: The overview page for the given section lists all the section pages in that section and provides short descriptions of each. The short descriptions are drawn themselves from the opening “overview” segments of the individual section pages.

2) Navigate to the “Site Guide” page (http://livingstoneonline.org/about-site/livingstone-online-site-guide) and add your new section page to the appropriate place in the list of site pages. Use existing entries on the “Site Guide” page to guide your addition of the new section page.

3) Navigate to the “Illustrative Image Credits” page (http://livingstoneonline.org/behind-scenes/illustrative-image-credits) and add your new section page to the appropriate place in the list of site pages. Use existing entries on the “Illustrative Image Credits” page to guide your addition of the new section page.
Putting Section Pages in Order

At present, Livingstone Online has six section (i.e., level 2) pages: 1) About This Site, 2) In His Own Words, 3) Spectral Imaging, 4) Life & Times, 5) In His Own Words, and 6) Resources.

Every section page on the site needs to be assigned to one of these six sections. Most section pages (except regular critical edition pages) also need to be assigned a specific place in the array of section page tiles on level 2 and in the relevant carousel on level 3. Finally, all section pages also need to be added to the “Main menu” and put in the appropriate place in that menu.

Note: For information on putting regular critical edition pages in order, see the section of this manual on “Building a Critical Edition.”

Assigning section pages to sections

To assign a page to a section, first create the section page per normal practice (see the section of this manual on “Creating Section Pages”) and, as part of that work, assign the page to a section:
This will ensure that the appropriate carousel appears at the top of that section page on level 3. By default, the new page will appear first (i.e., farthest on the left) in the range of items in the carousel.

*Add section pages to and arranging section pages in nodequeues*

Once a section page has been assigned to a section, the next step is to move the section page to its appropriate place in the carousel on level 3 and to add the section page in the appropriate place in the array of tiles on level 2. Both these elements are handled by adding the page to and arranging the page in the relevant nodequeue:

1) To do this, first select the “Nodequeue” tab for the given page:

![Nodequeue Tab](image)

2) Next, select the appropriate section from the list by clicking on it, as in the image below where the “About This Site” section will be selected:
3) The “Subqueue” page for that section will now appear. On the subqueue page, use the box at the bottom of the page to type in the title of your new page until the new page is automatically suggested. Select the auto-suggested title, then click “Add Content”:
4) The new title will now appear in the list of existing items in the queue. Click and hold on the gray cross to the left of the title, drag it to the desired place in the queue, then save.

5) The new section page will now appear in the appropriate place among the level 2 section page tiles and in the level 3 carousel items.

Note: For an alternate way to add section pages to and arrange section pages in nodequeues, see the section of this manual on “Accessing and Editing Nodequeues.”

Adding section pages to the “Main menu”

Once a section page has been assigned to a section and add to and ordered in the nodequeue for that section, the last step is to add the section page to the appropriate place in the “Main menu.”

1) From the “Structure” menu, select the option for “Menus,” then choose “Main menu” from the submenus listed:
2) You will be taken to the “Main menu” page. On this page, click on the “Add link” option:
3) Fill out the information in the form provided:

When completing this form, note the following:

- The path is the relative version of the UUID for the page (see the section of this manual on “Getting the UUID for Section Pages”).
- For the “Parent link” dropdown, select the section in which the new page should appear.
- In the “Menu Link Attributes” section at the bottom of the form (not shown in the image above), you can select a target for the menu link for the new page, such as a new window (the default is the same window).

4) Once you have completed the form, save it and you will be taken back to the “Main menu” page. The section page you have just added should appear last in the list of items under the parent link you chose.

5) Use the gray cross to drag the page to the appropriate place, then save:
6) Your new page will now appear in the appropriate place in the main menu, i.e., the menu that is visible in mobile versions of the site:
Note: For more on the “Main menu,” see the section of this manual on “Arranging and Editing Site Content in the Main Menu.”
Revising Order of Pages in Section

Should it become necessary to revise the order of the pages in any one of Livingstone Online’s six sections – 1) About This Site, 2) In His Own Words, 3) Spectral Imaging, 4) Life & Times, 5) In His Own Words, and 6) Resources – a handful of changes will be necessary, as follows:

1) Determine the new order of the pages in the given section.

2) Go to the “Overview” page for the given section and revise the order of pages there. Each of the six sections has such a page. For instance, this is the “Overview” page for the “About This Site” section: https://livingstoneonline.org/about-this-site/about-this-site-overview. Save. Note that this step is not applicable when changing the order of pages in a critical edition.

3) Go to the “Illustrative Image Credits” page (https://livingstoneonline.org/behind-the-scenes/illustrative-image-credits) and revise the order of relevant image credits there. Save. Note that this step is not applicable when changing the order of pages in a critical edition.

4) Go to the “Site Key” (https://livingstoneonline.org/about-this-site/livingstone-online-site-guide), find the relevant section in the list of pages and files there, and revise the order of the relevant section pages. Save.

5) Go to the “Main Menu” (https://livingstoneonline.org/admin/structure/menu/manage/main-menu), find the relevant section in the list of pages and files there, and revise the order of the relevant section pages:
Be sure to “Save” changes on this page after making them. Note that this step is not applicable when changing the order of pages in a critical edition.

6) Go to “Nodequeues”(https://livingstoneonline.org/admin/structure/nodequeue):
Find the section that contains the pages whose order you would like to revise, then select the “View” link for that section:

Finally, once the list of section pages for the section appears, revise the order as appropriate by dragging pages using the cross at left to the relevant place:
Be sure to “Save” changes on this page after making them. This will also change the order of the section page tiles on the relevant version of level 2. Note that this step is not applicable when changing the order of pages in a critical edition.

Note: If you are changing the order of section pages in a critical edition, there is an additional/alternative step you need to take as follows:

7) Find the submenu for the given critical edition and select it:
Once the list of pages for the critical edition appears, revise the order as appropriate by dragging pages using the cross at left to the relevant place:

Be sure to “Save” changes on this page after making them.
Changing the Title of a Section Page

Occasionally, it may be necessary to change the title of a section page. When such a change is made, a few other parts of the site need to be updated as follows.

1) Change the title of the section page using the normal process available from the “Edit” view of the page:
2) Locate and change the title on the “Overview” page of the relevant section. For instance, this is the “Overview” page of the “About This Site” section: http://livingstoneonline.org/about-site/about-site-overview

3) Locate and change the title on the “Site Guide” page: http://livingstoneonline.org/about-site/livingstone-online-site-guide

4) Locate and change the title on the “Illustrative Image Credits” page: http://livingstoneonline.org/behind-scenes/illustrative-image-credits

5) Go to the “Main Menu” page:
Locate the relevant section page:

Change the title of the relevant section page and save:
6) Create a redirect using the page's previous URL. From the “Configuration” menu, select the option for “Search and metadata,” then choose “URL redirects” from the submenu:

7) Then, from the “URL redirects” page, select the “Add redirect” option:
8) Complete the onscreen form. For the “From” box, put in the human-readable URL of the page as it appears before you change the name. In the “To” box, put in the UUID of the page (see the section of this manual on “Finding the UUID of a Section Page”):
Note: For both the “From” and “To” boxes, we use relative URLs, not the full URL.

9) Once you have saved the form, your redirect will be in place and will be listed on the main “URL redirects” page. Be sure to test the redirect to ensure that it works.
Arranging and Editing Site Content in the Main Menu

The back end of the site provides access to a number of menus from “Menus” option of the main “Structure” menu:

In terms of site content development, the most important of the available menus is the “Main menu” (also see image above):
The “Main menu” determines the underlying structure of all the sections of the site and the order of section pages in each section. The “Main menu” also allows users to navigate the mobile versions of the site:
Staff can use the “Main menu” page in the back end of the site to change the order of site sections (not recommended); the order of section pages within sections; to edit specific menu links; and to add or remove section pages from the site hierarchy:
To change the order of the site sections or section pages within sections, use the gray crosses at left to move items around the main menu, and then save. Note: Keep sections indented below their corresponding section.

To add a section page to the main menu, select the “Add link” option from the upper left-hand corner of the page (also see the section of this manual on “Putting Section Pages in Order”).

To edit or remove a section page, select, respectively, the “edit” and “delete” options for the appropriate page on the far right-hand side of the main menu.

Note: The “Main menu” does not control the order of section page tiles on level 2 or the items in level 3 carousels. For arranging items within those two parts of the site, see the section of this manual on “Accessing and Editing Nodequeues.”

Also note: The “Main menu” does not control the order of critical edition pages. These are handled by the critical edition menus. See the section of this manual on “Building a Critical Edition.”
**Accessing and Editing Nodequeues**

Nodequeues control the order of a) home page banner images, b) home page institutional logos, and c) section page tiles on level 2 of the site and the order of items (i.e., section pages) in the carousels on level 3.

Note: Nodequeues do not control the order of items in the “Main menu.” To arrange items in the “Main menu,” see the section of this manual on “Arranging and Editing Site Content in the Main Menu.”

The nodequeues can be accessed and edited in two ways:

For the first way, see the section of the section of this manual on “Putting Section Pages in Order.”

The second and most direct way to access nodequeues is through “Nodequeues” option from the “Structure” menu:

1) Click on the “Nodequeues” option:

2) This will take you to the “Nodequeues” page, where you can select a specific section of the site to edit by clicking one of the “View” links to the right:
3) Once you have selected a section, then add, remove, or rearrange the contents as appropriate using the gray crosses to the left of individual items to drag them around, then save:
<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHOR</th>
<th>POST DATE</th>
<th>OPERATIONS</th>
<th>POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>About This Site: Overview</td>
<td>admin</td>
<td>04/06/2015 - 11:26</td>
<td>edit, remove</td>
<td>1</td>
</tr>
<tr>
<td>Livingstone Online: An Introduction</td>
<td>admin</td>
<td>03/27/2015 - 11:45</td>
<td>edit, remove</td>
<td>2</td>
</tr>
<tr>
<td>Livingstone's Manuscripts in the Digital Age</td>
<td>admin</td>
<td>03/27/2015 - 13:40</td>
<td>edit, remove</td>
<td>3</td>
</tr>
<tr>
<td>The Theory Behind Livingstone Online</td>
<td>admin</td>
<td>03/27/2015 - 13:58</td>
<td>edit, remove</td>
<td>4</td>
</tr>
<tr>
<td>The Design of Livingstone Online</td>
<td>admin</td>
<td>03/27/2015 - 12:47</td>
<td>edit, remove</td>
<td>5</td>
</tr>
<tr>
<td>Why Should We Read Livingstone's Manuscripts?</td>
<td>admin</td>
<td>03/27/2015 - 12:56</td>
<td>edit, remove</td>
<td>6</td>
</tr>
<tr>
<td>Livingstone Online Site Guide</td>
<td>admin</td>
<td>03/27/2015 - 12:18</td>
<td>edit, remove</td>
<td>8</td>
</tr>
<tr>
<td>Who is Livingstone Online's Audience?</td>
<td>admin</td>
<td>03/27/2015 - 12:40</td>
<td>edit, remove</td>
<td>9</td>
</tr>
</tbody>
</table>

Use these crosses to move pages around.
Getting the UUID for Section Pages

In the context of Drupal, the UUID (Universally Unique Identifier) is a string of digits used to reference a given site page. The benefit of using the UUID is that the URL won’t change, even if you change your section page title, so the UUID is a safer option. To find the UUID for the given page, use the following steps:

1) Click on the “Node export” tab for any given section page:

2) Locate the “uuid” code in the “Node export code”
3) The code can now be converted into a relative path, by adding “uuid/node/” to the code, as in the following example:

```
uuid/node/58e-46914-8721-42ba-85b6-1058ac115538
```

4) In this form, the UUID can now be used anywhere relevant on the site instead of the usual (human-readable) path or the node ID number.
Getting the Node ID Number for Section Pages

Note: At present, none of the workflows in this manual use the node ID, so the information in this section is provided mainly for reference purposes.

In Drupal, each unique piece of content (node) has its own unique ID number. Section pages are nodes, and therefore each section page has a unique ID (node number). One way to address a section page is by its node number. Node numbers are assigned to content sequentially. (For more on this topic, see https://drupalcloud.mit.edu/help/frequently-asked-questions-make-basic-content-changes/what-node-id-number, on which the foregoing text is based).

1) To access the node ID of any given Livingstone Online section page, go to the “Configuration” menu and from the “Search and metadata” option, select the submenu for URL aliases:

![URL aliases screenshot]

2) You will be taken to a page that lists each section page in the site and provides the node ID in the “System” column:
3) Use the alphabetized list of pages on the left to find the page of interest, then find its node ID in the “System” column.
The Drupal Layer: Critical Editions
Building a Critical Edition

Critical editions consist of 1) a home page that appears in the “Main menu” of the site, the edition menu, and in the arrays of level 2 section page tiles and level 3 carousel items, and 2) regular section pages that appear in the edition menu. Both the home edition page and regular edition pages will also appear in the edition dropdown.

Building a critical edition and adding all the relevant pages requires a few discrete steps.

Building a menu for the critical edition

The first step is to build a menu for the critical edition. This will create the dropdown that appears on all critical edition pages and will determine the order of items in the dropdown:
At present (2017), there are menus for the following critical editions: Livingstone’s Final Manuscripts (1865-1873), Livingstone’s 1871 Field Diary, Livingstone’s 1870 Field Diary, and Livingstone’s Letter from Bambarre.

1) To build a critical edition menu, use the “Structure” menu to navigate to the “Add menu” submenu:
2) Put in a title and description for your menu, then save:
3) This will create the new menu:

![Image of menu creation process]

4) And it will add it to the items available from the “Menus” option:
Building edition pages

You can now begin building edition pages, which include the edition home page and as many regular edition pages as necessary.

1) To build either a critical edition home page or critical edition section page, follow the usual workflow for building a section page (see the section of this manual on “Creating Section Pages”). Add a title, main text, etc.:
However, you will only complete the “Teaser” section of the form for the critical edition home page (i.e., the “Teaser” section should be left blank for regular section pages in the critical edition). Likewise, you only need to select carousel (i.e., level 3) and tile (i.e., level 2) images for the critical edition home page:
Since regular section pages are only accessible from the critical edition dropdown, they do not require these images.

2) When you come to the “Table of Contents” dropdown, select your new edition menu from the list:
3) In completing the form, you will then do one of two things, depending on whether you are building a critical edition home page (option 1, below) or a regular critical edition page (option 2).

**Option 1**

a) When you reach the end of the form, if you are building the new critical edition home page, under “Menu setting” makes sure you check the box that says, “Provide a menu link”: 
b) Enter the “Menu link title.” This will normally be the title of your edition and should already be the title of your critical edition home page. As a result, when you check the “Provide a menu link” box, the correct title should automatically appear in the title field.

c) Select the parent item for the home page. This will be the section of the site in which you want the edition to appear:
d) You do not need to change any other variables in the “Menu link settings.” Save the page.

Option 2: When you reach the end of the form, if you are building a regular section page for the new critical edition (i.e., not the home page), do not check the option for “Provide a menu link,” then save the page:
Adding edition pages to the edition menu

Once you have built the home page and regular section pages for the critical edition, you need to add them to the menu for the critical edition.

1) Navigate to the menu for your new edition (see above), then select the “Add link” option:
2) In the form that appears, you only need to complete the title (this is the title that will appear in the critical edition dropdown) and the path:
Note that the path in the image above is the relative UUID path rather than the human readable path or the node ID (to find the UUID, see the section of this manual on “Getting the UUID for Section Pages”).

3) If you would like the link you are building to open in a new tab, select the appropriate option from the “Menu Link Attributes” section at the end of the form:
4) Once you have completed the form, save your changes.

5) When you return to the menu page for the new edition, you will see the links that you have added in the order that you have added them. Check that they look OK:
6) Finally, use the gray crosses to the left of the links to drag them into your preferred order, then click the button that says “Save configuration”: 
7) Now, when you open any of the pages that you have added to the edition menu, you will see the critical edition dropdown in the appropriate place:

![Critical Edition Dropdown]

8) If you expand the dropdown, you will see the links you have added to the edition menu, in the order in which you arranged and saved them:
Note: It is also possible to add links for pages that were not created specifically for the edition, for instance, for pages that are referenced by several editions. To add links for these pages, follow the steps above for adding section pages to the edition menu. The non-edition pages will then appear in the dropdown, but will differ from other pages in the edition in that they will not have the edition dropdown above the page title like edition pages do. As a general rule, we configure such non-edition links to open in a new tab.

Adding the edition home page to the “Main menu” and nodequeue

The last steps are to move the new edition home page to the appropriate place the “Main menu” and site section nodequeue. You already added the edition to the “Main menu,” when you selected the parent of the edition home page (see above).

1) Using the “Structure” menu, navigate to the “Main menu” submenu:
2) Once you are on the “Main menu” page, locate your new edition under the parent item you selected:
3) Use the gray cross to the left of the new edition title to drag the edition to the location where you would like it to appear in the “Main menu” and save.

4) Finally, use the workflow set out in the section of this manual on “Putting Section Pages in Order” (in the subsection on “Add section pages to and arranging section pages in nodequeues“) to add the edition home page to the arrays of level 2 section page tiles and level 3 carousel items.
Adding Headings to Critical Edition Dropdowns

Critical edition dropdowns can have headings added to separate out sections of the dropdown. These headings are not linked to anything:

1) To create a heading, select the menu for the edition on which you are working:
2) On the menu page for the edition, select the option for adding a link:
3) For the new link, use whatever title you would like to use for the sub-heading and the value of <nolink> for the path:

4) Finally, on the menu page for the edition, locate the heading, then use the gray cross to the left of the heading to move it where you want it to go. Make sure the heading is the same “depth” as the items that will go below it, i.e., it should not be indented. Once you’ve moved the heading, save:
5) The heading should now show up in the appropriate place and, because of the path, should not be hyperlinked (see the first image in this section of the manual for an example).
Changing Main Title of Critical Edition Dropdown

The top line of the dropdown for critical editions, i.e., the only line visible when the dropdown is closed, currently says “Critical Edition – Table of Contents” by default for all edition dropdowns:

![Critical Edition Dropdown](image)

The default dropdown text is hard coded and is not changed through the site itself. Rather, the following file must be modified to change the text (click on the link to see the text that needs changing):

https://github.com/livingstoneonline/livingstone_online_theme/blob/dev/js/custom.js#L102

To change this file, clone the “livingstone_online_theme” repo, open the dev branch, change the file, commit your changes, push them up to stage and prod, then sync. Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).

