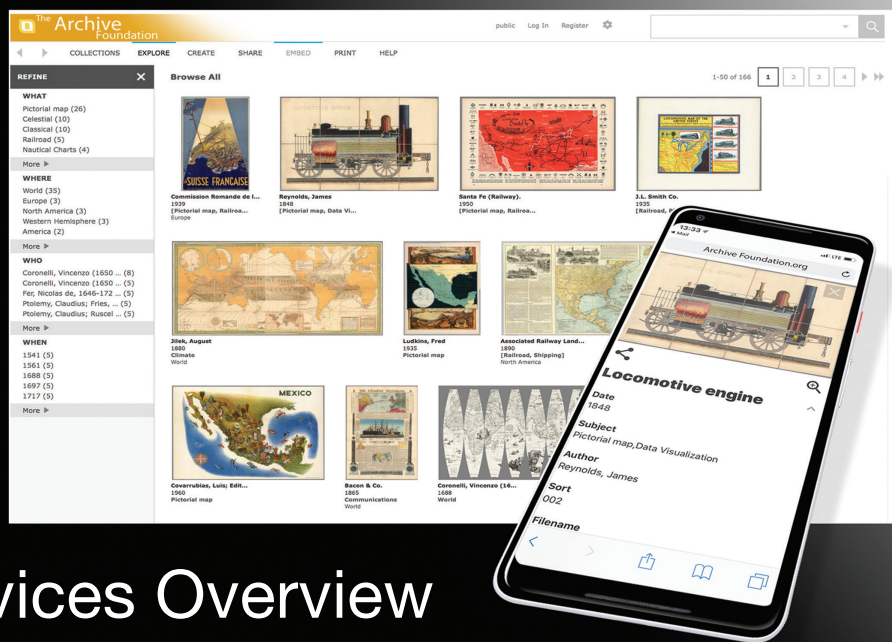# LUNA
Product & Services Overview

Beyond Digital Asset Management

LUNA's visually powerful web-based platform provides an appealing alternative to other digital asset management systems that focus primarily on managing metadata at the expense of the assets themselves.

LUNA makes it easy to organize, manage, and preserve digital assets, curate collections, and deliver content to targeted audiences or the general public. LUNA is comprised of a complete set of tools that can be distributed across multiple roles within any size organization.

LUNA simplifies collection sharing enabling admins to share and receive LUNA and non-LUNA collections across institutions.

Efforts to share content and collections across platforms have been underway for decades and LUNA now provides a long-awaited solution enabling clients to leverage their content creation through distribution, while also taking advantage of outside resources with seamless delivery through their LUNA instance.

In This Document:

■ The LUNA Toolset

Frontend Viewers
- LUNA Viewer
- LUNAversal Viewer

Backend Tools
- LUNA Library & Uploader
- LUNA Collection Manager & Template Builder
- LUNA Administrator & LUNA Sharing

■ LUNA Software & Service Options

- LUNA Software Licensing
- LUNA Technical Support
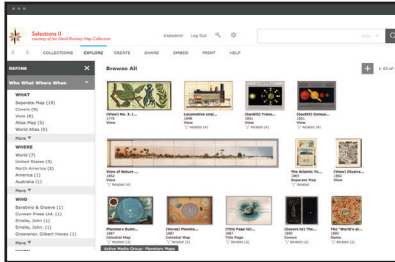- LUNA Training Services
- LUNA Implementation Services

■ LUNA Technical Overview & Diagram

- LUNA Technical Overview
- Supported Media
- LUNA Flexibility & Supported APIs
- LUNA Content & Collaboration
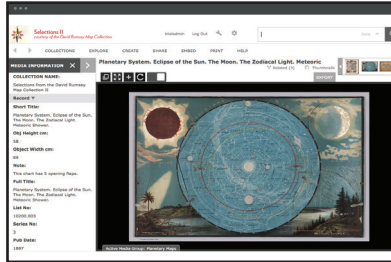- LUNA & IIIF Milestones
- LUNA Diagram

LUNA IMAGING

Founded in 1993 to serve the cultural heritage community, Luna provides DAM software to libraries, museums, archives, galleries, and collectors nationwide and abroad.

LUNA Viewers

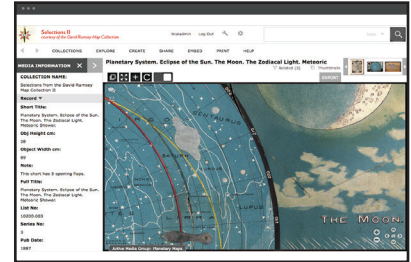## Focus on Access for Internal or Remote Teams; For Private or Public Discovery

The LUNA Viewers are the end-user's front end for the LUNA toolset. They offer an unprecedented way to distribute the digital content that you've organized into collections. We pay attention to the end-user experience and have designed an interface that not only enables users to find specific items, but also encourages them to discover and enjoy new content.

Thumbnail View

Detail View

Zoomed in View

The LUNA Viewer – Feature Rich for Research

With the LUNA Viewer, users easily search or browse still images, audio, video, PDF, and BookReader media, from one or many collections simultaneously. Users can continuously zoom on high-resolution images and book pages, and easily play back audio and video.

Groups provide users with an easy way to organize Favorites into dynamic slideshow presentations either within LUNA or through PowerPoint export. LUNA Embed makes it easy to share LUNA source content without the need to know HTML.

The LUNA Viewer includes:

• Faceted searching and browsing for discovery with custom settings and option for hierarchical display
• Customizable Embed to provide a complete integration in an external page without ever jumping back to LUNA
• Support for video transcriptions and closed captioning display in the LUNA Viewer
• Built-in SEO – public LUNA collections receive maximum exposure
• Related media discovery
• Increased image interoperability with IIIF – International Image Interoperability Framework
• LUNA's Mirador Detail View supports Open SeaDragon for smooth zooming
• Open Annotations supported at the public and private level

The LUNAversal Viewer – Mobile Friendly and Focused on Accessibility

The LUNAversal Viewer includes:

• Responsive – UI built for expanded delivery to audiences on mobile platforms
• Minimalist Design – Intuitive Navigation and Discovery – Search and Display targeted collections/facets/ related media/media groups
• Provides an opportunity to further customize the viewer for LUNA clients
• Web Accessibility Compliance – Introduces standard keyboard commands for navigation

LUNA Collection Manager
Curate Your Content

The Collection Manager is where metadata templates are managed and where LUNA Viewer properties are assigned. Create as many collections and metadata templates as you need, and easily modify or repurpose them.

LUNA makes it easy to maintain data structure and consistency. New metadata templates can be created from scratch, or modified using the Dublin Core template that comes bundled with LUNA. LUNA templates support repeating fields, MARC record mapping, and local authorities.

The Collection Manager makes it easy to manage which collection properties are visible to end-users in the LUNA Viewer and includes:
• Hiding or exposing data fields
• Set the sort order and display defaults for the thumbnail view
• Search and display preferences for a record in Detail view
• Search and display options for embedded EXIF, IPTC, and XMP metadata
• Field mappings for category browsing and faceting
• Theme selection
• A relay button for flexibility with e-commerce or user feedback options
• OAI-PMH compatibility with Dublin Core metadata mapping

LUNA Administrator & LUNA Sharing
Manage Workflow & Access Permissions

The LUNA toolset now provides complete transparency between tasks and allows the Admin to navigate throughout the complete toolset using a single login.

In the Administrator, different user access levels can be assigned to each tool. The Administrator gives your organization virtually unlimited flexibility in distributing the LUNA toolset and customizing your collection building workflow.

LUNA's integration with Active Directory, LDAP, and OpenLDAP provides an easy solution for organizations with an existing authentication system. The Administrator also allows organizations to create end-user accounts and limit access by IP or IP ranges.

The LUNA Administrator supports:
• Shibboleth/SAML 2.0 Authentication
• Detailed usage reports through Google Analytics
• RESTful API (LUNA Record Data API for source-data integration)
• JSON API (LUNA Viewer API) for dynamic discovery
• Create collection groupings through Categorization

LUNA Sharing supports:
• Share and Receive LUNA and IIIF enabled collections
• Select LUNA ready collections through the new shared collection repository
• Add LUNA and non-LUNA content to your LUNA instance (ex: add the David Rumsey Map Collection)
• Share your LUNA collections beyond your LUNA instance to reach wider audiences and fulfill your institutional mission
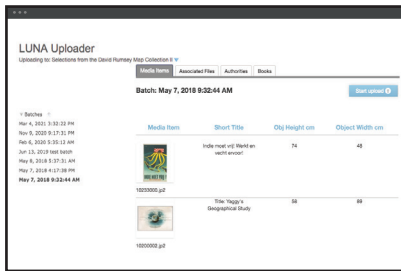
LUNA Library & Uploader
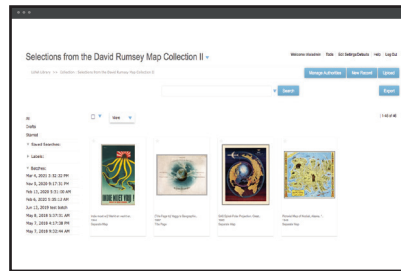## Easily Manage Your Assets