Note: Changing this file will change all the places in Livingstone Online where this text is displayed. There is no way at present to change it for a single edition.
Creating a Multitext Viewer Section Page

Our multitext viewer pages allow side-by-side comparison of XML-based transcriptions. The multitext viewer has two transcription panes (on desktop and some versions of mobile; smaller mobile versions have only one page), and any transcription from the Livingstone Online digital collection can be put into either of the panes. The viewer is particularly useful for displaying different stages of given manuscripts, such as the field diaries (1865-73) and journals (1866-73) that would ultimately become the basis of the Last Journals (1874):

http://livingstoneonline.org/in-his-own-words/multiple-versions-the-text

1) Follow the regular steps for creating a section page (see the sections of this manual on “Creating Section Pages” and/or “Building a Critical Edition”) to create a multitext viewer page, except that you will normally not complete the “Main Text” part of the Drupal section page form.

2) Instead, scroll down to the “Transcriptions” part of the form. The fields for entering one transcription are shown by default:

2) Additional transcriptions (no limit) can be added by adding new entry fields using the “Add another item” button. Include at least two transcriptions:
3) For each transcription, in the first box (“Project ID”), enter the *Livingstone Online* base file name for the given item (e.g., liv_000014, liv_015008, etc.); in the second box (“Label”), enter the title you wish to appear in the multiviewer dropdown for the given item:
Note: In the image above, the title (i.e., “Label”) for the first item is “1870 Field Diary,” while for the second it is “Unyanyembe Journal.” However, part of the title of each of these is not visible in the image.

4) Once you have added all relevant transcriptions and saved the form, the first transcription you entered will be shown in the pane on the left (top in mobile), while the second will be show in the pane on the right (bottom).

5) However, all transcriptions will also be available for viewing in either pane:
Three Versions of the 1870 Field Diary

This page allows users to engage in comparative study of three versions of the 1870 Field Diary: the original 1870 Field Diary (1870-71), the reviewed version in the Unyanembe Journal (1866-72), and the posthumously edited and published version in the Last Journals (1874). Users can scroll through each of the versions or guide their search using dates found in the texts. For each manuscript, we have selected colors that match the corresponding colors of the original documents.
Note: For the “Select date” dropdown to be populated (see above), the XSL file used to transform the XML file into HTML must have a “data-date” attribute and value, as in the following examples:

```xml
<xsl:template match="date[@when]" priority="10">
  <span class="date" data-date="{@when}" data-red="true"></span>
</xsl:template>

<xsl:template match="date[@from]" priority="10">
  <span class="date" data-date="{@from} &lt;@to" data-red="true"></span>
</xsl:template>

<xsl:template match="date">
  <span class="date" data-date="unknown" data-red="true"></span>
</xsl:template>
```
Adding Images to Facsimiles

Occasionally, *Livingstone Online* publishes facsimile editions of original illustrated texts, such as *Missionary Travels* (1857) and the *Last Journals* (1874). In addition to text, these editions will include illustrations that staff will want to display in any HTML rendering.

To add such images to the facsimile, follow these steps:

1) Find a good-quality version of the original text on Internet Archive ([http://internetarchive.org/](http://internetarchive.org/)) or another repository site.

2) Download the best quality images that the site offers. For instance, Internet Archive usually offers JP2s.

3) Remove the images that only contain text (i.e., that will not be used in the facsimile). Note: If the given text has a list of illustrations, this may prove useful as a checklist for identifying images and adding them to the facsimile.

4) Batch convert the remaining images to TIFFs using a program like Adobe Photoshop.

5) Edit the images as needed, for instance by cropping, etc.

6) Batch convert the images to good quality JPEGs and set the dimensions to 2500px on the longest edge. For instance, we use the “JPEG High Quality” setting for processing multiple files with Adobe Photoshop Elements 12. Note: Once the images are converted to JPEGs, the TIFFs may be discarded.

7) Identify the base file name of the facsimile XML file. There may be more than one, if the given item consists of more than one volume. For instance, for the two volumes of the *Last Journals*, the base file names are, respectively, liv_015009 and liv_015010. For the single volume of *Missionary Travels*, the base file name is liv_015011.

8) Obtain an “archival” reference version of the given text(s). This may be a PDF version of the text taken from Internet Archive. The archival version will have all the pages you want to include in your facsimile (including front and back matter) and will have no extraneous materials. If it does, these should be deleted. In other words, the archival reference version will match exactly the pagination (including covers) of the original artifact.

9) Rename the pages of the XML file(s) to match exactly those of the archival reference version of the text. Mark pages that contain illustrations or other non-textual materials (e.g., front and back covers, blank pages, etc.) with empty pages in the XML file, as in the following example:
10) Rename the JPEG images so that their names correspond to the places in which they would appear in the XML version. For instance, an illustration that would appear on liv_015011_0028 would be called liv_015011_0028.jpg” while an image of the cover of the book would be “liv_015011_0001.jpg”.

11) Add the appropriate coding to the XML file, using the following options as relevant:

a) For full page illustrations, use a variant of the following (i.e., replace the text highlighted in yellow as appropriate):

   <p rend="no-indent"><figure><graphic url="http://livingstoneonline.org/sites/default/files/liv_015011_0028.jpg"/></figure></p>

   In context, this would then appear as follows:

   <pb facs="liv_015011_0028" n="0028"/>
   <p rend="no-indent"><figure><graphic url="http://livingstoneonline.org/sites/default/files/liv_015011_0028.jpg"/></figure></p>

b) For illustrations embedded in the text, use a variant of the following (i.e., replace the text highlighted in yellow as appropriate) which you should place at exactly the beginning or end of the first line of text where the illustration appears:

   <figure><graphic n="inline-left" url="http://livingstoneonline.org/sites/default/files/liv_015011_0204.jpg"/></figure>

At present, the XSL files for Missionary Travels and the Last Journals are set up to accept the following values for @n: inline-right, inline-left, inline-left-medium, inline-left-small. However, additional values can be added and the properties of these can of course be modified as needed for future facsimile editions.

12) Finally, add the images to Livingstone Online to the root directory of File Browser (see the section of this manual on “Using File Browser”). In other words, we do not consider such facsimile images as “archival” and store them in the Drupal layer rather than the Fedora layer of the site.

13) Once the images have been uploaded, run a transformation of the XML file, review the placement of images, and adjust as necessary. In resolving issues, it may also be useful to
consult previously published facsimiles to see how various issues were handled and resolved in those cases.
The Drupal Layer: Miscellaneous
Adding Items from a New Collaborating Institution

When we add items from a new collaborating institution, a handful of changes need to be made on the site to recognize the contribution of this institution. One change also needs to be made to a file held in the site’s back end.

1) The new collaborating institution should be added to the “Collaborating Institutions” page: http://livingstoneonline.org/behind-scenes/collaborating-institutions

2) Any relevant individuals from the institution involved in facilitating the collaboration should be added to the “Acknowledgments” page: http://livingstoneonline.org/behind-scenes/acknowledgments

3) The collaborating institution’s rights information should be added to the “Credits and Permissions” page: http://livingstoneonline.org/behind-scenes/credits-and-permissions

4) After loading the new institution’s data to the Fedora layer of Livingstone Online (see the section on “Preparing Manuscript Images for Upload to Fedora”), confirm that the institutional link on the “Browse by Repository” page points to the new items when clicked: http://livingstoneonline.org/his-own-words/repository

5) If you need to edit the link for a given institution on the “Browse by Repository” page or if the link for the given institution does not yet exist, see the section of this manual on “Updating Repositories on the ‘Browse by Repository’ Page.”

6) Finally, see the section of this manual on “Updating Institutional or Collaborator Permissions” for information on how to access the “01_Institutional_and_Individual_Permissions.xls” file. For each new institution added to the project, add a corresponding entry to this file, including information related to the main institutional contact and contact email. Then save the file per the instructions set out in the “Updating Institutional or Collaborator Permissions” section.
Updating Repositories on the “Browse by Repository” Page

The repository (including collaborating institutions) data on the “Browse by Repository” page (http://livingstoneonline.org/his-own-words/repository) is hard coded in Drupal unlike similar data on other level 4 pages, such as “Browse by Addressee” (http://livingstoneonline.org/browse/addressee) or “Browse by Timeline” (http://livingstoneonline.org/his-own-words/timeline), which is drawn directly from the MODS records in our Fedora repository.

To update the data for an existing repository or to add a new one to the page, use the following steps.

*Updating Existing Repository Data*

1) Click on the “Content” menu and you will be taken to the “Content” page:

2) Once on the “Content” page, select “Repository Info” from the “Type” dropdown, then click the “Apply” button:
3) You will be presented with the list of repositories. Locate the one you’d like to update:
4) Clicking on the name will show you the data currently hard coded for that repository:

5) Clicking on “edit” will allow you to modify the hard coded data:
The “Title” and “Repository” fields will usually be the same and be drawn from the Library of Congress Name Authority file (if available), which is also included in the record.

The “Link” is the relative link, which you can derive by first navigating to the “Browse by Digital Catalogue Record” page (http://livingstoneonline.org/in-his-own-words/catalogue), and then using the “Repository” facet (which is auto-populated from the MODS records) to select the given archive and, when the new page loads, to copy the relevant part of the URL.

6) When you finish editing, save the page.

Adding a New Repository

1) Click on the “Content” menu and you will be taken to the “Content” page:
2) Click the “Add content” link:
3) Select “Repository Info” from the options given:

4) Complete the fields (see the part of the present workflow on “Updating Existing Repository Data,” above) and save:
5) Your new repository will now appear on the “Browse by Repository” page (http://livingstoneonline.org/his-own-words/repository).
Updating Institutional or Collaborator Permissions

All Livingstone Online permissions files are stored on the Livingstone Online file server in the following place (/Permissions-and-Agreements) and in the “private” directory in File Browser (see the section of this manual on “Using File Browser”). The structure and contents of the two directories are identical and should be kept identical. Livingstone Online staff should familiarize themselves with these directories.

Note: For more on the contents of the directories, see the “00_Livingstone_Online_Permissions_README.txt” file included in each of the directories.

To update or add permission information or files, use the following steps:

1) On the Livingstone Online file server in the following place (/Permissions-and-Agreements), you will find the following two files. Download and open either of the two as relevant:

**01_Institutional_and_Individual_Permissions.xls** – used for institutions or individuals providing permission to publish images of materials (including historical illustrations) that they hold.

**02_Collaborator_Permissions.xls** – used for collaborators providing permission to publish work that they have produced.

2) Add or update the relevant information in the either or both of these two files such as collaborator name, contact address, relevant permission file, etc.

3) Delete either or both of the files from File Browser, then upload your newly edited versions to the same place.

4) In File Browser, select the subdirectory where the specific permission agreement(s) will be placed:

**Institutional_and_Individual_Permissions**

**Collaborator_Permissions**

Upload new files to either or both of these directories as relevant.

5) Finally, upload all the updated and/or new files discussed above to the appropriate locations on the Livingstone Online file server.
Changing Content on the Browse by Location Page

The “Browse by Location” (http://livingstoneonline.org/in-his-own-words/location) page provides a set array of content in relation to each item placed on the map, including unlabeled information (i.e., location where the item was created) and labeled information (title, creator, date[s]):

To modify the content shown and/or change display characteristics (i.e., labeled v. unlabeled), use the following steps (also see the section of this manual on “setting the Window Height on Select Page Types”).

Note: You must be logged into the site’s admin account to carry out this work. For access to this account, contact the site directors or system administrator (see the section of this manual on “Key Livingstone Online Contacts”).

1) From the “Configuration” menu, use the “Web services” option to navigate to the “GMap” submenu:
2) The resulting page will then allow you to modify a variety of settings related to the map, including the height of the map, etc. In general, you will not need to modify any of these:

**Default width**

100%

The default width of a Google map, as a CSS length or percentage. Examples: 50px, 5em, 2.5in, 95%

**Default height**

650px

The default height of a Google map, as a CSS length or percentage. Examples: 50px, 5em, 2.5in, 95%

**Default center**

4.388921420335044,24.0009375

The default center coordinates of Google map, expressed as a decimal latitude and longitude, separated by a comma.

**Default zoom**

2

The default zoom level of a Google map.

**Maximum initial zoom**

14

The maximum initial zoom (affects things such as the zoom of the node location block.)
Note: It is also possible to change the default zoom on the map by adjusting the “zoomSnap” and “zoomDelta” settings in the following file in GitHub:

https://github.com/livingstoneonline/livingstone_online_module/blob/dev/js/map.js#L56

The following screenshot indicates the location of the settings in this file:

Additional documentation about these settings (and others that are relevant) can be found on the following page:

https://leafletjs.com/reference-1.3.4.html#map-interaction-options
Setting the Window Height on Select Page Types

The window height of three separate page types is hard coded in a correlated fashion, with each window being set to the same height. In other words, staff who change the window height on one of these page types are urged to also change the height on the other two in order to maintain site consistency. These page types are:

* Multitext Viewer Pages
  - [http://livingstoneonline.org/in-his-own-words/multiple-versions-the-text](http://livingstoneonline.org/in-his-own-words/multiple-versions-the-text)

* Browse by Location
  - [http://livingstoneonline.org/in-his-own-words/location](http://livingstoneonline.org/in-his-own-words/location)

* Livingstone Online TEI P5 Encoding Guidelines
  - [http://livingstoneonline.org/resources/livingstone-online-tei-p5-encoding-guidelines](http://livingstoneonline.org/resources/livingstone-online-tei-p5-encoding-guidelines)

The height for each of these page types must be set with a different workflow.

Setting the Text Pane Height on the Multitext Viewer Pages

1) To edit the text pane height on the Multitext Viewer pages, clone the “livingstone_online_module” repo, open the dev branch, then edit the “min-height” value in the relevant LESS file:

   [https://github.com/livingstoneonline/livingstone_online_module/blob/dev/modules/transcript/less/livingstone-transcript.less](https://github.com/livingstoneonline/livingstone_online_module/blob/dev/modules/transcript/less/livingstone-transcript.less)

2) Process the LESS file with the lessc terminal application by following the instructions provided on the relevant page ([http://lesscss.org/](http://lesscss.org/)). This will generate a CSS file that corresponds to the original LESS file.

Alternately, you can also paste the modified LESS text into the online processor ([http://less2css.org/](http://less2css.org/)), generate the corresponding CSS text, then paste the CSS text into the CSS file (see next step).

3) Use the generated CSS file to update/overwrite the following one:

4) Clone the “livingstone_online_theme” repo, open the dev branch, then open the following file:

https://github.com/livingstoneonline/livingstone_online_theme/blob/dev/css/style.css

5) Once you have this file open, find the following selector:

    .field-name-field-section-page-transcription .transcription-viewer-content

6) Find the “height” declaration for the foregoing selector and give it the same value as you gave to the “min-height” value in your LESS file (see step #1, above). In the following example the height has been set at 550px:

    .field-name-field-section-page-transcription .transcription-viewer-content {
        display: block;
        height: 550px;
        overflow: scroll;
        position: relative;
        -webkit-font-smoothing: auto;
    }

7) Commit your changes to the LESS file and both CSS files, push the changes up to stage and prod, then sync.

8) Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).

---

Setting the Window Height on the “Browse by Location” Page

The window height on the “Browse by Location” page is set through the back end of the site.

Note: You must be logged into the site’s admin account to carry out this work. For access to this account, contact the site directors or system administrator (see the section of this manual on “Key Livingstone Online Contacts”).

1) From the “Configuration” menu, use the “Web services” option to navigate to the “GMap” submenu:
2) You will be taken to the “GMap” page. On this page, locate the field for “Default height” and adjust accordingly:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Default width</strong></td>
<td>The default width of a Google map, as a CSS length or percentage. Examples: 50px, 5em, 2.5in, 95%</td>
</tr>
<tr>
<td><strong>Default height</strong></td>
<td>The default height of a Google map, as a CSS length or percentage. Examples: 50px, 5em, 2.5in, 95%</td>
</tr>
<tr>
<td><strong>Default center</strong></td>
<td>The default center coordinates of Google map, expressed as a decimal latitude and longitude, separated by a comma.</td>
</tr>
<tr>
<td><strong>Default zoom</strong></td>
<td>The default zoom level of a Google map.</td>
</tr>
<tr>
<td><strong>Maximum initial zoom</strong></td>
<td>The maximum initial zoom (affects things such as the zoom of the node location block.)</td>
</tr>
</tbody>
</table>
Note: As the above image indicates, you can also use the options provided on the “GMap” page to adjust other characteristics of the “Browse by Location” page (also see the section of this manual on “Changing Content on the Browse by Location Page”).

---

**Setting the Text Pane Height on the “Livingstone Online TEI P5 Encoding Guidelines” Page**

The text pane height on the “Livingstone Online TEI P5 Encoding Guidelines” page is hard coded and is not changed through the site itself. Rather, the @height value of the <iframe> tag in the following file must be modified:


To change this file, clone the “livingstone_online_theme” repo, open the dev branch, change the file, commit your changes, push them up to stage and prod, then sync. Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).
Changing Banner Images on the Home Page

The home page contains a series of banner images that automatically scroll across the main part of the page. Note: For information about the size of these images, see the section of this manual on “Image Type Sizes.”

To change one or all of the images in the banner, access File Browser (see the section of this manual on “Using File Browser”), then navigate to the following location: slide/images.

To update one of the existing images, simply replace the image with a new one with the same name and, if necessary, sync your local file(s) to the online directory.

1) Should you like to add a new/additional banner image, navigate to the content menu and, from the “Add content” option select “Slide”: 
2) Give the image a title (use existing titles for other banner images to guide you). Select an image to upload. Save.
3) Finally, navigate to the “Content” page:

4) Select “slide” from the “Type” dropdown:
5) Locate the slide you have just added, then click “edit”:
6) Highlight the name of the slide that you have just added and copy it.

7) Use the “Content” menu to navigate to the “Files” option:
8) Locate the file and select it:
9) Click on the “Edit” tab:

10) Complete the “Alt Text” and “Title Text” fields and save. Note that the limit for alt text and title each is 255 characters (including spaces), so you may have to compress text in some cases. Use existing alt text and titles to guide you:
Note: To edit the order of banner images on the home page, see the section of this manual on “Accessing and Editing Nodequeues.”
Changing Institutional Logos on the Home Page

The home page has a series of institutional logos at the foot of the page. To change one or all of the logos, access File Browser (see the section of this manual on “Using File Browser”), then navigate to the following location: /partners/images.

To update one of the existing images, simply replace the image with a new one with the same name and, if necessary, sync your local file(s) to the online directory.

Adding a new/additional institutional logo requires that you first upload the logo to the site, then to add a title and alt text for the new logo.

*Uploading an institutional logo*

1) Navigate to the “Content” menu and, from the “Add content” option select “Partners”:
2) Complete the form as relevant. Add a title (usually the name of the institution). Upload an institutional logo. Enter the URL for the institutional home page (or wherever you would like the logo to point to). Save.
Note: The site is currently optimized for five institutional logos. Increasing the number of such logos may require retheming.

Adding alt text and a title for a logo

The last step in updating institutional logos is to add alt text (for screen readers) and a title (for mouseover tooltip). To add these, use the following steps:

1) Navigate to the “Content” page:
2) Click “edit” for whatever partner logo will be receiving the alt text and title:
3) Copy the filename to the clipboard:

4) Select the “Files” option from the “Content” menu:

5) Search for the filename you have just copied, then click “edit”: 
6) Click on the “Edit” tab:
7) Change the title and alt text for the given file, then save. Note that the limit for alt text and title each is 255 characters (including spaces), although that should not be an issue in the cases of logos:

Note: To edit the order of the institutional logos on the home page, see the section of this manual on “Accessing and Editing Nodequeues.”
Changing Site Guide and Image Credits Text and Links on the Home Page

The home page currently has links to the site guide and image credits pages:

The onscreen text and underlying links for these two elements are hard coded and are not changed through the site itself. Rather, the following file must be modified to change the text (click on link to see exact text that needs changing):

https://github.com/livingstoneonline/livingstone_online_theme/blob/dev/templates/system/page--front.tpl.php#L95-L103

1) To change this file, clone the “livingstone_online_theme” repo, open the dev branch, change the file, commit your changes, push them up to stage and prod, then sync.

2) Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).
Changing Text and Title of Header Search Bar and Browse Button

Most levels of the site contain a search bar and browse button in the header or at the top of the page:

![Image of search bar and browse button]

The text within these items as well as the title (for mouseover tooltip) are hard coded and are not changed through the site itself. Rather, the following files must be modified (click on the links to see the exact text that needs changing):

Search:  [https://github.com/livingstoneonline/livingstone_online_theme/blob/dev/includes/alter.inc#L18-L19](https://github.com/livingstoneonline/livingstone_online_theme/blob/dev/includes/alter.inc#L18-L19)


1) To change one of these files, clone either the “livingstone_online_theme” and “livingstone_online_module” repo (as relevant), open the dev branch for the given repo, change the relevant file, commit your changes, push them up to stage and prod, then sync.

2) Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).
Note: For “Search,” the “placeholder” text in the file is the text that actually appears within the search bar. For “Browse,” the file can be modified to change the button text, the text in the dropdown, and all underlying URLs.
Changing Alt Text of Header Icons

Most levels of the site contain a set of icons (home, site guide, email, blog) in the header or at the top of the page:

1) To change the alt text for a given icon, select “Edit menu” option from the “Secondary menu” submenu of the “Menus” option of the “Structure” menu:
2) Click on the “List Links” tab:
3) The icons appear left to right on the site pages (in this order: home, site guide, email, blog), but top to bottom in the back end. Select “edit” for the relevant icon:

4) Scroll to the bottom of the page and click on “Menu Link Attributes”
5) Change the title as relevant:
6) Scroll to the bottom of the page and save:

Note: The foregoing workflow will also change the alt text for the icons on the slide out menu that is accessible from the “sticky header” on levels 2 and 3 of the site:
That said, note that currently the “sticky header” is hidden and so not in use on the site. For more on the “sticky header,” see the section of this manual on “The Menus Used for the Back End Structure.”
Changing Alt Text of Nav Tabs

Most levels of the site contain a set of nav tabs (corresponding to the six sections of the site) in the header or elsewhere on the page:

1) To change the alt text for a given nav tab, select “Main Menu” from the “Menu” option of the “Structure” menu:
2) Find the link for the nav tab you would like to edit, then click “edit” for that link. Note that nav tab links are not indented like section page links:
3) Change the title as relevant:

4) Scroll to the bottom of the page and save:
Note: The foregoing workflow will also change the alt text for the nav tabs on the slide out menu that is accessible from the “sticky header” on levels 2 and 3 of the site:
That said, note that currently the “sticky header” is hidden and so not in use on the site. For more on the “sticky header,” see the section of this manual on “The Menus Used for the Back End Structure.”
Changing Level 2, 3, and 4 Footer Text

The footer text currently appears at the bottom of all level 2, 3, and 4 pages on the site:

This text is hard coded and is not changed through the site itself. Rather, the following file must be modified to change the text (click on the link to see the text that needs changing):

https://github.com/livingstoneonline/livingstone_online_theme/blob/dev/templates/system/page.tpl.php#L139-L141

1) To change this file, clone the “livingstone_online_theme” repo, open the dev branch, change the file, commit your changes, push them up to stage and prod, then sync.

2) Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).
Changing the “Cite Item” Text in the Manuscript Viewer

For each item show through the manuscript viewer, users have the option of clicking the “Item Details” button to reveal item metadata. This includes text for citing the item in MLA style:

This text is hard coded and is not changed through the site itself. Rather, the following file must be modified to change the text (click on the link to see the text that needs changing):

https://github.com/livingstoneonline/livingstone_online_module/blob/dev/modules/viewer/theme/livingstone-manuscript-viewer-pane-item-details.tpl.php

1) To change this file, clone the “livingstone_online_module” repo, open the dev branch, change the file, commit your changes, push them up to stage and prod, then sync.

2) Once you’ve done this, update the site using the usual workflow (see the section of this manual on “Updating the Site with Files from GitHub Site Code Repos”).
Using File Browser

File Browser provides an interface to the file system of Livingstone Online’s Drupal layer. All illustrative images in the Drupal layer as well as other downloadable files such as project documentation ZIPS and outreach worksheet PDFs can be manipulated via File Browser. File Browser also includes a “private” directory that contains individual and institutional permissions files related to Livingstone Online’s publications (for more about the “private” directory, see the section of this manual on “Updating Institutional or Collaborator Permissions”). Should you need to modify any of the foregoing files, you will have to do so through File Browser.

Important note: By default most Livingstone Online staff accounts will only have an “editor” role assigned and so staff will not be able to access File Browser. Should you find that you need access, contact one of the site directors so that they can assign an “administrator” role to your account and so give you access to File Browser.

Accessing, Sorting, and Adjusting File Browser

1) To access File Browser, log into the site and go to the user home page (default landing page after logging in), then click on the File Browser tab:

2) You will then be taken to the File Browser page, into the root directory.
3) Once you are in the root directory, you can drill down into any of the directories at left and in any directory you can sort the files in a number of ways: file name, size, width, height, date.

4) You can also adjust the view. The divider between the “Navigation” (at left) and “Fine name” (at right) windows can be dragged to the left or the right to change the relative views of these windows. The divider at the bottom of the directories and files windows can also be dragged up and down to increase or reduce the height:
Directories in File Browser

In File Browser, the main directory is called the root directory.

The root directory is the default landing directory in the online version of File Browser and enables you to review all images used for the banner images and institutional logos on the home page (for another way to view these images, see the section of this manual on “The ‘Content’ Menu”).

The root directory also contains illustrative images not associated with any site page (i.e., those used in facsimile editions). For more on these images, see the section of this manual on “Adding Images to Facsimiles.”

There are also a variety of random images in the root directory that you should ignore.

Finally, the “root” directory contains the following directories:

Section and Section Page Directories. These are six directories corresponding to the six sections (level 2) of the site and are named accordingly: “about-this-site”, “behind-the-scenes”, “in-his-own-words”, “life-and-times”, “resources”, “spectral-imaging”. Each of these six directories contains a series of subdirectories that correspond to section pages (level 3) of each section. The section page directories, in turn, contain all the illustrative images used for the given section pages.
So, for instance, in the image below (from the online version of File Browser), take note of the following:

- the directory for “About This Site” has been selected (at left);
- the subdirectories corresponding to individuals section pages in this section are therefore also displayed (also at left); and
- the subdirectory for the “Who is Livingstone Online’s Audience?” (http://livingstoneonline.org/about-site/who-livingstone-onlines-audience) has also been selected, thereby displaying the images in this subdirectory in the “File name” window (at right):

Should you add or remove images to a given section page, you would add them to or remove them from the subdirectory for the given page.

Should you add a new section page to the site, you would create a subdirectory for it in the directory for the appropriate section and add the images for the new section page to the section page subdirectory that you had created.

“Manuscript” Directory. The “manuscript” directory contains an “images” subdirectory that in turn contains thumbnail images of all the items in the Livingstone Online digital collection. The images are added to this subdirectory through the same workflow by which manuscript images are added to the Fedora layer of the site (see the section of this manual on “Preparing
Manuscript Images for Upload to Fedora,” subsection F on “Creating Thumbnails and Finalizing TIFF Item Directories”). As a result, staff should not edit the thumbnail images here directly.

**“Section_Page” Directory.** The “section_page” directory contains two subdirectories, “carousel_images” and “grid_images” (i.e., tile images), which in turn contain the images used for these two parts of section pages. Staff should not edit the images here directly. Rather, for more on editing the images in these two subdirectories, see the section of this manual on “Updating Section Page Tile and Carousel Images.”

**“Share” Directory. The “share” directory contains** PDF and ZIP files used in various places in the site and so not assigned to section page subdirectories. New PDF and ZIP files should be added to the directory via File Browser.

**“Partner” and “Slides” Directories.** The “partners” and “slides” directories contain images related to the home page. For more on both of these directories, see the sections of this manual on, respectively, “Changing Banner Images on the Home Page” and “Changing Institutional Logos on the Home Page.”

**The “Private” Directory.** The “private” directory contains a variety of files related to permissions for Livingstone Online publications. Site staff should familiarize themselves with these files and consult them as needed. For more on the contents of this directory, see the section of this manual on “Updating Institutional or Collaborator Permissions.”

**Remaining Directories.** In the directories listed in the “Navigation” window, you will also find a series of other directories:

- The “styles” directory (and its subdirectories) is generated by Drupal, applies styles for particular views of images (cropping or resizing images, etc.), and should not be edited lest you introduce some bug into the site.
- You will also find several directories that are empty, among them: css, ctools, js, materials, pictures, print_pdf, schemas. These directories are created by Drupal and should also not be edited lest you introduce some bug into the site.

---

**Uploading, Deleting, and Renaming Files and Directories via File Browser**

Should staff need to use the online version for these functions, simply click the appropriate button from the top of the File Browser window:
The buttons work as follows:

**Upload:** This function allows you to add one or more files at a time. To select which files you will upload, simply click on the “Upload” button at the top of the File Browser section, then drag the files to the location in the pop up window that says “Drag files here,” then click the “Upload button” at the bottom of the pop up window. The files will then be uploaded to the site. When uploading files, make sure you are in the correct directory by selecting the directory from the “Navigation” window at left. If you upload the file to the wrong place, you will need to delete it and then upload it again to the correct place.

**Delete:** This function applies only to files. To delete one file, click on the file in the “File name” window, then hit the “Delete” button and follow the onscreen instructions. To delete more than one file, click on the first file in the “File name” window, then hold down shift, use the up or down arrow key to select additional files, and finally hit the “Delete” button and follow the onscreen instructions.

Note: File Browser will not allow you to delete any of the files in the “carousel_images” and “grid_images” (i.e., tile images) subdirectories of the “section_page” directory if those files are currently in use by one of the section pages. Normally, you will not edit these files through File Browser, but through the section page form (see the section of this manual on “Updating Section Page Tile and Carousel Images”).
**Rename:** This function applies to files and to directories. To rename a file or directory, first click on it, then hit the “Rename” button and follow the onscreen instructions.

**Directory:** This function allows you to add directories and to delete them. To add a directory, navigate to the parent directory of the new directory, then hit the “Directory” button and follow the onscreen instructions. To delete a directory, navigate to the parent directory of the directory you intend to delete, hit the “Directory” button, then type in the *exact* name of the directory you wish to delete and follow the onscreen instructions. Deleting this directory will also delete all its contents.

In working with File Browser, you should also take note of the following:

**Downloading files:** To download a file, simply double-click it. A new window will appear and, depending on the kind of file you have selected, you will either be able to download it from the new window or you will be automatically prompted to download it once you double click it.

Note: You can also retrieve the files in File Browser from the *Livingstone Online* file server. To get one of the files via the server, first navigate to the following location on the *Livingstone Online* file server (/Production-Site-Backup/files). In this directory, the structure of the subdirectories and files should mirror that of File Browser. Locate the relevant file(s), then download per the normal procedure for downloading files from the server. If you cannot find your file(s) on the server, you may need to carry out a new backup of the File Browser public files to the server (see the section of this manual on “Triggering Drupal Backups”).

**Moving files:** At present, it is not possible to move files between directories in File Browser. Rather, to move files you will need to download copies of the files (see “Downloading files,” above), delete the files in their current location in File Browser, then upload the files to their new location in File Browser.
MODS, TEI, and PDF Download Packets

The Drupal layer of the site provides access to our full collection of MODS, TEI, and PDF (reading copy) files via three separate download packets:

Livingstone-Online-Complete-MODS-records.zip
Livingstone-Online-Complete-TEI-files.zip
Livingstone-Online-Complete-PDF-transcriptions.zip

As the number of files grows, it is necessary to update the contents of these packets occasionally.

The site also provides access to PDF (reading copy) files of the diaries and journals included in our critical edition of Livingstone’s Final Manuscripts (1865-73):

Livingstone-Final-Manuscripts_reading_copies.zip

Use the following steps to update contents of any one of the foregoing packets.

1) The MODS, TEI, and PDF packets can be downloaded from the following site pages:

Livingstone Online Site Guide: [http://livingstoneonline.org/about-this-site/livingstone-online-site-guide](http://livingstoneonline.org/about-this-site/livingstone-online-site-guide)
Livingstone Online Project Documents: [http://livingstoneonline.org/resources/livingstone-online-project-documents](http://livingstoneonline.org/resources/livingstone-online-project-documents) (MODS and TEI files only)

The complete PDF packet for the Final Manuscripts (1865-73) can be downloaded from the following site pages:

Livingstone Online Site Guide: [http://livingstoneonline.org/about-this-site/livingstone-online-site-guide](http://livingstoneonline.org/about-this-site/livingstone-online-site-guide)
Select any of these pages, find the link to the relevant packet(s), then download directly from the site.

2) Once you have the packet(s), unzip and update as necessary by adding, removing, or replacing all relevant files. As you do so, take note of the following points:

a) The “Livingstone-Final-Manuscripts_reading_copies.zip” file is divided into a series of subdirectories. You should update these subdirectories directly, then create copies of any subdirectories you have updated since these are also downloadable from the site individually.

b) The “Livingstone-Online-Complete-PDF-transcriptions.zip” file includes all relevant PDF reading copies plus, as a bonus, all HTML annotated reading copies for Livingstone’s Final Manuscripts (1865-73) and all items imaged by the Livingstone Spectral Imaging Project. If you update any files related to these two initiatives, be sure to update the HTML versions of the files as well.

c) You may find that you are increasing or decreasing the number of files in any one of the three following ZIP files:

Livingstone-Online-Complete-MODS-records.zip
Livingstone-Online-Complete-TEI-files.zip
Livingstone-Online-Complete-PDF-transcriptions.zip

If so, be sure to update the file count(s) for these files on the following pages:

Livingstone Online Site Guide: (http://livingstoneonline.org/about-this-site/livingstone-online-site-guide)


Livingstone Online Project Documents: http://livingstoneonline.org/resources/livingstone-online-project-documents (MODS and TEI file counts only)

The file count does not include the supporting documentation files included in the packets.

3) Once you are done with your work on the given packet(s), place the packet(s) into a new directory, then navigate to the directory in terminal and zip the packet(s) using the following command:

```bash
find . -name .\* -type f -delete && find . -name ..\* -type f -delete && find . -name __MACOSX\* -type d -delete && for i in */; do zip -r "$i.zip" "$i"; done
```
4) You will now need to update the relevant Livingstone Online documentation materials with the updated and zipped MODS, TEI, and/or PDF packets as follows:

Use one of the following pages to download the entire LEAP documentation collection (“Documents_LEAP_Complete_Collection.zip”) and the complete LEAP documentation highlights (“Highlights_Livingstone_Online_Documents_Complete_Collection.zip”):

Livingstone Online Site Guide: [http://livingstoneonline.org/about-this-site/livingstone-online-site-guide](http://livingstoneonline.org/about-this-site/livingstone-online-site-guide)

Livingstone Online Project Documents: [http://livingstoneonline.org/resources/livingstone-online-project-documents](http://livingstoneonline.org/resources/livingstone-online-project-documents)

Once you have downloaded the complete collection and highlights files, unzip them, use the relevant newly zipped MODS, TEI, or PDF to overwrite those already in the main collection and highlights directories, then rezip both the main collection and highlights directories.

5) Once you have updated and zipped all files, you will have some combination of the following ready for uploading to the site:

Livingstone-Online-Complete-MODS-records.zip
Livingstone-Online-Complete-TEI-files.zip
Livingstone-Online-Complete-PDF-transcriptions.zip
Documents_LEAP_Complete_Collection.zip
Highlights_Livingstone_Online_Documents_Complete_Collection.zip
Livingstone-Final-Manuscripts_reading_copies.zip
[plus one or more ZIP files related to individual items in the Livingstone’s Final Manuscripts collection]

6) Access File Browser from the back end of the site (see the section of this manual on “Using File Browser”), and navigate to the “Shared” directory.

In the “Shared” directory, find all the ZIP files you plan to update and delete the ones currently in the directory. Finally, upload your newly updated ZIP files to the “Shared” directory. The files will now be accessible from all relevant parts of the site.
Generating RDF Files for NINES

*Livingstone Online* has been peer reviewed and aggregated by NINES ([http://www.nines.org/](http://www.nines.org/)). This means that our site is now searchable via NINES in addition to being included in NINES’s carousel of “Federated Websites.”