The LUNA Library and Uploader provides a flexible staging environment for importing new content, creating and editing metadata records, adding items to collections, and managing authorities.

The Library is the core of the LUNA toolset and provides a simple, powerful tool for working with all types of media items. Permitted users can bulk edit records, assign labels, save searches, and work with technical metadata.
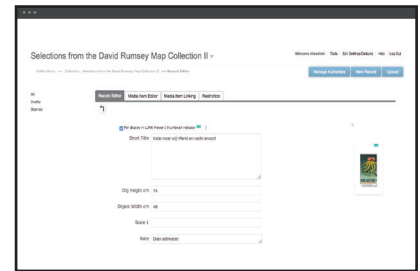
Use the Uploader to batch import data and media directly to a collection, or upload it to the system and assign to collection(s) later. Once media items are in the system, the Library supports QC and departmental review.

LUNA Uploader

LUNA Library Thumbnail View

LUNA Library Record Editor View

The LUNA Library supports:
- Advanced search filters based on media and record data characteristics
- Designate items to display or not display in the LUNA Viewers
- Find and Replace
- Authority Management
- Item Level Restrictions
- Custom thumbnail selection for audio, video, and PDF media file browsing
- Duplicate or move media to different collections
- Batch export of source image files including JPEG2000
- Export of collection(s) record metadata as a .csv file

The LUNA Uploader supports:
- Batch ingest source image files including JPEG2000
- Ingest of 16-bit image files
- BookReader media processing for discovery and delivery of compound objects
- Batch import record metadata as a .csv file

Optional support:
- Google Cloud Storage API for preservation repository integration to seamlessly manage source and related media through the LUNA Library
- Google Cloud Vision API for metadata extraction

LUNA Software Licensing and Technical Support

LUNA Software Licensing

Our clients choose LUNA because they need a system that can do more. In order to provide the best solution for your organization we have many options to choose from:

LUNA Hosted Service
There's no need for a software license with this SaaS offering. We offer the LUNA toolset hosted with Google Cloud Platform's Google Computer Engine. Starting with 250 GB of storage, LUNA Hosted Service now features:

• High-performance virtual machines
• Global load balancing
• Compliance and security

Digitize + Deliver
Consulting services support your digitization project workflow for LUNA Delivery.

LUNA Solo
This affordable hosted solution scales for individuals and small organizations that require one, five, or ten user accounts.

On-Premises License
Purchase a software license to install on your institutional server or on your own cloud instance, on Google Cloud Platform or Amazon Web Services.

LUNA for consortia
Options for centralized or decentralized collection building.

LUNA Technical Support

With three levels of support to choose from for your on premises installation, and support bundled with our Hosted Service, we provide the flexibility you need to make your project a success.

Standard Technical Support M-F, 7:30am – 4pm PT
• Email support via web-based ticketing system
• Telephone support
• Software Updates and Upgrades

Included for LUNA Solo and Hosted Service Agreements
• Set-up and maintain the servers and databases to host your collections
• Reliable web access to your collections
• Service monitoring with Nagios - LUNA provides a snapshot every 24 hours and a two-week rollback

Customized quotes are available for:
• Dedicated Server
• Hybrid model for a LUNA Hosted Agreement with On-Premises License
• Backup and Recovery
• On-Premises Remote Console Installation, Support, and Repair
• Supported 3rd party integration and customization for Authentication
• 3rd party source data integration and interoperability
• LUNA Enterprise Performance configuration
• Stand-alone uploader for maximum media processing

LUNA Training and Implementation Services

LUNA Training Services

While many of our clients get started as soon as we provide them with login credentials, it is often best to wait until after the collection building training session.

Our client specific training provides a foundation of understanding of the LUNA toolset so our clients can design the optimal workflow for adding content through the Uploader, managing and editing content in the Library and setting up search and display options for the Viewer.