The ability of NINES to aggregate our site relies on using a series of RDF files that we generate for every significant page of our site and every item in our repository. Occasionally, particularly after a phase of heavy site development, it will be helpful to supply NINES with a series of updated RDF files.

Use the following steps to generate a new set of RDF files for NINES:

1) From the “Livingstone” menu, select the option for “NINES Export”:

2) Click the “Export” button:
3) While the export process is running, you will see a status window:
4) When the process is finished, you will be notified:

5) On the notification screen, you will see text that says “Download RDF-NINES.zip” with the latter part of the text being hyperlinked. Click on the hyperlink text and you will be given the option of downloading a ZIP file with all relevant RDF files:
6) Once you’ve downloaded the ZIP file, open it and spot check some RDF records. Note that file names will take one of two forms, as in the example image below.

RDF files that correspond to sections of the site will have a long, odd-looking file name. RDF files that correspond to objects in the Fedora repository will take the base file names of the given objects:
7) If the reviewed files look OK, then all the generated RDF files can be supplied to NINES in bulk and should be used to replace in full the RDF files previously provided.
Options for the “Administration” Page and Flushing Caches

The Livingstone Online icon, i.e., the leftmost item in the menu available from the back end of the site, provides access to the “Administration” page and the option of flushing one or more site caches:

The “Index” Option

The “Index” option provides access to the “Administration” page:
This page lists all the accessible links in the administration section of the site and will normally not be used by staff.

The “Flush all caches” Option

The “Flush all caches” option allows staff to flush all server-side caches at one go by clicking on the option itself or to select individual caches to flush by using the submenu provided:
Normally, staff should flush all caches from time to time. These caches are used to speed up the site, but will also update the site if the site displays “old” cached content rather than the latest changes.
The “Content” Menu

The “Content” menu allows users to review and edit various segments of content available from the site:

This menu presents three main options: the “Content” page (regular view), the “Add content” page, and the “Content” page (“files” view).

The “Content” page (regular view)

To view the “Content” page (regular view), click on the menu itself and you will be taken to the “Content” page:
This page enumerates in full several types of *Livingstone Online* content (Manuscript, Partner, Repository Info, Section Page, and Slide). The page also indicates what elements of content have recently been updated.

The page can be adjusted by using the “Type” dropdown to show only one kind of content:
Types available from the “Type” dropdown of the “Content” page

**Manuscript** – refers to manuscript data synced from Fedora and will not normally be edited by staff.

**Partner** – refers to the institutional partner logos that appear at the foot of the home page. Accessing the institutional logos through the “Content” page allows you to add or remove logos (i.e., images) to the existing sequence of logos; to select the image for each item in the sequence; to input the URL for each institution; and to set the order in which the logos appear (left to right). For more on partner logos, see the section of this manual on “Changing Institutional Logos on the Home Page.”

**Repository Info** – used to configure the display of repositories from the “Browse by Repository” page ([http://livingstoneonline.org/his-own-words/repository](http://livingstoneonline.org/his-own-words/repository)). Accessing repository info through the “Content” page allows you to edit the following parameters: title; repository (usually same as title); link to catalogue items (use examples from other repositories to guide you); the city, state, and country; and the URL for the Library of Congress Name Files (LCNAF), if available. For more on editing repository info, see the section of this manual on “Updating Repositories on the ‘Browse by Repository’ Page.”
**Section Page** – used to access and edit the section pages of the site. Accessing section pages through the “Content” page allows you to review these pages collectively (rather than having to access them section by section) and to sort them in various ways.

**Slide** – used to access the home page banner images. Accessing the home page banner images through the “Content” page allows you to add or remove images (i.e., slides) to the sequence that automatically scrolls across the home page; to select the image for each item in the sequence; and to add alt text (for screen readers) and a title (for mouseover tooltip) for the images. Note: For more on slides, see the section of this manual on “Changing Banner Images on the Home Page.”

*The “Add content” page*

To view the “Add content” page, click on “Add content” option from the “Content” menu and you will be taken to the “Add content” page:

Of the options available here, you will most often create new section pages and, occasionally, new repository info. Partners and Slides will be added much less often. Manuscripts, as noted on the page itself, should not be added manually. For more information on the options available from the “Add content” page, see the following sections of this manual:

**Partners:** “Changing Institutional Logos on the Home Page”
Repository Info: Updating Repositories on the “Browse by Repository” Page

Section Page: “Creating Section Pages”

Slide: “Changing Banner Images on the Home Page”

The “Content” page (files view)

To view the “Content” page (files view), click on “Files” option from the “Content” menu and you will be taken to the “Content” page (files view):

![Content page](image)

Sorting the content here by the “image” type (no other types are available although there are some random files added by Drupal) enables you to review all images used in the site for level 2 tiles and level 3 carousels as well as the thumbnails used on the “Browse by Timeline” page and the banner images and institutional logos used on the home page:
Using the buttons in the upper right-hand corner of the page, you can also choose to review the images either as a list or as thumbnail images.

Finally, the “Content” page (“files” view) allows you to see the number of places on the site where an image is used:

1) To access this use information, select an image and click in the “Used In” column for that image:
2) You will then be taken to a page for the given image that, in terms of tile and carousel images, identifies the section page for which the given image serves in the capacity noted:
Note: Thumbnail images on the “Content” page (“files” view) point to the title of the archival item to which they correspond, while home page banner images and institutional logo images point to the corresponding element of the home page. Normally, you will not edit thumbnail, home page banner images, and institutional logo images through this page.

Also note: If necessary, you can use the “Content” page (“files” view) to add and delete level 2 tile and level 3 carousel images:

1) Clicking the “Add file” link:
2) Once you click this link, follow the onscreen instructions to upload the new image:
However, you will most often add or change level 2 and level 3 images through the “edit” view of the given section page, a process that will simultaneously allow you to associate the images with the specific section page for which the images are to be used (see the section of this manual on “Updating Section Page Tile and Carousel Images”).
The “People” and “Configuration” Menus, Including Adding New Users

*Livingstone Online* staff will not normally use most of the options available from either the “People” or “Configuration” menus, other than the four exceptions noted below.

Staff should consult project programmers before using the options available from this menu.

For the first exception to the rule, see the section of this manual on “Getting the Node ID Number for Section Pages.” For the second exception, see the section of this manual on “Changing the Title of a Section Page.” For the third exception, see the section of this manual on “Adding Redirects and Fixing 404 Pages.”

The fourth exception is that to add a new user to the site you may occasionally need to access the “Add User” option available from the “People” menu:
Once you have selected the page, follow the onscreen directions to add a new user:
Adding Redirects and Fixing 404 Pages

Whenever you move a page from one part of the site to another so that the page’s URL changes, you should add a redirect from the old location to the new one, so that any user accessing the page through the old URL (whether through a link on Livingstone Online or found elsewhere) is taken to the right place. The procedure for adding such redirects is exactly the same as when you add a redirect after changing the title of a section page, so see the section of this manual on “Changing the Title of a Section Page” (steps 5 to 8).

As part of regular site maintenance, Livingstone Online staff should also periodically review the broken links listed on the 404 page. To access this page, select the “Configuration” menu, then the option for “Search and metadata,” then choose “URL redirects” from the submenu, then “Fix 404 pages”.

The majority of broken links on the 404 page can be ignored, as in the case of all the links in the following example:
Links that should be repaired will usually be quite obvious:

Once you have selected a link to repair, click the “Add redirect” text:
In the relevant place, enter to correct link to which the broken link should be redirected (for additional detail about entering the correct link, see the section of this manual on “Changing the Title of a Section Page,” steps 5 to 8). As you enter the correct link, take note of the broken link in a separate file or elsewhere:

Your redirect will be confirmed once the page has been saved:
As a final step, test the broken link you previously noted down to ensure that it is now being redirected to the correct place.

Note: You may also wish to find the broken link on the Livingstone Online site and fix it in place. Usually, this will be difficult unless you know where the broken link is based on its actual text, but you can try the trick of downloading the Drupal database (see the section of the manual on “Triggering Drupal Backups”), then doing a word search for the broken link on the database.
The Menus Used for the Back End Structure

Beyond the “Main menu” and critical edition menus (see the sections of this manual on “Arranging and Editing Site Content in the Main Menu” and “Building a Critical Edition,” respectively), the “Menus” option from the “Structure” menu provides access to a handful of menus used to structure the back end of the site, as highlighted in the image below. These menus will not regularly be edited by staff.

One of the menus relates to the site’s “sticky header”:

**Fixed Header Menu** – used for editing the home and site guide icons that appear on the “sticky header” of levels 2 and 3:
At present this “sticky header” is hidden due to the following commit to GitHub:

https://github.com/livingstoneonline/livingstone_online_theme/commit/1d8558b4121ff9eb578d1f606ecfb19f3b89bd48

However, all the code remains in the relevant GitHub code files should the “sticky header” need to be reinstated at some future date.

Note: The previous, unrealized plans for the “sticky header” could be used to guide future work (see https://github.com/livingstoneonline/livingstoneonline/issues/131).

Another of the menus relates to site page headers:

**Secondary Menu** – used for editing the home, site guide, email, and blog icons that appear on all pages of the site.

For more on this menu, see the section of this manual on “Changing Alt Text of Header Icons.”

The other menus arrange the menus that appear in the back end of the site:

**Management** – sets the general configuration of the back end of the site.
Navigation – sets part of the “Content” menu.

User Menu – sets the configuration of the user section of the back end.
Triggering Drupal Backups

At present, the Drupal Layer of the site uses the following settings for daily backups:

Should you wish to trigger a backup manually, use the following steps:

1) Log into the site as an admin, then go to the following location:

http://livingstoneonline.org/admin/config/system/backup_migrate

This will take you to the “Backup and Migrate” page:
2) Choose what you would like to backup. Your options are the Drupal database, the public files directory (i.e., the various JPEGs, ZIPs, PDFs, etc. available from the site), or the entire site (which includes code, database, and files):
3) Finally, select where you would like to backup the files:
Download will backup the files to your local machine. You will normally use this option to backup the database. Backing up the public files or entire site locally is not recommended as it will be 10 GB or more.

Agnes Files will backup the files to the following location on the Livingstone Online file server (/Production-Site-Backup/files). This is where you should normally backup the public files directory (see below).

NodeSquirrel should be ignored. NodeSquirrel is the cloud backup service built by the maintainers of the Backup and Migrate module. This service is currently not used by Livingstone Online.

Agnes will backup the files to the following location on the Livingstone Online file server (/Production-Site-Backup/database). This is where you would normally backup the Drupal database.

Back up the Drupal public files

Livingstone Online staff should plan to back up the public files in the Drupal layer of the site on a semi-regular basis, ideally after any phase of significant site development. Unlike the Drupal database, the public files are not backed up automatically so manual backup is important.

To backup the files, use the following steps:

1) Log into the Livingstone Online file server and navigate to the following location (/Production-Site-Backup/files).

2) Rename this directory as follows (/Production-Site-Backup/files-old).

3) Add a new directory as follows (/Production-Site-Backup/files).

4) Backup the public files per the steps outlined in the previous section, i.e., select “Public Files Directory” as the item to back up, and select the location as “Agnes Files,” then click the “Backup now” button.

5) The backup may run for some time (for instance, 15 minutes or more). When it finishes, you will be notified onscreen:
6) On the Livingstone Online file server in the directory you just created (/Production-Site-Backup/files), you will then find two new files with names something like the following:

   LivingstoneOnline-2017-12-13T15-04-02.tar.zip
   LivingstoneOnline-2017-12-13T15-04-02.tar.zip.info

The first of these files contains a ZIP file, which in turn contains a TAR file of the public files directory. The second file contains basic information about the creation of the first file and can be deleted.

7) In terms of the first file (e.g., LivingstoneOnline-2017-12-13T15-04-02.tar.zip), you have two options for accessing its contents and putting them on the Livingstone Online file server:

a) If you can access the Livingstone Online file server via an application like Microsoft Remote Desktop, you can unzip the ZIP file (LivingstoneOnline-2017-12-13T15-04-02.tar.zip) in place to get the embedded TAR file (LivingstoneOnline-2017-12-13T15-04-02.tar), then uncompressed the TAR file in place to get the embedded directory (LivingstoneOnline-2017-12-13T15-04-02).

Your current location (/Production-Site-Backup/files) will now contain three items:

   LivingstoneOnline-2017-12-13T15-04-02
   LivingstoneOnline-2017-12-13T15-04-02.tar
   LivingstoneOnline-2017-12-13T15-04-02.tar.zip

The first of the items is the public files directory. Its contents should mirror the contents of File Browser. You can leave this as is on the server. The latter two files, i.e., the TAR and ZIP files, should now be deleted. Finally, delete the previous copy of the public files directory (i.e., /Production-Site-Backup/files-old) from the server.
b) If you cannot unzip the ZIP file (e.g., LivingstoneOnline-2017-12-13T15-04-02.tar.zip) directly on the Livingstone Online file server, download it onto your local machine and unzip it there to get the embedded TAR file (LivingstoneOnline-2017-12-13T15-04-02.tar), then uncompressed the TAR file to get the embedded directory (LivingstoneOnline-2017-12-13T15-04-02).

Your location machine will now contain three items:

- LivingstoneOnline-2017-12-13T15-04-02
- LivingstoneOnline-2017-12-13T15-04-02.tar
- LivingstoneOnline-2017-12-13T15-04-02.tar.zip

The first of the items is the public files directory. Its contents should mirror the contents of File Browser. This directory should be upload as is via FTP to the relevant place on the Livingstone Online file server (/Production-Site-Backup/files). The latter two files, i.e., the TAR and ZIP files, should now be deleted. Finally, delete the previous copy of the public files directory (i.e., /Production-Site-Backup/files-old) from the server.
Changing the Google Analytics Settings

Google Analytics is set up on Livingstone Online. You will normally not need to adjust the settings, but should you need to do so, log into the site as an admin and select the “Google Analytics” submenu from the “System” option of the “Configuration” menu:

This will take you to the “Google Analytics” page where you can adjust various settings or, if necessary, change the “Web Property ID”: 
### GENERAL SETTINGS

**Web Property ID**

This ID is unique to each site you want to track separately, and is in the form of UA-xxxxxx-yyyy. To get a Web Property ID, register your site with Google Analytics, or if you already have registered your site, go to your Google Analytics Settings page to see the ID next to every site profile. Find more information in the documentation.

- **Premium account**
  - If you are a Google Analytics Premium customer, you can use up to 200 instead of 20 custom dimensions and metrics.

### Tracking scope

<table>
<thead>
<tr>
<th>Domains</th>
<th>What are you tracking?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A single domain</td>
<td>A single domain (default)</td>
</tr>
<tr>
<td></td>
<td>Domain: livingtononline.org</td>
</tr>
<tr>
<td></td>
<td>Examples: <a href="http://www.livingtononline.org">www.livingtononline.org</a>, shop.livingtononline.org</td>
</tr>
<tr>
<td></td>
<td>One domain with multiple subdomains</td>
</tr>
<tr>
<td></td>
<td>Examples: <a href="http://www.livingtononline.org">www.livingtononline.org</a>, shop.livingtononline.org, blog.livingtononline.org</td>
</tr>
<tr>
<td></td>
<td>Multiple top-level domains</td>
</tr>
</tbody>
</table>

#### List of top-level domains

- Not tracked
The Fedora Layer
Useful Terminal Commands for Data Management

The development and maintenance of *Livingstone Online*’s core data requires some amount of data management via terminal. As relevant, the “Fedora Layer” segment of this manual cites various terminal commands as part of the instructions for given aspects of working with the Fedora layer of the site. The present section gathers together many of these commands (and others) for ease of reference. All commands should be run from the user’s current directory unless otherwise specified.

Note: Text highlighted in **green** should be changed based on user needs; text highlighted in **yellow** is being emphasized.

---

**Moving Files**

Move files into directories whose name corresponds to the first 10 characters of the file name (useful for building archival packets and moving files around in the main data archive)

```bash
for f in *; do mv $f ${f:0:10}/; done
```

Move files into directories whose name corresponds to the first 10 characters of file names after first creating said directories (useful for building archival packets and moving files around in the main data archive)

```bash
for f in *; do mkdir ${f:0:10}; mv $f ${f:0:10}/; done
```

Move files of a certain type (useful for removing and reviewing files of a particular type)

```bash
find . -type f -name "_MODS.xml" -exec mv \{} /home/usr/destination \;
```

Move files of a certain type two levels down from the current directory (useful for manipulating spectral image data)

```bash
find . -type f d -2 -name "*.zip" -exec mv \{} /home/usr/destination/ \;
```

Recursively move files of a certain type into new directories with corresponding names

```bash
find . -name "*.tif" -exec sh -c "NEWDIR= basename "$1" .tif" \; mkdir "$NEWDIR" ; mv "$1" "$NEWDIR" \};
```

Merge one directory, its subdirectories, and its contents into another directory and its subdirectories (useful for merging directories and files, especially when using new spectral image sets to overview old ones)

```bash
rsync -aP /home/usr/dir/* /home/usr/destination/
```

---

**Copying Files**

---

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Copy files of a certain type (useful for reviewing files of a particular type)
```
fnd . -type f -name \\*\.*\*xml\*\) -exec cp \{\,\,\,\,\} \}/home/usr/destination \;\n```

Copy multiple specific files at one time (useful for separating out specific TEI and MODS files for review)
```
cp /home/usr/dir\/(file1, file2, file3, file4) /home/usr/destination/
```

Copy one file to every directory in your current location in terminal (useful for distributing documentation files into regular archival packets)
```
for dir in *; do [-d "\$dir"] && cp file.txt \"$dir\"; done
```

Copy one file in your current location into all sub-directories, i.e., one level down from current location (useful for distributing files into spectral image archival packets)
```
for dir in */*; do [-d "\$dir"] && cp file.txt "\$dir"; done
```

Copy all files in your current location into all sub-directories, i.e., one level down from current location (useful for distributing files into spectral image archival packets)
```
for dir in */*; do [-d "\$dir"] && cp * "\$dir"; done
```

Copy one directory to every directory in your current location in terminal
```
for dir in *; do [-d "\$dir"] && cp -rf directory "\$dir"; done
```

---

**Renaming Files**

Find a file of a particular type and rename it
```
fnd . -name "\*\.*jpeg" -exec rename 's|\jpeg\|\.jpg\'| {}\n```

Rename part of a file recursively
```
fnd . -exec rename 's|_0001.<f|.<f|' {} +
```

---

**Listing and Counting Files**

Count files in current location
```
ls -F | grep -v | wc -l
```

List files recursively
```
fnd . -name \\*
```

List files recursively in a plain text file
```
fnd . -type f > ~/Desktop/files.txt
```

List directories and content in current directory and provide sizes
```
du -sh */
```
List directories and content in current directory and provide sizes in a plain text file

```
du -sh * > ~/Desktop/files.txt
```

List files recursively of a certain type: files only (useful for reviewing images)

```
ls -R | grep .tif
```

List files recursively of a certain type: path and files (useful for reviewing images)

```
find . -name *.tif
```

List files recursively, including hidden files (useful for finding hidden Mac files)

```
find . -name *.a
```

List number of files in directories recursively

```
find . -type d -print0 | while read -d '' -r dir; do files="dir/*"); printf "%5d files in directory %s
" "files[@]" "$dir"; done
```

---

**Deleting Files**

Delete files recursively of a certain type (useful for preparing images)

```
find . -name \*.*.tif -delete
```

Delete hidden files recursive that begin with "." or "._" or "__MACOSX" (useful removing Mac files while preparing archival packets)

```
find . -name \* -type f -delete && find . -name \* -type f -delete && find . -name __MACOSX\* -type d -delete
```

---

**Deleting Files and Zipping Directories**

Delete hidden files recursive that begin with "." or "._" or "__MACOSX" and zip all subdirectories (useful for removing Mac files while zipping regular archival packets)

```
find . -name \* -type f -delete && find . -name \* -type f -delete && find . -name __MACOSX\* -type d -delete && for i in *; do zip -r "$i.zip" "$i"; done
```

Delete hidden files recursive that begin with "." or "._" or "__MACOSX" and zip all sub-subdirectories (useful for removing Mac files while zipping spectral image archival packets)

```
find . -name \* -type f -delete && find . -name \* -type f -delete && find . -name __MACOSX\* -type d -delete && find . -type d -d 2 -exec zip -r -j {} {} \
```

---

**Zipping Directories**
Zip all directories in current location (useful for building regular archival packets)
for i in */; do zip -r "${i%%/}.zip" "$i"; done

Zip all directories one level down from current location (useful for building spectral image archival packets)
find . -type d -d 2 -exec zip -r {} {} 

Unzip all directories in current location
find ./ -name ".*.*zip" -exec unzip {} 

---

**Metadata**

Show all metadata for a single image file (useful for checking DC metadata added to TIFF headers)
exiftool -a -G1 -s {image.tif}

Show all metadata for a series of image files (useful for checking DC metadata added to TIFF headers)
exiftool -a -G1 -s {*.tif}

For each image in directory, create a corresponding TXT file that contains all metadata for that image
for file in $( ls ${directory} ); do
echo "Processing ${file}"; exiftool -exif:all -CommonIFD0 -DocumentName -HostComputer -PageName -PageNumber -Orientation -XMP -overwrite_original "${file}"; done

Remove metadata from one or more regular manuscript images (useful when updating or changing DC metadata)
for i in *.tif; do echo "Processing $i"; exiftool -exif:all -CommonIFD0 -DocumentName -HostComputer -PageName -PageNumber -Orientation -XMP -overwrite_original "$i"; done

Remove metadata from one or more spectral images (useful when updating or changing DC metadata)
for i in *.tif; do echo "Processing $i"; exiftool -exif:all -CommonIFD0 -DocumentName -HostComputer -PageName -PageNumber -Orientation -XMP -Caption-Abstract -By-line -ObjectName -CopyrightNotice -overwrite_original "$i"; done

---

**Miscellaneous**

Generate MD5 files (useful for creating MD5s for JPEGs in archival packets)
for file in $( ls ${directory} ); do
#extension="$\{file##*\}" 
filename="$\{file%.*\}" 
md5 -q "$\{file\}" > "$\{filename}.jpg.md5"
done

---

**TEI commands**

Process “listerlements.xsl” file

Mac, single TEI file (replace text highlighted in green as relevant): for file in *.xml; do java -jar saxon9he.jar -it:main -s:liv_000019_TEI.xml -xsl:listelements.xsl -o:`basename $file .xml`.xml.html; done

Mac, multiple TEI files (option 1, faster): java -jar saxon9he.jar -it:main -s:$file -xsl:listelements.xsl -o:0_element-attribute-value.html

Mac, multiple TEI files (option 2, slower): for file in *.xml; do java -jar saxon9he.jar -it:main -s:$file -xsl:listelements.xsl -o:0_element-attribute-value.html; done

PC, single or multiple TEI files: java -jar saxon9he.jar -it:main -o:0_element-attribute-value.html -xsl:listelements.xsl files=*.xml

Process “find-xpath.xsl” file

Mac (option 1, faster): java -jar saxon9he.jar -it:main -s:$file -xsl:find-xpath.xsl -o:0_element.html

Mac (option 2, slower): for file in *.xml; do java -jar saxon9he.jar -it:main -s:$file -xsl:find-xpath.xsl -o:0_element.html; done

PC: java -jar saxon9he.jar -it:main -o:0_element.html -xsl:find-xpath.xsl files=*.xml

Generate PDF files

Conversion of one file (change the part highlighted in green as appropriate): /Users/awisnicki2/GitHub/Stylesheets/bin/teitopdf --localsource=/Users/awisnicki2/GitHub/TEI/P5 --profile=LEAP liv_000859_TEI.xml liv_000859_TEI.pdf

Conversion of all files in given directory (i.e., one or more files): for file in *.xml; do /Users/awisnicki2/GitHub/Stylesheets/bin/teitopdf --localsource=/Users/awisnicki2/GitHub/TEI/P5 --profile=LEAP $file \`basename $file .xml\`.pdf; echo done $file; done

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The Local Drive

As needed, Livingstone Online staff will have access to a copy of what we call the “local drive,” i.e., an external hard drive that contains a copy of the main Livingstone Online core data and supporting files. The local drive includes six main directories:

- 0_Core-Data
- 1_Archival-Packets
- 2_Thumbnails
- 3_JPEG-Derivatives
- 4_noStitch-Images
- 1870-Archival-Materials

These six directories are also backed up in the following location on the Livingstone Online file server, which staff should update as they develop their version of local drive: /Livingstone-Directors

Note: A copy of the local drive may also be obtained by downloading the above listed six directories from the foregoing location on the Livingstone Online file server.

Additionally, the contents of the entire Livingstone Online file server are backed up with NSave (https://nsave.unl.edu/).

**0_Core-Data** – This first main directory on the local drive contains the definitive archival version of all Livingstone Online data sets. The directory contains the following subdirectories:

**illustrative** – The data in this subdirectory is not accessible to the public. The data comprises archival TIFF files (plus supporting MD5, TXT, and XMP files) of images used to illustrate the Livingstone Online site. There are also many images here that are not currently published and so can be used to illustrate future site publications.

Screen shot of the “illustrative” subdirectory expanded to show image and supporting files:
manuscripts – The data in this subdirectory is mostly accessible to the public through the Livingstone Online digital catalogue and published through the site’s manuscript viewer and archival packets. This subdirectory contains archival images plus supporting files of the Livingstone Online core data collection. The “manuscripts” subdirectory itself consists of two further subdirectories: “private” and “public.”

The “public” subdirectory, the larger of the two, contains items for which Livingstone Online has images and/or transcriptions and publication permission.

The “private” subdirectory serves reference purposes only and contains items for which Livingstone Online has images and/or transcriptions but no publication permission. The “private” directory also contains items for which Livingstone Online has only MODS records.

Note: If images and/or transcriptions are acquired for any of the latter kinds of items (i.e., those with only MODS records), the files should be added to the item directories, then the item directories should be moved to the “public” subdirectory and sync’d to the Livingstone Online production server (see the section of this manual on “Preparing Manuscript Images for Upload to Fedora”).

Also note: An item directory can only appear in either the “public” directory or the “private” directory. In other words, for instance, you could not have liv_000455 in both directories at once. If any item is in two directories and you attempt to add the directories to Fedora per the normal workflow (see the section of this manual on “Updating Content in the Fedora Repository”), you will get an error.
no_crop - The data in this subdirectory is not accessible to the public. This subdirectory consists of item directories that contain images (and supporting files) that were cropped in order to create the corresponding images held in the “manuscripts” directory. The files in this subdirectory, therefore, serve as backups should the cropped versions of the files found to be corrupt in the future.

scripts – The scripts in this subdirectory are used to generate the manifest files that enable syncing of the local drive with the corresponding data on the Livingstone Online file server and, in turn, with the Livingstone Online production server. The scripts here should not be edited by anyone other than appropriate programmers.

spectral – The data in this subdirectory is accessible to the public through the Livingstone Online digital catalogue and published through the site’s spectral image viewer and archival packets. This subdirectory consists of item subdirectories for all the items available from the site as spectral images. Each item subdirectory is itself divided into page subdirectories.

Screenshot of the “spectral” subdirectory expanded to show item directories, one of which is expanded to show page subdirectories:
In addition to the above subdirectories, the “0_Core-Data” directory also contains the following files:

- import.datastreams.csv
- import.objects.csv
- merged_manifest.csv
- update.command

The first three of these files are automatically generated and provide documentation for the contents of “0_Core-Data” directory as a whole. The files should not be edited manually. The files are used to sync the data on the local drive with the corresponding data on the Livingstone Online file and production servers.

The last of these files (“update.command”) is run by double-clicking it (Macs only). When run, this file updates the other three files, and generates manifest.csv files for all the core items in the various other directories in “0_Core-Data.” If a given item has a manifest.csv file, it is not updated unless necessary. Therefore, generating manifest.csv files takes a long time initially (for instance, if you have to generate manifest.csv files for everything), but updates should usually go quickly.

**1_Archival-Packets** – This second main directory on the local drive contains the uncompressed, self-documenting archival packets that are added in zipped versions to the “manuscripts” subdirectory in “0_Core-Data” (see above) and that are available from Livingstone Online for
download. This directory contains two subdirectories: “Archival-Packets-Regular-Images” and “Archival-Packets-Spectral-Images.” Normally, these packets will be updated first, zipped, and then added to the “manuscripts” subdirectory (see the sections of this manual on “Preparing Manuscript Images for Upload to Fedora” and “Updating and Zipping Archival Packets for Spectrally Imaged Items”).

2_Thumbnails – This third main directory on the local drive contains TIFF images and, separately, resized and renamed derivative JPEG thumbnail images. The latter are added to the “manuscripts” subdirectory in “0_Core-Data” (see above; also the section of this manual on “Preparing Manuscript Images for Upload to Fedora”). Each image corresponds to one item published through Livingstone Online. At present, the images are used exclusively on the “Browse by Timeline” page (http://livingstoneonline.org/his-own-words/timeline).

3_JPEG-Derivatives – This fourth main directory on the local drive contains derivative JPEG images (and, in one case, GIF images) of all the regular and spectral TIFF images (public and private, see above) held in the Livingstone Online digital collection. The images serve as easy-access reference copies, but can also be used to illustrate the Livingstone Online site (except for images drawn from the following location on the local drive: /0_Core-Data/manuscripts/private). New images should be added as new items are added to the Livingstone Online digital collection. The images in this directory are distributed among the following subdirectories:

Illustrative-JPEGs – drawn from the following directory on the local drive: /0_Core-Data/illustrative

Manuscript-JPEGs - drawn from the following directory on the local drive: /0_Core-Data/manuscripts/private and 0_Core-Data/manuscripts/public

Pack16-JPEGs – drawn from the raw spectral image data used to create the multispectral critical editions of Livingstone’s 1870 and 1871 Field Diaries as well as Livingstone’s Letter from Bambarre. This data is found in the following location on the Livingstone Online file server (it is also backed up on external hard drives): /Livingstone-Directors/0_Backup-Data-Files/Livingstone-flattened

Spectral-GIFs – actually consists of GIF, PDFs, and PPTXs drawn from the multispectral critical edition of Livingstone’s 1870 Field Diary (http://livingstoneonline.org/spectral-imaging/livingstones-1870-field-diary)

Spectral-JPEGs – drawn from the following directory on the local drive: /0_Core-Data/spectral

4_noStitch-Images – This fifth main directory on the local drive consists of item directories that contain spectral images (and supporting files) that were stitched in order to create the corresponding spectral images held in the “spectral” subdirectory in the “0_Core-Data” directory. These images are also held in the Fedora layer of Livingstone Online, are not accessible there to staff, and need to be updated there manually by a programmer rather than
through the usual data update workflow (for the latter, see the section of this manual on “Preparing Manuscript Images for Upload to Fedora”).

1870-Archival-Materials – This sixth main directory on the local drive contains backups for various download files available from the multispectral critical edition of Livingstone’s 1870 Field Diary (http://livingstoneonline.org/spectral-imaging/livingstones-1870-field-diary). These files are distributed over the following subdirectories:

00-Project-Documentation
01-Animated-Sequences
02-Flibook-and-Overlaid
03-Animated-Spectral-Images-(ASIs)
04-Download
Spectral-ZIP-documentation-files

One additional subdirectory (“Removed-PCA-Images-Easton”) contains a handful of archival spectral images that may prove of future value but are not currently published through the Livingstone Online digital collection.
Image Data Number Series

As recorded on our standards page (http://livingstoneonline.org/behind-scenes/practices-standards-and-arrangements), we assign each item in the Livingstone Online digital collection a unique base file name. This name consists of the “liv” prefix plus a six digit number, as in the following examples:

    liv_000024
    liv_003091
    liv_013102
    etc.

The association of number with item is wholly arbitrary: any item can be assigned any number, as all sorting is done via our metadata.

Nonetheless, in assigning numbers we have applied some loose organization and divisions, as indicated below. On occasion when reviewing the digital collection, it may be helpful to be familiar with these groupings.

Note: Although there are many available numbers and sequences of numbers (gray highlight), Livingstone Online staff should select from the sequences indicated (yellow highlight) for new core and illustrative items.

liv_000001 to liv_000017 – Livingstone’s final field diaries (1863-73) in sequence
liv_000019 to liv_000031 – Long-length manuscripts from the David Livingstone Centre digitized via LEAP
liv_000032 to liv_000042 – Maps from the David Livingstone Centre digitized via LEAP
liv_000043 to liv_000094 – Random items
liv_000095 to liv_000098 – Spectrally imaged fragments of the 1871 Field Diary
liv_000099 to liv_000102 – Parts of the Missionary Travels manuscript
liv_000103 to liv_000152 – Random items, some of which were sold at auction
liv_000153 to liv_000199 – Not yet assigned
liv_000200 to liv_000214 – Fragments and spectrally imaged fragments of the 1870 Field Diary and select 1870-71 manuscripts
liv_000215 to liv_000454 – Not yet assigned
liv_000455 to liv_002638 – Livingstone letters as enumerated in sequence in the Clendennen and Cunningham catalogue and supplement
liv_002639 to liv_002721 – Random items
liv_002722 to liv_002988 – All the items (other than letters) enumerated in sequence in the Clendennen and Cunningham catalogue and supplement

liv_002989 to liv_003202 – Random items

liv_003203 to liv_003232 – Previously uncatalogued items from the Livingstone Museum in Zambia

liv_003233 to liv_012000 – Not yet assigned (Sept. 2017); it is recommended that numbers for new non-illustrative items added to the Livingstone Online digital collection should be taken in order from this sequence

liv_012001 to liv_012003 – Items from University of London, School of Oriental and African Studies

liv_012004 to liv_012023 – Items from Smithsonian Institution. Libraries, Joseph F. Cullman 3rd Library of Natural History

liv_012024 to liv_012046 – Items from the David Livingstone Centre

liv_012047 to liv_012056 – Random items

liv_012057 to liv_012999 – Not yet assigned

liv_013000 to liv_013942 – Used exclusively for illustrative images

liv_013943 to liv_013999 – Not yet assigned

liv_014000 to liv_015000 - Items from the National Library of Scotland digitized via LEAP

liv_015001 to liv_015011 – Items used to support critical editions of Livingstone’s 1870 and 1871 Field Diaries, the Letter from Bambarre, and Missionary Travels

liv_015012 to liv_016000 – Not yet assigned

liv_016001 to liv_016169 – Used exclusively for illustrative images from the critical edition of Livingstone’s 1871 Field Diary

liv_016170 to liv_016251 – Used exclusively for illustrative images

liv_016251 to liv_017000 – Not yet assigned (Sept. 2017); it is recommended that numbers for new illustrative items added to the Livingstone Online digital collection should be taken in order from this sequence. The unused sequence from liv_013943 to liv_013999 can also be used if necessary.

liv_017001 to liv_999999 – Not yet assigned
Preparing Manuscript Images for Upload to Fedora

Institutional repositories or private individuals may provide archival images representing one or more original manuscripts (and/or historical illustrations) to Livingstone Online. Usually, these images will be delivered as a single sequence of files with a bespoke set of files names (i.e., file names that do not reflect Livingstone Online file naming standards) and provided en masse so that files are not separated out into individual items. The files may be delivered as TIFF or JPEG images. A typical sequence may look like something like the following:

- IMG_009678.jpg
- IMG_009679.jpg
- IMG_009680.jpg
- IMG_009681.jpg
- IMG_009682.jpg
- IMG_009683.jpg

This single sequence might actually represent two or more distinct items. To add such images to the Fedora repository, use the following set of sequential workflows.

A. Organizing and Preparing TIFF Images

Overview: In this sequence of steps, you will standardize all images of manuscript and/or historical illustrations to TIFFs, clear existing metadata, and distribute all images to subdirectories named according to Livingstone Online standards.

1) Put all the images in a single directory. This directory can take whatever name you prefer. It will be called “New-project-data” in these instructions:
2) Use a program such as Adobe Photoshop Elements to batch convert the JPEG images to TIFFs or, if TIFFs already, to reconvert to TIFFs. The step is necessary for JPEGs as we only retain TIFFs in the Fedora layer; the step is necessary for pre-existing TIFFs because without it adding metadata to the TIFF headers via our workflow will sometimes fail.
3) In terminal, navigate to the directory with the images and run the following command:

```bash
for i in *.tif; do echo "Processing $i"; exiftool -exif:all= -CommonIFD0= -DocumentName= -HostComputer= -PageName= -PageNumber= -Orientation= -XMP= -Caption-Abstract= -By-line= -ObjectName= -CopyrightNotice= -overwrite_original "$i"; done
```

This will clear all relevant metadata from the images so that *Livingstone Online* metadata can be added.
Note: Occasionally a collaborating institution will include metadata in its image headers. Pre-existing metadata fields can be reviewed before this step and the command line text above can be modified should some fields need to be retained.