We typically start our new clients off with two training topics; collection building and user administration.

Additional specialized training is available on a wide range of topics including:
- Representing compound media items such as PDFs for BookReader format display.
- Integrating LUNA with the Google Cloud Storage API for source and associated media items.
- Building and managing local authorities
- Adding item level restrictions to collection content
- Collection sharing and categorization
- Enhanced Google Analytics for better usage reporting

LUNA Implementation Services

Beyond support, we offer a wide range of services to ensure your LUNA implementation is successful.

Customized implementation quotes are available for:
- Consulting services – system design, digitization workflow & project management
- Installation and configuration
- Data design and migration
- API integration services
- Collection creation
- Collection server and database migration
- Custom authentication
- LUNA optimization critique and review
- Collection workflow consulting with LUNA delivery

LUNA Technical Overview
Easy to Deploy

Luna's hosting service provides both hardware and support resources so you can focus on managing your media. The server environment is completely virtualized. Servers are monitored internally and every 24 hours a snapshot of your implementation is backed up to another storage device.

The LUNA Toolset components are web-based and work on the following browser platforms.

Supported Browser Platforms – Web

Firefox (all platforms)
Chrome (Windows & Mac)
Safari (Windows & Mac)
IE 8+
Microsoft Edge
Firefox and Chrome preferred with Library

The LUNAversal Viewer is optimized for mobile delivery.

Supported Platforms – Mobile

iOS is preferred (Safari)
iOS and Android

On-Premises SERVER REQUIREMENTS

Supported Platforms	Windows 2000/2003/2008/2012
	Linux: Red Hat, Ubuntu (Debian)
Database	MariaDB v10+, MySQL v5.6+

Memory

Minimum 4GB not inclusive of the database. Considerations for additional memory are dependent upon amount of content and number of users.
Ex: LUNA Hosted Service provisions 2 CPU and 7.5 GB of Memory with performance upgrade options available.

Hard Drive Free Space

Dependent upon amount of content and source media.
Ex: image of 20MB processed to create derivatives requires ± 2.5MB of storage space; derivatives plus source storage requires 22.5MB

Supported Media and Data Formats

File Formats

URL media is now supported in LUNA

- JPEG 2000; pdf; png; gif; tiff; tif; bmp; jpeg; html
- Native playback for flv; mp4; mp3; m4v (H.264 Codex Only); flv (H.263); and mp3
- Data import formats include UTF-8 encoded .csv, .xml or .mrc (MARC source data)
- Additional file formats supported and will playback in default application (e.g. mov; avi)
- 8bit and 16bit source files
- Support for Closed Captioning with Video JS

Not supported are RAW and CMYK and 1 bit images like faxes (these formats may be uploaded as associated media for access through the LUNA Library)

Image Processing

Option to store source image in LUNA

- Upon upload compressed JPG derivatives and JPEG2000 files created
- Batch processing of up to 120MB source with 1 GB allocated to Tomcat JVM
  (contact support for larger files)
- Embedded metadata (EXIF, IPTC, XMP) retained in the source and JPG derivatives

Book Reader Processing

OCR layer required to support full text searching in LUNA

- PDF (with OCR layer) and individual images in a folder*
- PDF/A-2b (version 5-6 compatible)

recommended for larger books

Data Formats

- Support for embedded metadata search and display (EXIF, IPTC, XMP)
- Support for representing a custom data schema in the Collection Manager
- Create and edit descriptive data in the Library's Record Editor
- Batch upload data records & local authorities via .csv spreadsheet
- Batch export of record metadata in .csv or .xml format
- Batch export of images in your choice of file size including source (if available)
- Support for additional custom media item metadata in Media Item Editor

LUNA Flexibility and Supported APIs

Flexible

LUNA was built in Java on common open source components including Spring, MySQL, Hibernate, YUI, Solr, and Lucene. LUNA supports industry standards such as Dublin Core, Unicode, OAI-PMH, XML, and JPEG2000. LUNA Record Data API (RESTful API) and LUNA Viewer API (JSON) allows for additional flexibility. LUNA can easily be scaled up to support simultaneous large scale collection builds.