4) Navigate to the following GitHub directory and clone it:

https://github.com/livingstoneonline/LEAP-MODS

5) Navigate to and open the newest version of the following file:

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW/14-MODS-DC-xxx.xlsx

Once this file is open, use this file plus the guidance provided in the section of this manual on “Image Data Number Series” to assign base file names for the new items using available numbers. Take note of the base file names you will be using and the items to which they correspond.

6) In the directory with the TIFF images (see step A.1), create a series of subdirectories, each named with one of the base file names. So, for instance:

    liv_002385
    liv_002392
    etc.
7) Distribute the images for each item into the relevant subdirectory. These subdirectories will henceforth be referenced as the “TIFF item directories” in these instructions. There is no need to rename the images you have just put in these subdirectories manually, unless there are only a few images and the renaming can be done easily.

8) Once the TIFF images are all in the TIFF item directories, create an additional subdirectory called “files-to-rename” and put all the TIFF item directories (and their contents) into the new “files-to-rename” subdirectory.
B. Renaming TIFF Images

Overview: In this sequence of steps, you will rename the individual images in the TIFF item directories to reflect Livingstone Online file naming standards.

1) In the cloned directory (see step A.4), navigate to and open the following file:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Basic-MS-Rename-Script(rename.xlsx

Delete the contents of the first two columns in this file (it is OK to leave the first row as is).

2) Generate a list of all the TIFF item directories in the “files-to-rename” subdirectory (see step A.6). Paste the list in each of the two columns of the “rename.xlsx” file (see step B.1), and save. In other words, both columns of the “rename.xlsx” file will now be identical:
3) Navigate to and open the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Basic-MS-Rename-Script/rename.csv

Copy the text from “file-lists.xlsx” over the text found in this file and replace all tabbed spaces with the $ character. Save and close.
4) Move the “files-to-rename” subdirectory (see step A.6) to the following location:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Basic-MS-Rename-Script
5) Open terminal and navigate to the following directory:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Basic-MS-Rename-Script

This is the same directory where you have just moved the “files-to-rename” subdirectory. Run the following command in terminal: `ruby rename-script.rb`

Terminal will now sequentially rename all the image files in the subdirectories and place them in a new directory that it creates called “out”: 
As a result, whereas a directory like “liv_003589” might have previously contained the following files:

```
IMG_009682.tif
IMG_009683.tif
```

The renamed files in the “out” directory will now look like this:

```
liv_002392_0001.tif
liv_002392_0002.tif
```

Spot check a few of the TIFF item directories to confirm that all file names were converted properly. You may now safely delete the “files-to-rename” directory with the original images.

---

**C. Building MODS Files**

*Overview:* In this sequence of steps, you will update the *Livingstone Online* MODS records, then generate MODS files for each of the new items.

1) In the cloned directory (see step A.4), navigate to and open the newest version of the following file:
Note: This file may already be open because of step A.5.

2) In the “14-MODS-DC-xxx.xlsx” file, click on the “MODS” tab, add new rows for all new items, and fill out all relevant MODS fields for the new items (see step A.6) using existing metadata records as your model. Save.

Note: In some cases, fields can be copied and pasted from the same fields for other existing items. For instance, if the places of composition for some of the new items correspond to places of composition for items already on the spreadsheet, then both authority names and geo-coordinates can be copied from the existing items into the relevant fields of the new items.

3) Navigate to and open the newest version of the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW/14-MODS-xxx.csv

Copy the text from “MODS” tab in the “14-MODS-DC-xxx.xlsx” file over the text found in this file and replace all tabbed spaces with the @ character. Save and close.
4) Navigate to the following subdirectory:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW

Create a new subdirectory here called “Manuscript-MODS”.

5) In terminal, navigate to the following subdirectory:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW

Run the following command: `groovy Generate-MODS-files.groovy`

This step will generate MODS files for all the new items. The MODS files will be generated in the “Manuscript-MODS” subdirectory (see step C.4). Spot check the new MODS files; delete the many other MODS files that are created but do not delete those corresponding to new items.
6) Move the MODS files for the new items from the “Manuscript-MODS” subdirectory to the following subdirectory:

/LEAP-MODS/ MODS-files/Manuscript-MODS

Commit and sync to GitHub.

D. Adding DC Metadata to TIFF Images

Overview: In this sequence of steps, you will convert the MODS records for the new items to DC metadata, then add this DC metadata to the TIFF images of the new items.

Note: For preparing and adding DC metadata to TIFF spectral images, skip the present workflow (the present section D) and see the section of this manual on “Updating DC Metadata for Spectral Images.”

1) In the cloned directory (see step A.4), navigate to and open the newest version of the following file:
Note: This file may already be open because of steps A.5 and/or C.1.

2) Click on the “DC-formula” tab, select and copy the single line of text/code here, then open the “DC” tab, and paste the single line of text on every line where you expect to have a new DC record. The pasted code will generate a rough DC record for each new item you added to the MODS tab.

So, for instance, if the last pre-existing line in this tab is for liv_002384 and you paste the single line of code on the next line, most of the fields for liv_002385 should automatically appear.
Once you have pasted code for all the new lines of items, select all the new lines, copy them, then paste them as values.
3) Once the new items have been added to the “DC” tab, it is necessary to review the new lines and clean them up.

Some or all of the following changes may be needed:

Clear "0" cells
Clear "Original item held by ." cells
In dc:description column, replace ". . ." and " . ." with ". ."
In the dc:description and dc:rights columns only, decapitalize “Private owner”
In the in dc:date type="dcterms:W3CDTF" column, remove any dates after a slash (watch that dates aren’t reformatted)
Replace "As relevant, &\#169;" with "As relevant, copyright"
Replace "Images &\#169;" with "Images copyright" (be sure to match case)
Replace "are &\#169;" with "are copyright"
Replace "&\#169;" with "Copyright" (be sure to match case)
Replace "&\#64;" with @
Replace " &amp; " with " & " (dc:relation type="dcterms:hasVersion" column)
Fix the Smithsonian images (move first contributor columns over to third; move two creator columns over to first two contributor columns). Note: This ensures that pre-existing Smithsonian metadata is not erased.

4) Navigate to and open the newest version of the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/14-DC-xxx.csv

Copy the text from “DC” tab in the “14-MODS-DC-xxx.xlsx” file over the text found in this file and replace all tabbed spaces with the $ character. Save and close.
5) Navigate to the following subdirectory:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Basic-MS-Rename-Script/out/files-to-rename

Then move it to the following location:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW

The “files-to-rename” subdirectory contains all TIFF item directories (see step A.5). Rename the “files-to-rename” subdirectory as follows: “Images-to-add-DC”

6) Open terminal and navigate to the following directory:

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW

This is the same directory where you have just moved the “Images-to-add-DC” subdirectory. Run the following command in terminal: ruby Generate-DC-files.rb

Note: It may be necessary to update the Ruby file in a text editor in order to reflect the name of the most recent version of the “14-DC-xxx.csv” file.
Terminal will now sequentially add DC metadata to all the images in the “Images-to-add-DC” subdirectory, generate MD5 files for each of the images, and export the metadata in the TIFF headers as both TXT and XMP files.

As a result, whereas before the given subdirectory might only have contained image files, e.g.,

```
   liv_002392_0001.tif
   liv_002392_0002.tif
```

a variety of other files will now appear alongside the images:

```
   liv_002392_0001.tif
   liv_002392_0001.tif.md5
   liv_002392_0001.tif.txt
   liv_002392_0001.tif.xmp
   liv_002392_0002.tif
   liv_002392_0002.tif.md5
   liv_002392_0002.tif.txt
   liv_002392_0002.tif.xmp
```

Spot check the newly generated TXT and XMP metadata files using a program like TextWrangler. Use a program like Abode Photoshop to view the metadata in the TIFF image headers or use terminal to navigate to one of the directories with images, then run the following command:
exiftool -a -G1 -s *.tif This will output all the metadata in all TIFF image headers sequentially in your current directory.

---

E. Building Archival Packets

Overview: Thanks to the steps in sections A and B, above, all images for new items will now be organized into a series of subdirectories and appropriately renamed, while the steps in section D will have resulted in the addition of DC metadata to the files and the creation of additional MD5, TXT, and XMP files. Finally, the steps in section C will have produced MODS files for all new items. The data created through the foregoing workflows can now be used to build archival packets that will become part of the archival data set added to Fedora.

Note: For building archival packets for spectral images, also see the section of this manual on “Upda<ting and Zipping Archival Packets for Spectrally Imaged Items.”

* Adding MODS files to the TIFF item directories

1) In the cloned directory (see step A.4), navigate to the following subdirectory:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Images-to-add-DC

Move this subdirectory to “New-project-data” (see step A.1) and rename the “Images-to-add-DC” as follows: “New-TIFF-data”

2) Copy the new MODS files you created previously (see section C) into the “New-TIFF-data” subdirectory (see step E.1). This subdirectory will now contain a series of TIFF item directories plus a series of corresponding MODS files, as in the following example:
3) In terminal, navigate to the “New-TIFF-data” subdirectory, then enter the following command: `for f in *; do mv $f ${f:0:10};/; done`

This command will move each MODS file into its corresponding TIFF item directory.
Note: If there are only a few MODS files, moving the MODS files may be done manually.

Also note: If a given item also has a corresponding TEI file, it should also be added during this step. Multiple TEI files can be added to directories using the same command line text given above; this can be done at the same time that the MODS files are added.

Also note: Should you need to create the relevant item directories and only then move the MODS files into them, use the following terminal command instead of that given above: 
```
for f in *
  do mkdir ${f:0:10}
  mv $f ${f:0:10}/
done
```

* Creating JPEG image subdirectories: first steps

4) Make a copy of the “New-TIFF-data” subdirectory (see step E.1) in the same place as the original and rename the copy “New-archival-packets”. The “New-project-data” directory (see step A.1) will now contain two subdirectories with two different names, but with identical contents:

New-archival-packets
New-TIFF-data

5) Use a program like Photoshop to generate high-resolution JPEGs of the TIFF images in the “New-archival-packets” subdirectory.
The generated JPEGs should then be put in a separate directory (loca<on doesn’t ma[er).
Note: The general Livingstone Online prac<ce has been to convert ﬁles to “JPEG High Quality”
using the “Process Mul<ple Files…” op<on from the “File” dropdown menu in the Photo Editor
in Adobe Photoshop Elements 12 (see image above).
Also note: Once the deriva<ve JPEGs are created, you should also put a copy of them into the
appropriate subdirectory of the following directory on the local drive: “3_JPEG-Deriva<ves”.
From here, the JPEGs can then be uploaded to the Livingstone Online ﬁle server.
6) In terminal, navigate to the directory where the deriva<ve JPEGs have been created (see step
E.5), then enter the following command:
for ﬁle in $( ls ${directory} ); do
#extension="${ﬁle##*.}"
ﬁlename="${ﬁle%.*}"
md5 -q "${ﬁle}" > "${ﬁlename}.jpg.md5"
done
This step will create MD5 ﬁles for all the JPEGs.

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7) Drill down into the “New-archival-packets” subdirectory (see step E.4) and delete all the TIFF images and all the corresponding MD5 images found in any of the subdirectories. Only XMP, TXT, and MODS files will remain:
8) Move the JPEGs and the MD5s into the “New-archival-packets” subdirectory (see step E.4). This subdirectory will now contain a series of image subdirectories plus the corresponding JPEG and MD5 files, as in this example:
9) In terminal, navigate to the “New-archival-packets” subdirectory (see step E.4) and run the following command: for f in *; do mv $f ${f:0:10}; done
This will move the JPEG and MD5 files into the corresponding item directories (see image above), which we will henceforth reference as “JPEG item subdirectories” in these instructions.

* Creating copyright files and adding them to JPEG image subdirectories

10) In the cloned directory (see step A.4), navigate to and open the newest version of the following file:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/14-MODS-DC-xxx.xlsx

Note: This file may already be open because of steps A.5, C.1, and/or D.1.

11) In the 14-MODS-DC-xxx.xlsx file (see step E.10), click on the “Copyright-formula” tab, select the row of text/code, and copy it.

Now click on the “Copyright-pcs” tab and scroll down to where the new items fall in the sequence. For instance, if your first item is liv_002385, then you would start on the row directly below liv_002384. (It may be necessary to create new rows for where the items should appear.)

Paste the code from the “Copyright-formula” tab in the “Copyright-pieces” tab in each relevant row. The pasted code will generate a rough copyright record for each new item.
Once you have pasted code for all the new row of items, select all the new rows, copy them, and paste them as values.
12) Once the new items have been added to the “Copyright-pcs” (see step E.12), it is necessary to review the new rows and clean them up as needed. Save. Now select all the new rows, copy them, and close the file.

13) Navigate to and open the newest version of the following file:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Copyright-Script/ copyright_information.xlsx

Paste the cells copied in the previous step (see step E.12) over the existing completed cells in the file. Save. Select all text in the file and copy.

14) Navigate to and open the newest version of the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Copyright-Script/ copyright_information.csv

Copy the text from “copyright_information.xlsx” over the text found in this file and replace all tabbed spaces with the $ character. Save and close.
15) In terminal, navigate to the following subdirectory:

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Copyright-Script

Now run this command: ruby generate-copyright-script.rb

This step will generate copyright files for all the new items in the same directory.
16) Move the copyright files for the new items (see step E.15; you can delete the other copyright files generated) in to the “New-archival-packets” subdirectory (see step E.4). This subdirectory will now contain a series of JPEG image directories plus a series of corresponding copyright files, as in the following example:
17) In terminal, navigate to the “New-archival-packets” subdirectory (see step E.4), then enter the following command: 

```bash
for f in *; do mv $f ${f:0:10}; done
```

This command will move each copyright file into its corresponding JPEG image directory.
Note: If there are only a few copyright files, the files may be moved into the JPEG image directories manually.

*Adding documentation files to the JPEG image directories*

18) Navigate to the “1_Archival-Packets-uncompressed” directory on your local drive. This is the directory where all existing archival packets are stored. Search for the newest variants of the following four documentation files (the dates at the end of the file names may be different, so search by using the beginning of the file names):

- 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.docx
- 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.pdf
- 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.txt
- 1_Livingstone_Online_Digital_Catalogue_12_Jan_2017.xlsx

Copy these four documentation files into the “New-archival-packets” subdirectory (see step E.4). The four files will now be at the same directory level as the JPEG image subdirectories, as in the following example:
Note: At this stage, the ideal is to update the last of the four documentation files (i.e., “1_Livingstone_Online_Digital_Catalogue_12_Jan_2017.xlsx”) with the MODS data for the newly created items, then replace all iterations of this file in all archival packets on the local drive, then zip the archival packets, and upload them to Fedora layer of Livingstone Online. However, doing this frequently will be unfeasible, so it is recommend to adopt the practice of updating this file only for those archival packets corresponding the new items and, separately, to adopt a plan of periodically updating this file documentation for all archival packets.

19) If there are only a few JPEG image subdirectories, the four documentation files may be copied manually into each of them. If there are many JPEG image subdirectories, open terminal and navigate to the “New-archival-packet” subdirectory (see step E.4), then run the following command (adjusting the file names as necessary):

```bash
for dir in *; do [-d "$dir" ] && cp 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.docx "$dir" ; done &
for dir in *; do [-d "$dir" ] && cp 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.pdf "$dir" ; done &
for dir in *; do [-d "$dir" ] && cp 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.txt "$dir" ; done &
for dir in *; do [-d "$dir" ] && cp 1_Livingstone_Online_Digital_Catalogue_12_Jan_2017.xlsx "$dir" ; done
```
This step will copy each of the four documentation files into each JPEG image subdirectory. After this step, the four original documentation files can be deleted.

* Zipping the JPEG image directories (a.k.a. archival packets)

20) Open terminal, navigate to the “New-archival packets” subdirectory (see step E.4), then run the following command:

```
find . -name __MACOSX\* -type d -delete && find . -name .\* -type f -delete && find . -name .* -type f -delete && for i in \*; do zip -r "$i%.zip" "$i"; done
```

This step will delete hidden Mac files, then zip each of the JPEG image subdirectories. The “New-archival-packets” subdirectory will now contain JPEG image subdirectories plus the corresponding ZIP files, as in the following example:
21) Move the ZIP files to the “New-TIFF-data” subdirectory (see step E.1). This subdirectory will now contain both TIFF item directories and the corresponding ZIP files (a.k.a. archival packets).

In terminal, navigate to the “New-TIFF-data” subdirectory.
Run the following command: `for f in *; do mv $f ${f:0:10}/; done`

This step will move the ZIP files into the corresponding TIFF item directories.
22) Copy the unzipped JPEG image subdirectories to the “1_Archival-Packets-uncompressed” subdirectory on your local drive. From the local drive, the new archival packets can later be copied to the Livingstone Online file server.

F. Creating Thumbnails and Finalizing TIFF Item Directories

Overview: In this sequence of steps, you will identify TIFF images for each new item to be converted to thumbnail images, generate thumbnail images, and add them to the TIFF item directories, thereby completing the process of building these directories.

Note: For finalizing TIFF item directories for spectral images, also see the section of this manual on “Updating Spectrally Imaged Items for Upload to Fedora.”

1) Open the “New-TIFF-data” subdirectory (see step E.1) and review the TIFF images for each item in order to select one TIFF image per item. These TIFF images will be used to create the thumbnail images used in Livingstone Online’s “Browse by Timeline” page (http://livingstoneonline.org/his-own-words/timeline).

Usually, the first image for an item will serve as the thumbnail, but in some cases it may be necessary to choose another image, as when the first image shows a dark cover or some other aspect not suitable for a thumbnail.
2) Copy all the TIFFs selected (see step F.1) into a separate directory (location does not matter), then use Adobe Photoshop CC or a similar program to generate JPEGs of the images that are 100px on their longest edge; the quality for the JPEGs should be 10 (out of 12).

3) Once the JPEGs are created (see step F.2), rename the last segment of the files to “thumbnail.” In other words, files such as the following:

`liv_002385_0001.jpg`
`liv_002392_0001.jpg`

would be renamed as follows:

`liv_002385_thumbnail.jpg`
`liv_002392_thumbnail.jpg`

4) The TIFFs in the separate directory (see step F.2) should now be copied to following location on the local drive: /2_Thumbnails/Thumbnail-Images-TIFFs

The JPEGs (also see F.2) should be copied to the local drive to the following location: /2_Thumbnails/Thumbnail-Images-JPEGs-100px-long-edge
Once copied to your local drive, the TIFFs may be deleted from the separate directory. Both TIFFs and JPEGs on the local drive should later be copied for backup to the relevant places on the Livingstone Online file server.

5) Move the thumbnails (see step F.3) into the “New-TIFF-data” subdirectory (see step E.1). In terminal, navigate to the “New-TIFF-data” subdirectory, then run the following command: `for f in *; do mv $f ${f:0:10}/; done`

This step will move the JPEG thumbnails into the corresponding TIFF item directories.

The process of building the TIFF item directories is now complete. The TIFF item directories will now contain a variety of files, as in the example image above.

G. Adding TIFF Item Directories to the Core Collection

Overview: In this final sequences of steps, you will add the new TIFF item directories to the “0_Core-Data” on the local drive and generate manifest.csv files for the new directories while updating other relevant CSV files. The new data will then be ready for publication via Livingstone Online.

1) Navigate to “0_Core-Data” directory on your local drive, then drill further down to the “manuscripts” subdirectory. Here you will find the “public” and “private” subdirectories. Unless
items are restricted, copy the new TIFF item directories completed in section F into the “public” subdirectory (i.e., /0_Core-Data/manuscripts/public).

2) Return to “0_Core-Data” directory and run the "update.command" script (Macs only) by double clicking it. A new terminal window will open where you can track progress. First a manifest.csv will be generated for each new TIFF item directory placed in the “private” and “public” subdirectories (see step G.1), then the following three files will be updated in the “0_Core-Data” subdirectory:

    import.csv
    merged_manifest.csv
    processed_merged_manifest.csv

3) The “import.csv”, “merged_manifest.csv”, and “processed_merged_manifest.csv” files plus the TIFF images directories with newly generated manifest.csv files (see step G.2) should now be copied to the relevant places on the Livingstone Online file server from where they can be uploaded to the Livingstone Online production server via a separate workflow (see the section of this manual on “Updating Content in the Fedora Repository”).
Preparing Illustrative Images for Upload to Fedora

Illustrative images are used to illustrate the content pages of Livingstone Online and can cover a wide variety of topics, both contemporary and historical. In contrast to archival manuscript images (see the section of this manual on “Preparing Manuscript Images for Upload to Fedora”), we store illustrative images in a single directory, not in a series of item directories. Archival copies of illustrative images are held in the Fedora repository and are not publicly accessible.

Staff members are urged to review our project’s existing illustrative images to get a sense of our illustrative image holdings (see the section of this manual on “The Local Drive” for the locations of both the archival illustrative images and easy-to-review JPEG derivatives).

Usually, these images will be delivered to us as a single sequence of files named with a bespoke set of file names (i.e., file names that do not reflect Livingstone Online file naming standards). The files will most often be delivered as JPEG images. A typical sequence may look like something like the following:

- IMG_009678.jpg
- IMG_009679.jpg
- IMG_009680.jpg
- IMG_009681.jpg
- IMG_009682.jpg
- IMG_009683.jpg

Use the following steps to add illustrative images to Fedora.

Preparing the Illustrative Images

1) Put all the images in a single directory called “Files-to-Rename”.

2) Use a program such as Adobe Photoshop Elements to batch convert the JPEG images to TIFFs or, if TIFFs already, to reconvert to TIFFs. The step is necessary for JPEGs as we only retain TIFFs in the Fedora layer; the step is necessary for pre-existing TIFFs because without it adding metadata to the TIFF headers via our workflow will sometimes fail.

3) In terminal, navigate to the directory with the images and run the following command:

```bash
for i in *.tif; do echo "Processing $!"; exiftool -exif:all= -CommonIFD0= -DocumentName= -HostComputer= -PageName= -PageNumber= -Orientation= -XMP= -Caption-Abstract= -By-line= -ObjectName= -CopyrightNotice= -overwrite_original "$!"; done
```
This will clear all relevant metadata from the images so that Livingstone Online metadata can be added. Note: Usually illustrative images will not have custom metadata added in the header when delivered.

Renaming the Illustrative Images

4) Navigate to the following GitHub directory and clone it:

https://github.com/livingstoneonline/LEAP-MODS

5) Navigate to and open the newest version of the following file:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Illustrative-MODS-xx.x.xlsx

Once this file is open, use this file plus the guidance provided in the section of this manual on “Image Data Number Series” to assign base file names for the new items using available numbers. Take note of the base file names you will be using and the items to which they correspond.

6) Generate a list of the new images and create a second list of the new images with the assigned Livingstone Online base file names.

7) Move the “Files-to-Rename” directory with the images (see step 1) to the following location in the cloned directory:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Basic-File-Rename-Script
8) Navigate to and open the following file:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Basic-File-Rename-Script/file-lists.xlsx

In the first column of this file paste the new *Livingstone Online* base file names. In the second column paste the original file names. Save.
9) Navigate to and open the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Basic-File-Rename-Script/file-lists.csv

Copy the text from “file-lists.xlsx” over the text found in this file and replace all tabbed spaces with the $ character. Save and close.
10) Open terminal and navigate to the following directory:

/LEAP-MODS/ MODS-DC-Generators/Manuscript-MODS-Generator-NEW/Basic-File-Rename-Script

Run the following command in terminal: `ruby rename-indiv-files.rb`
Terminal will now sequentially rename all the image files in the “Files-to-Rename” directory. As a result, whereas the contents of the directory might previously have looked something like:

```
IMG_009678.tif
IMG_009679.tif
IMG_009680.tif
etc.
```

The files will now be renamed:

```
liv_016251.tif
liv_016252.tif
liv_016253.tif
etc.
```

11) Open the Automator application (Macs only) and use it to add “_0001” to the end of the new image file names:
**Building MODS Files**

12) Rename the directory that currently holds all the images ("Files-to-Rename") as follows: Illustrative-for-DC

13) Move the newly renamed “Illustrative-for-DC” directory to the following location:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW

In this same location, create a new (empty) directory named as follows: Illustrative-for-MODS
14) Navigate to and open the newest version of the following file:

/LEAP-MODS/ MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Illustrative-MODS-
xx.x.xlsx

Note: This file may already be open because of step 5 above.

Add new rows for all new files, then add relevant metadata fields for the new files using existing metadata records as your model. Save.
15) Navigate to and open the latest version of the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/Illustrative-MODS-04.0-xx.x.csv

Copy the text from “Illustrative-MODS-04.0-xx.x.xls” over the text found in this file and replace all tabbed spaces with the @ character. Save and close.
16) In terminal, navigate to the following subdirectory:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW

Run the following command: **groovy Generate-MODS-Illustrative.groovy**

Note: It may be necessary to update the Groovy file in a text editor in order to reflect the name of the most recent version of the “Illustrative-MODS-04.0-xx.x.csv” file.
17) The previous step (step 16) will generate MODS files for all the new illustrative images. The MODS files will be generated in the “Illustrative-for-MODS” subdirectory (see step 13). Spot check the new MODS files; delete the many other MODS files that are created but do not delete those corresponding to new files.

18) Move the MODS files for the new files from the “Illustrative-MODS” subdirectory to the following subdirectory:

/LEAP-MODS/ MODS-files/Illustrative-MODS

Commit and sync to GitHub.

---

Adding DC Metadata to Illustrative Images

19) Navigate to and open the newest version of the following file:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/
Illustrative_Images_DCxx.xlsx

Add new rows for all new files, then add relevant metadata fields for the new files using existing metadata records as your model. Many of the metadata fields can be copied over directly from the corresponding fields in the “Illustrative-MODS-04.0-xx.x.xlsx” file (see step 14). Save.
20) Navigate to and open the latest version of the following file with a text editing program (such as TextWrangler):

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW/
Illustrative.Images_DCxx.csv

Copy the text from “Illustrative.Images_DCxx.xlsx” over the text found in this file and replace all tabbed spaces with the $ character. Save and close.
21) In terminal, navigate to the following subdirectory:

/LEAP-MODS/MODS-DC-Generators/Illustrative-MODS-Generator-NEW

Run the following command: **ruby Generate-DC-Illustrative.rb**

Note: It may be necessary to update the Ruby file in a text editor in order to reflect the name of the most recent version of the “Illustrative_Images_DCxx.csv” file.
Terminal will now sequentially add DC metadata to all the images in the “Illustrative-for-DC” subdirectory (see step 13); generate MD5 files for each of the images; and export the metadata in the TIFF headers as both TXT and XMP files. The process will look like this in terminal while it runs:

337
As a result, whereas before the given subdirectory might only have contained image files, e.g.,

liv_016251_0001.tif
liv_016252_0001.tif

a variety of other files will now appear alongside the images:

liv_016251_0001.tif
liv_016251_0001.tif.md5
liv_016251_0001.tif.txt
liv_016251_0001.tif.xmp
liv_016251_0002.tif
liv_016251_0002.tif.md5
liv_016251_0002.tif.txt
liv_016251_0002.tif.xmp

Spot check the newly generated TXT and XMP metadata files using a program like TextWrangler. Use a program like Abode Photoshop to view the metadata in the TIFF image headers or use terminal to navigate to the main image directory, then run the following command: `exiftool -a -G1 -s * .tif` This will output all the metadata in all TIFF image headers sequentially in your current directory.

---

*Adding Illustrative Images to Core Collection*
22) Navigate to “0_Core-Data” directory on your local drive, then drill further down to the “illustrative” subdirectory and copy the illustrative images and all supporting files (see step 21) into this subdirectory.

23) Copy the new illustrative MODS records you previously created (see step 18) into the same location on the local drive (/0_Core-Data/illustrative)

24) Return to “0_Core-Data” directory and run the "update.command" script (Macs only) by double clicking it. A new terminal window will open where you can track progress. First the manifest.csv file for the illustrative subdirectory will be updated, then the following three files will be updated in the “0_Core-Data” subdirectory:

import.csv
merged_manifest.csv
processed_merged_manifest.csv

25) The “import.csv”, “merged_manifest.csv”, and “processed_merged_manifest.csv” files plus new illustrative images and supporting files and the manifest.csv file in the “illustrative” subdirectory should now be copied to the relevant places on the Livingstone Online file server from where they can be uploaded to the Livingstone Online production server via a separate workflow (see the section of this manual on “Updating Content in the Fedora Repository”).
Updating DC Metadata for Spectral Images

Spectral images differ from regular images in a few respects and so require a different workflow for the addition of or to update DC metadata. Note: For the regular DC metadata addition workflow, see the section of this manual on “Preparing Manuscript Images for Upload to Fedora,” section D.

Reasons for an alternate workflow for updating spectral image DC metadata

The need for a different workflow is due to three factors:

1) Regular manuscript images are contained in the main directory for a given item. For instance, all the images for liv_000455 will be found in the main item directory of the same name. However, spectral images are not contained in the main directory for the given item. Rather, the main item directory for a spectrally imaged item contains a series of subdirectories, each of which corresponding to one page of the given item. So, for instance, the item directory for liv_000096 contains the following subdirectories:

   liv_000096_0001
   liv_000096_0002
   liv_000096_0003
   liv_000096_0004

   Each of these subdirectories, in turn, contains the images for that page of the spectrally imaged item. This configuration is needed due to the number of spectral images that may be available for any given page.

2) Regular manuscript items always have only one image per given page:

   liv_000455_0001.tif
   liv_000455_0002.tif,
   etc.

   Spectrally imaged items will always have multiple images, each produced with a different processing method, for any given page, and the images will have one or more additional segments in the file name to identify the processing method:

   liv_000096_0001_color.tif
   liv_000096_0001_pseudo_0505-0780.tif
   etc.
Therefore, each image of a spectrally imaged item will require unique metadata related to the processing method, whereas the exact same DC metadata can be embedded in the header of each image of a regular manuscript item.

3) In the initial development in 2010-11 of the spectral images of Livingstone’s 1870 and 1871 manuscripts, the original data manager on the project developed DC metadata for the images whose complexity far exceeds that of the DC metadata we currently add to all archival images by default. The legacy metadata is therefore worth preserving, but also necessitates a deviation from our usual DC metadata addition workflow.

**Workflow for updating spectral image DC metadata**

1) Clone the following repo from GitHub:

https://github.com/livingstoneonline/LEAP-MODS

2) In the repo, navigate to the following subdirectory:

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW/spectral-MODS-DC

In this subdirectory, you will find the following files (or updated versions of the three latter three files):

- Generate-DC-spectral.rb
- Spectral-DC-05-final-wo-dc-description.xlsx
- Spectral-DC-07.csv
- Spectral-DC-07.xlsx

You will also find some subdirectories that you can ignore with previous versions of files.

3) Add a new subdirectory in this location as follow:

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW/spectral-MODS-DC/
spectral-images-to-add-DC

Into this directory put all spectral images that you would like to update (i.e., do not include any spectral images you do not want to update). The images should be organized as described previously: for spectral images of any given item, there should be a main item directory (e.g., liv_000096) that itself contains a series of page subdirectories (e.g., liv_000096_0001, liv_000096_0002, etc.). You should then place the images to update in the appropriate page subdirectories.

4) In terminal, navigate to any page subdirectory with updated images and run the following command (Exiftool must be installed):
for i in *.tif; do echo "Processing $i"; exiftool -exif:all= -CommonIFD0= -DocumentName= -HostComputer= -PageName= -PageNumber= -Orientation= -XMP= -Caption-Abstract= -By-line= -ObjectName= -CopyrightNotice= -overwrite_original "$i"; done

This will clear all relevant metadata from the images so that the updated metadata can be added.

Do this for each page directory with new/updated images. We do not at present have a terminal command to do this for all the page subdirectories at once.

5) Open the newest version available of the following file:


Update the metadata wherever relevant. Note: The workflow for creating MODS records for spectral images does not differ from the workflow for creating MODS records for regular images, so see the section of this manual on “Preparing Manuscript Images for Upload to Fedora,” section C, for that workflow.

6) As you update the metadata in the “Spectral-DC-07.xlsx” file, take note of the column for <dc:description> (column U). This is where the legacy metadata from 2010-11 is stored. For any changes to other metadata fields in the “Spectral-DC-07.xlsx” file, metadata in the <dc:description> column should also be reviewed and updated as relevant (in most cases, no updates to the legacy metadata will be needed).

Note: The legacy metadata field contains a significant amount of pipe-delimited information. An easy way to review the legacy metadata for a given image is to copy the metadata into a plain text file and review the metadata there, make any changes necessary, then copy the updated metadata back into the relevant cell.

Also note: The GitHub repo you have cloned (see above), also contains the following file:


This file differs from the “Spectral-DC-07.xlsx” file only in that the <dc:description> column has been left blank (i.e., the legacy metadata has not yet been added). The “Spectral-DC-05-final-wo-dc-description.xlsx” file is, therefore, provided only for backup purposes and normally you will not need to use it, but you should update any relevant metadata in this file when you update the corresponding metadata in the “Spectral-DC-07.xlsx” file to ensure both files are in sync for possible future use.

7) Once you have updated the “Spectral-DC-07.xlsx” file, select all the text in the file and copy it, then navigate to and open the following file (or the newest version of this file) with a text editing program (such as TextWrangler):
Copy the text from the “Spectral-DC-07.xlsx” file over the text found in this file and replace all tabbed spaces with the $ character. Save and close.

8) Open terminal and navigate to the following directory:

/LEAP-MODS/MODS-DC-Generators/Manuscript-MODS-Generator-NEW/spectral-MODS-DC

Run the following command: Generate-DC-spectral.rb

Terminal will now sequentially add DC metadata to all the images in the “spectral-images-to-add-DC” subdirectory, generate MD5 files for each of the images, and export the metadata in the TIFF headers as both TXT and XMP files.

As a result, whereas before the given page subdirectory might only have contained image files, e.g.,

liv_000096_0001_color.tif
liv_000096_0001_pseudo_0505-0780.tif
etc.

a variety of other files will now appear alongside the images:

liv_000096_0001_color.tif
liv_000096_0001_color.tif.md5
liv_000096_0001_color.tif.txt
liv_000096_0001_color.tif.xmp
liv_000096_0001_pseudo_0505-0780.tif
liv_000096_0001_pseudo_0505-0780.tif.md5
liv_000096_0001_pseudo_0505-0780.tif.txt
liv_000096_0001_pseudo_0505-0780.tif.xmp
etc.

Spot check the newly generated TXT and XMP metadata files using a program like TextWrangler. Use a program like Abode Photoshop to view the metadata in the TIFF image headers or use terminal to navigate to one of the page subdirectories with images, then run the following command: exiftool -a -G1 -s *.tif This will output all the metadata in all TIFF image headers sequentially in your current directory.
Updating Spectrally Imaged Items for Upload to Fedora

The archival spectral image directories used to update the Fedora repository are found in the following location on the local drive: /0_Core-Data/spectral

The “spectral” subdirectory, in turn, contains a series of item directories, which themselves contain page subdirectories and supporting files, as in the following image (note that the page subdirectories and supporting files in the image are all siblings):

![Image of file structure]

The page subdirectories, in turn, contain archival TIFF image files as well as supporting MD5, TXT, and XMP files. The page subdirectories also include ZIP versions of the spectral image archival packets.

Additionally, both the item directories and page subdirectories include the “manifest.csv” files used to sync content with the Livingstone Online production server (see the sections of this manual on “Preparing Manuscript Images for Upload to Fedora,” section G and “Updating Content in the Fedora Repository”).

Note: Staff members may find it useful to dig around the above-cited directories and subdirectories to get a better sense of how the data is organized.
Updating the spectral image directories depends on what items in the “spectral” directory are being updated.

**Option 1:** To replace entire item directories or page subdirectories, simply swap out the new versions for the old versions.