LUNA Supported APIs

LUNA APIs LUNA	Record Data API – RESTful API for source-data integration with the LUNA Library LUNA Viewer API – JSON API for dynamic media discovery
IIIF APIs	IIIF Presentation API and IIIF Image API – easily represent image (including BookReader) formats with descriptive data in IIIF viewers IIIF Change Discovery API – for sharing and receiving LUNA and non-LUNA IIIF enabled collections.
Google APIs*	Google Cloud Vision API – works with the LUNA Uploader to provide image analysis for OCR and metadata extraction Google Cloud Storage API – adds preservation repository functionality to LUNA with Nearline or Coldline storage

*Google Cloud Vision API and Google Cloud Storage API require a Google Service Agreement

Klokan	Georeferencer API – A 3rd party add-on that allows you to georeference maps using *Georeferencer* from Klokan Technologies.
FotoMoto	Easily monetize content through FotoMoto API integration with fullfillment options including BayPhoto.

LUNA Content and Collaboration

Collections Visibility

LUNA supports cross collection searching and facilitates collection sharing and discovery through features such as our built in OAI-PMH mapping. Use OAI-PMH mapping to easily expose your public LUNA Collections through Library Discovery layers (Ex: OCLC's WorldCat or EBSCO's Discovery Service) and the Digital Public Library of America (DPLA).

E-Commerce Extensibility

The LUNA Relay button is customizable and permits integration with internal or external fulfillment channels. Alternatively, it can be linked to a form to solicit end-user feedback.

LUNA & IIIF Milestones

1. Sharing – easily create a IIIF manifest
May '16/ LUNA v7.2

LUNA Viewer users can easily create and share a IIIF manifest (looks like a URL) that can be copied and pasted into a IIIF Viewer. Simply select "Share" and you will see IIIF as an option. This feature brings both the media and record metadata into your external IIIF Viewer.

2. IIIF Presentation API beta

Customization: LUNA utilizes the IIIF Presentation API which enables integration for customization as illustrated by the Clyfford Still Museum's custom delivery portal (a hybrid approach that utilized the LUNA Viewer API) with LUNA on the backend for media delivery and a CMS for the data delivery. This customization pre-dates the 2018 v7.4 release described below.

IIIF Presentation API
June '18 – LUNA v7.4

Mobility & Customization: Introducing the LUNAversal Viewer as an optional (or default) access point for collections delivered to mobile devices. The LUNAversal Viewer is based on the LUNA Viewer API which allows for customization.

3. Mirador IIIF Viewer & integration with the LUNA Viewer*
August '19 – LUNA v7.4.3

Navigation and User Expectations: The LUNA Viewer detail view (launched by clinking on thumbnail) can now default to the Mirador IIIF Viewer. The mirador viewer exposes LUNA collection level annotations to IIIF and makes use of Open Sea Dragon for smooth zooming.
collection level annotations only in the beta release – private annotations were introduced in v7.5.2.

4. IIIF Discovery API
June '20 – LUNA v7.5

Introduces Collection Sharing: LUNA Admins can easily Share and Receive LUNA enabled collections. Further enhance collection offerings and LUNA delivery as enabled by the IIIF Activity Stream.

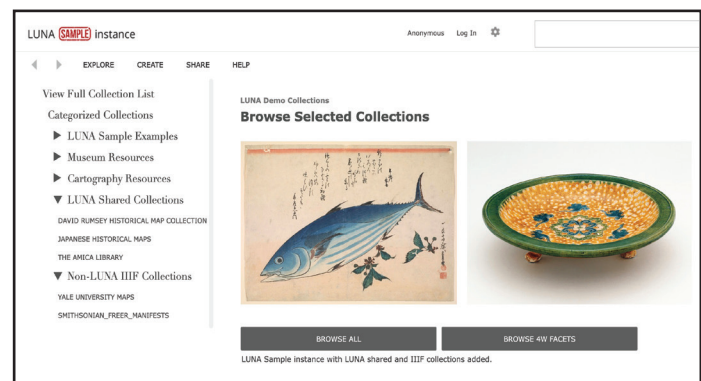## 5. Adding Non-LUNA IIIF collections to LUNA
August '21 – LUNA v7.5.2

Introducing the new feature that allows for adding IIIF enabled non-LUNA content into LUNA. Any IIIF enabled collection or group of images can be added to your instance of LUNA.

IIIF Content Search API
August '21 – LUNA 7.5.2

Enhanced support for annotations in the Viewer's Mirador Detail View through Open Annotations. Users can search for annotations and they can be displayed as descriptive metadata in the Detail View's Media Information panel. Private annotations are also supported in this release.