**Option 2:** To update supporting files such as JPEG thumbnails or XML MODS or TEI files, simply copy the files to the main “spectral” subdirectory (i.e., /0_Core-Data/spectral), then navigate to this directory in terminal and run the following command: `for f in *; do mv $f ${f:0:10}; done`

This will move the files to the corresponding item directories, while also overwriting previous versions of these files in the directories. So, for instance, liv_000095_MODS.xml would be added to liv_000095 and replace the previous version of the MODS file in that item directory.

**Option 3**
1) To update files in the page subdirectories, first move the new files into the “spectral” subdirectory:

2) Navigate to the “spectral” subdirectory in terminal (i.e., /0_Core-Data/spectral) and run the following command: `for f in *; do mv $f ${f:0:10}; done` This will move the files to the corresponding item directories:
Note: If the updated files correspond only to one or a few item directories, they can also be moved manually into those item directories in this step.

3a) If through the previous step, you have moved files only into one item directory, then in terminal navigate to that directory and run the following command: `for f in *; do mv $f ${f:0:15}; done` This new command will move the files to the corresponding page subdirectories of that item. The command here is very similar to the previous one in this option, but the part highlighted in yellow has changed, as the target page subdirectories now have a longer name (page subdirectories are 15 digits long; item directories are 10 digits long).
3b) Otherwise, if you have moved files into multiple item directories, then take the following steps:

i) Clone the following GitHub repo: [https://github.com/livingstoneonline/LEAP-TEI](https://github.com/livingstoneonline/LEAP-TEI)

ii) Navigate to the following file: /LEAP-TEI/1870-71-FDs+1871-Letters/move-files-in-subdirs-into-corresponding-sub-subdirs.sh

iii) Copy this SH file from the GitHub repo to the following location: /0_Core-Data/spectral

iv) In terminal navigate, navigate to the same location (/0_Core-Data/spectral), then run the following command: sh move-files-in-subdirs-into-corresponding-sub-subdirs.sh This will move all updated files in all item directories into the appropriate page subdirectories.
Note: The text of the SH file is as follows:
for D in ./*; do
  if [ -d "$D" ]; then
    cd "$D"
    for f in *; do mv $f ${f:0:15}; done
    cd..
  fi
done

Also note: Should you now wish to publish the updated ZIP files online, see the section of this manual on “Updating Content in the Fedora Repository,” step G.2, for the next step you should take.
Updating and Zipping Archival Packets for Spectrally Imaged Items

Because archival packets for spectral images include subdirectories for each page of each spectrally imaged item, a special workflow is required to update these archival packets. Spectral image archival packets are found in following location on the local drive:

/1_Archival-Packets/Archival-Packets-Spectral-Images

To update spectral image archival packets use one of the following two workflows, depending on whether you are updating one or more files in all subdirectories of a) all spectrally imaged items or b) only one or a few spectrally imaged items. Once you have finished, zip all files using the workflow provided at the end of this section.

Updating one or more files in all subdirectories of all spectrally imaged items

Note: This sub-process will usually involve documentation files such as the following six files, which currently appear in all the subdirectories of all spectrally imaged items:

- 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.docx
- 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.pdf
- 0_Livingstone_Online_Archival_Packet_READ_THIS_FILE_1_Oct_2016.txt
- 1_Livingstone_Online_Digital_Catalogue_12_Jan_2017.xlsx
- 2_Note-on-Processed-Spectral-Images.docx
- 2_Note-on-Processed-Spectral-Images.pdf

1) Navigate to the following location on the local drive:

/1_Archival-Packets/Archival-Packets-Spectral-Images

Then remove any unwanted files from the page directories before proceeding further. (Note: If you are simply overwriting files with the files of the same name(s), you can skip this step)

To remove such files, on Mac you can search for the given files(s) from the “Archival-Packets-Spectral-Images” subdirectory, then delete all instances:
2) While you are still in your current subdirectory (/1_Archival-Packets/Archival-Packets-Spectral-Images), copy all new files into this subdirectory.
3) In terminal, navigate to the following location:

/1_Archival-Packets/Archival-Packets-Spectral-Images

4a) Run the appropriate version of the following command to copy a single file to all subdirectories of all spectrally imaged items (text in green may need to be changed):

```bash
for dir in */*; do [-d "$dir"] && cp 1_Livingstone_Online_Digital_Catalogue_12_Jan_2017.xlsx "$dir"; done
```

4b) If you have more than one file to copy to all subdirectories of all spectrally imaged items, then modify the above text by adding two ampersands and then the appropriate version of the same command. Repeat as necessary, as in the following example, where the connecting ampersands are highlighted in blue and the different files are in green:

```bash
for dir in */*; do [-d "$dir"] && cp 1_Livingstone_Online_Digital_Catalogue_12_Jan_2017.xlsx "$dir"; done && for dir in */*; do [-d "$dir"] && cp 2_Note-on-Processed-Spectral-Images.docx "$dir"; done && for dir in */*; do [-d "$dir"] && cp 2_Note-on-Processed-Spectral-Images.pdf "$dir"; done
```

4c) If the files you are updating have base file names that correspond to the file names of the subdirectories of spectrally imaged items, then use the following command to distribute the files into the appropriate subdirectories:

```bash
for f in *; do mkdir ${f:0:10}; mv $f ${f:0:10}/; done
```

5) Once you have run one of the foregoing commands, the file(s) will be distributed to all subdirectories of all spectrally imaged items. You are now ready to zip all the subdirectories (see further below).

---

**Updating one or more files in all subdirectories of only one or a few spectrally imaged items**

Note: If your update does not involve TEI XML files, skip to step #6 below.

1) Clone the following repo from GitHub:

https://github.com/livingstoneonline/LEAP-TEI

Then navigate to the following location:

/LEAP-TEI/1870-71-FDs+1871-Letters

This subdirectory contains all relevant XML files, related XSL and CSS files, and derivative PDF “reading_copy” and HTML “annotated_reading_copy” files for spectrally imaged items.
2) Update the relevant XML file(s) in the main “1870-71-FDs+1871-Letters” directory. Then update the corresponding files in the “0_TEI-for-HTML” and “0_TEI-for-PDFs” subdirectories (i.e., /LEAP-TEI/1870-71-FDs+1871-Letters/0_TEI-for-HTML and /LEAP-TEI/1870-71-FDs+1871-Letters/0_TEI-for-PDFs). Note that these secondary XML files do not correspond exactly the main XML file(s), so all three versions of the XML file should always be edited as needed.

3) Keep the “0_TEI-for-HTML” version of the XML file(s) open and run default transformation scenario:

This will generate the derivative HTML file. Spot check the file, then move this file to the following location: /LEAP-TEI/1870-71-FDs+1871-Letters/0_HTML

4) Create a new directory on your desktop then to this directory temporarily transfer the updated XML file(s) from the “0_TEI-for-PDFs” subdirectory (i.e., /LEAP-TEI/1870-71-FDs+1871-Letters/0_TEI-for-PDFs). Navigate to this directory via terminal and run the PDF transformation using the appropriate variant of the following text (the paths in green need to be changed):

```
for file in *.xml; do /Users/awisnicki2/GitHub/Stylesheets/bin/teitopdf --localsource=/Users/awisnicki2/GitHub/TEI/P5 --profile=LEAP $file `basename $file .xml`.pdf; echo done $file; done
```

This will generate the derivative PDF file(s). Spot check the PDF file(s), then move the file(s) to the following location: /LEAP-TEI/1870-71-FDs+1871-Letters/0_PDF Move the XML file (used to create the PDF file) back to its original location.
Note: For more on this process, see the section of this manual on “Generating PDF Versions of TEI Files.”

5) Commit your changes to GitHub and sync.

6) Navigate to the following location on the local drive:

/1_Archival-Packets/Archival-Packets-Spectral-Images

In this subdirectory, locate the item directory for the item you wish to update and add the new files into this item directory. Repeat for each item:

7) Once you have added new files (and, if needed, deleted old ones), in terminal navigate to the following location on the local drive:

/1_Archival-Packets/Archival-Packets-Spectral-Images

Run the following command: `sh copy-files-in-mult-dir-to-mult-subdr.sh`
As the image shows, this script works at the level of item and will distribute *any files you have put into any item directories* into all corresponding page subdirectories of the given item at one go. It will work for one item directory or multiple item directories. In other words, you can update multiple files for multiple items at once with this script, rather than having to do each item individually.

Note: The “copy-files-in-mult-dir-to-mult-subdr.sh” script should already be in the “Archival-Packets-Spectral-Images” subdirectory (i.e., in the following location: /1_Archival-Packets/Archival-Packets-Spectral-Images):
If the script is missing, there is also a copy in the following location:

/LEAP-TEI/1870-71-FDs+1871-Letters

From here, you can copy this file into the relevant place on the local drive.

Also note: The text of this SH file is as follows:

```bash
for D in ./*; do
  if [-d "$D" ]; then
    cd "$D"
    for dir in *; do [-d "$dir" ] && cp "$dir" ; done
    cd ..
  fi
done
```

8) Once you have copied the new files into the subdirectories, be sure to delete the new files from the main item directory.

You are now ready to zip all the subdirectories (see below).

---

*Zipping spectral image archival packets*
1a. If you have updated files for a **single spectrally imaged item**, in terminal navigate to that item directory (e.g., /1_Archival-Packets/Archival-Packets-Spectral-Images/liv_000095), then run the following command:

```
find . -name __MACOSX* -type d -delete && find . -name .* -type f -delete && find . -name .* -type f -delete && for i in */; do zip -r "${i%/}.zip" "$i"; done
```

This will delete all hidden files (particularly those produced by Mac), then zip all directories in your current location.

1b. If you have updated files for **multiple or all spectrally imaged items**, in terminal stay at the level of the “Archival-Packets-Spectral-Images” subdirectory of the “1_Archival-Packets” directory (i.e., /1_Archival-Packets/Archival-Packets-Spectral-Images) and enter the following command:

```
find . -name __MACOSX* -type d -delete && find . -name .* -type f -delete && find . -name .* -type f -delete && find . -type d -d 2 -exec zip -r -j {} \;
```

This will delete all hidden files (particularly those produced by Mac), then zip all directories one level down from your current location, in other words, all pages of all spectrally imaged items found here. As a result, you may want to move only the items that are to be updated to alternate temporary location when taking this step.

2) The ZIP files will now be presented alongside the subdirectories for item pages:

3) The ZIP files and are ready for transfer to relevant item subdirectories found the following location on the local drive:
As a first step, use the appropriate variation of the following command to transfer all ZIP files from your current location (/1_Archival-Packets/Archival-Packets-Spectral-Images) to the “spectral” directory:

```
find . -type f -name ".*\.zip" -exec mv {{}} /Volume/0_Core-Data/spectral 
```

4) Next, use the following command to transfer the ZIP files into each corresponding item directories (for instance, all the ZIP files for liv_000095 would go into that item directory): 

```
for f in *; do mv $f ${f:0:10}/; done
```

5) Finally, use terminal to navigate separately to each directory with new files, then run the following command: 

```
for f in *; do mv $f ${f:0:15}/; done
```

This will transfer the ZIP files from the main item directory into the corresponding page directories (so, for instance, liv_000095_0001.zip will be added to the liv_000095_0001 subdirectory). The command will not move the other files already found in the main item directories, such as MODS, TEI, and thumbnail files. Repeat this step for each item directory.

Note: If there are only a few ZIP files, it may be easier to distribute them to page directories manually.

Also note: Should you now wish to publish the updated ZIP files online, see the section of this manual on “Preparing Manuscript Images for Upload to Fedora,” step G.2, for the next step you should take.
Updating Content in the Fedora Repository

Archival versions of images, transcriptions, and metadata are retained in the Fedora layer of Livingstone Online. To update data in this layer, perform the following steps.

1) Update all relevant core data on your local drive (see the sections of this manual on “Preparing Manuscript Images for Upload to Fedora” and “Preparing Illustrative Images for Upload to Fedora”).

Once the data is ready to be put onto the Livingstone Online file server (from where it will be sync’d to the Livingstone Online production server), at least two options are available for uploading the data.

2) Option 1: If the Livingstone Online file server is mapped on your local machine, you may use a program like FreeFileSync (https://www.freefilesync.org/) to transfer the files between your machine and Livingstone Online file server by syncing the “0_Core-Data” on your drive with the corresponding directory on the Livingstone Online file server (/Livingstone-Directors/0_Core-Data).

Option 2: Alternately, you may use a program like Filezilla Client (https://filezilla-project.org/) to transfer the updated files, one by one, from your local machine to the Livingstone Online file server via FTP. If using Filezilla, set the binary mode for working with FTP server before transferring any files:
Note: When updating spectral image directories (i.e., those found in the following location on the local drive: /0_Core-Data/spectral), be sure to consult the section of this manual on “Updating Spectrally Imaged Items for Upload to Fedora.”

3) Once the files have been transferred to the *Livingstone Online* file server, they are ready to be transferred to the Fedora layer of *Livingstone Online* on the *Livingstone Online* production server. Log into *Livingstone Online* (prod version) and select the “Fedora Import” option from the “Livingstone” menu:

![Image of the Livingstone Online interface showing the Fedora Import option](image)

4) The Fedora Import section provides a number of options for updating the archival content. Before performing any kind of update, make sure you have updated your credentials for accessing the *Livingstone Online* file server (this needs only be done on your first import; on subsequent imports, your credentials will be remembered) and update the Import Table Settings. This will perform a comparison of the files on *Livingstone Online* file server with those on the *Livingstone Online* production server:
5) Once Table Settings have been updated, you may review the results of the update in the tables on the lower half of the webpage. Note: In the tables, “Local objects” refers to files on the Livingstone Online production server (the perspective of these tables is from the Livingstone Online production server), while “remote objects” refers to files on the Livingstone Online file server.

6) Depending on the information that appears in the tables and/or your updated files, you will want to choose one or more options for updating the data:

a) If you have only added files to existing objects (for instance, a new transcription for an item that already has images in the archive), you may choose to re-index Solr only.

b) If the tables show that derivative JP2s are missing, these may be regenerated.

c) The simplest option is to select “Import All Content.” This will run all the required steps to bring the Livingstone Online production server server in-sync with the Livingstone Online file server.
d) Alternately, to engage in more granular updates of the data, you can use the tabs at the top of the page. The options on each tab are self-explanatory:
Note: Despite the instructions given above, it is actually not required that you manually update the content on the Livingstone Online production server. The update process is also run automatically every night, so it is actually enough to sync the files from the Livingstone Online file server to the Livingstone Online production server. That said, running the sync manually will also display the results of the sync and, if any errors occur, will indicate these, so you will become immediately aware of them.

Also note: If you accidentally close the browser window while any of the update processes are running, the last started download (from the Livingstone Online file server to the Livingstone Online production server) will continue until it completes. You may reopen the browser window, return to the update page, and restart the process as needed.

e) Finally, once the Fedora content on the Livingstone Online production server is updated, the Drupal nodes can be updated with the Fedora content so that the new content is searchable through the front end of the site. For more on this process, see the section of this manual on “Importing Content from Fedora into Drupal.”
Generating Missing JP2 Derivative Images

Occasionally when you update image content in the Fedora layer of the site (see the section of this manual on “Updating Content in the Fedora Repository”), the site will fail to generate one or more derivative JP2 images. The site’s manuscript viewer uses these derivative JP2s to display TIFF image content from the Fedora layer, so it is important that none of the JP2s be missing.

To check whether JP2s have been generated for all new or updated image content in Fedora, select the “Fedora Import” option from the “Livingstone” menu:

Once you get to the “Fedora Import” page, scroll down to the bottom of the page and you will see a subsection on “Objects Missing Derivatives (in Fedora).” If any derivatives are missing, there will be further information in this section:
Should you find any derivatives are missing, scroll back up the page to the “Generate Missing Derivatives” subsection and click the “Generate” button:
The missing derivatives will now be generated:

Preparing to generating derivatives...

Creating derivatives for liv012059_0004
Time elapsed: 11 sec
Estimated time remaining 0 sec.
Once process has completed you will get a notification:

As a final step, you might scroll down to the bottom of the page to confirm that there are no longer any missing derivatives.
Importing Content from Fedora into Drupal

Every night the content from the Fedora repository is imported into Drupal, thereby making the content searchable through the front end of the site and available for other forms of site development.

If necessary, the update function can also be carried out manually, should you update the Fedora repository and want to bring the content over into Drupal immediately. To do this, use the following steps.

1) Select the “Drupal Import” option from the “Livingstone” dropdown:

2) This will take you to the “Drupal Import” page:
3) Once on the “Drupal Import” page, you then have two options:

**Option 1:** From the “Import/Update Manuscript Node(s)” section, you can update a single node by entering the PID in the box and then clicking the “Import/Update Manuscript Node via PID” button. Note: The PID is the same as the base file name, but the underscore is replaced with a semi-colon (so, for instance, liv_000235 becomes liv:000235):
Option 2: You can opt to click the “Import/Update All Manuscript Nodes” button, which will update all new content added to Fedora:
4) Once the process is complete, the new Fedora data will now be accessible from the Drupal layer.

Note: The other options on the “Drupal Import” page should only be selected in special cases.
Closing Materials
**Troubleshooting**

If you encounter an error while using the instruction manual, use the following steps (in the order given) to troubleshoot the problem. Begin by attempting to solve the problem yourself, then contact someone else when you have exhausted all options on your own.

1) Check that you have followed all the steps in this manual correctly or, if possible, try walking through the steps again. For instance, if you are copying code from this manual into terminal, it’s possible that you did not copy all the required code or did not modify it appropriately.

2) Compare the structure of the data on which you’re working with a similar part of the data to see if you notice any deviations. Alternately, compare an existing site page against the one you’re developing.

3) Check the wording of the steps in this manual carefully in case an error has crept into this manual. Note: If you do catch any error be sure to notify the project team.

4) Check that you have all relevant applications, including terminal applications, installed. See the section of this manual on “OS and Required Applications.”

5) Review or spot check the data on your local drive to ensure that it has not become corrupt. If you find any problems, download the correct files from the *Livingstone Online* file server.

6) Use FreeFileSync (or a similar program) to compare your data against the same data on the *Livingstone Online* file server. If you find any deviations, download the correct files from the server. Note: Do not update the server if you suspect that there is a problem with your files.

7) Use keywords to search for a solution via Google.

8) Have someone local to you review your work in case you’re making a mistake that you’re not noticing.

9) Check with other *Livingstone Online* staff to see if they can help you.

10) Contact the *Livingstone Online* project directors and/or system administrator for help.
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