

# **Depositing Remediated Resources in EMMA**

*Initial Release—April 18, 2023*

# Introduction

The core purpose of the EMMA project and the infrastructure provided to implement it is to enable the sharing of remediated resources by disability services offices (DSOs) at member institutions.

The EMMA infrastructure consists of a set of systems and tools engineered to facilitate this process, as well as a suite of repositories in which resources—both those available to be remediated and those having been remediated—are stored.

At its launch, the EMMA infrastructure integrates five repositories:

- Bookshare
- The Internet Archive
- HathiTrust
- ACE
- The EMMA repository

Resources that have been remediated which were originally sourced from Bookshare, the Internet Archive, HathiTrust, and the ACE Portal must be deposited back to their source repository. Remediated resources not originating from those four repositories are deposited to the EMMA repository. A master user interface governs and facilitates this. (*Note that you cannot deposit resources that were obtained under contractual terms, like those common from publishers and the Access Text Network, that prohibit sharing.*)

Along with the remediated resource, it is necessary to provide information in the form of metadata that identifies the resource and describes how it has been remediated. This enables other DSOs to discover available resources and to distinguish different versions of the resource they're seeking—for example, different file formats of a given creative work that may have been remediated in different ways—so that they can obtain an optimal version for the end user they're serving.

The EMMA infrastructure is designed to facilitate this process by providing standardized metadata to describe remediated resources

and a user interface that ensures consistency and efficiency. The EMMA metadata was developed by combining properties and terms requested by the DSOs participating in its development with the metadata used by Bookshare, on whose technology stack EMMA was initially developed.

The EMMA metadata is described in detail in the next main component of this documentation, “A Guide to the EMMA Metadata.” The search process is covered by the accompanying document entitled “Searching for Resources in the EMMA Repositories.” The alternative methods available for depositing remediated resources along with the metadata describing them are detailed in subsequent sections of this document.

## ***The Deposit Workflow***

Depositing a remediated resource requires a combination of bibliographic and remediation metadata. A fundamental design principle of EMMA was to enable the deposit process to involve two distinctly different parties at member institutions:

- the DSOs, who have detailed knowledge of the remediated files, the work that was done to remediate them, and what a subsequent DSO would need to know about them; and
- the academic libraries, who are expert in bibliographic metadata and in the processes involved in systematically, accurately, and efficiently managing metadata.

The DSOs are responsible for ensuring that the remediated resources are only provided to end users—students, faculty, or staff at their institution—who are “Qualified Recipients.” These are individuals who have perceptual, cognitive, physical, or other disabilities that prevent them from consuming the standard versions of those resources. Those qualified recipients typically need DRM-free versions that have been remediated in some way to provide features that enable them to consume those resources.

End users do not have access to retrieving or depositing files in EMMA. Although the search function is available to end users, in general it is the DSO who:

- does the search for the optimal files for a qualified end user;
- performs the remediation for that end user;
- provides the remediated files to that end user; and
- begins the deposit the remediated files.

Library staff are responsible for ensuring that all the metadata associated with a deposited resource is complete and correct. Ultimately, it is expected that the DSO may often hand off the process to the library after they have provided all the appropriate remediation metadata; it is not expected that the librarians will have knowledge of remediation terminology or processes.

The librarians *will* have knowledge of what metadata is required—both bibliographic metadata, which is their expertise, and required remediation metadata, which must be obtained from or at least confirmed by the depositing DSO.

At the initial release of the EMMA infrastructure, it is not possible for the formal provision of the deposit metadata to be done by two different parties. (This capability will be one of the first enhancements to the system.) However, the alternative methods described in subsequent sections of this document show how it is possible to share the work in the meantime.

It is also understood that the metadata may not all be provided—either by the DSO or the library—in a single session. Particularly for the DSOs, it is common for the information about the remediation process to accumulate over time and across multiple resources. The alternative methods described below enable this.

Some DSOs prefer to deposit remediated resources one-by-one as the work on them is completed; other DSOs prefer to accumulate remediated files and deposit batches of them, often at the end of a semester or the end of an academic year. Likewise, the librarians are likely to prefer to process files in batches rather than one at a

time. And when a new institution becomes a member of FRAME, they often have many remediated files that have accumulated over the years that need to be deposited; such a “bulk upload” is also enabled by the system. These alternatives are described in detail in the subsequent sections of this document.

## The EMMA Metadata

EMMA metadata can be grouped in four categories.

1. Required bibliographic metadata.
2. Required remediation metadata.
3. Optional bibliographic metadata.
4. Optional remediation metadata.

This section provides a description of the metadata properties in each category and gives examples of values for each of them.

Because these properties can be expressed in different ways by different DSOs, many of the metadata properties have controlled vocabularies, indicated by (CV), some of which can accept multiple values, indicated by (CV-MV). This makes the database more consistent and rigorous. The EMMA user interface provides easy-to-use drop-down lists of the vocabulary terms.

The companion document “A Guide to the EMMA Metadata” provides a comprehensive reference: the actual metadata terms used by the system—e.g., “dc\_creator” for the name of the author(s) or editor(s)—as well as more complete definitions and other helpful information about them, and the complete controlled vocabularies associated with those properties that have CVs.

It is not necessary that all of the metadata be provided at once. In most cases the metadata will be developed over time.

For example, the DSO may know some of the basic bibliographic metadata as soon as they’ve obtained a file to remediate; as work progresses, they may have more metadata about the nature of the resource (e.g., what the quality of the text is, whether there are

tables, math, images, and other complicating features) or what parts of it need to be done (the end user may only need certain chapters of a book). They will usually write a summary of what they've done when the remediation work is complete. And there might be metadata that the DSO doesn't include (e.g., a DOI for a journal article, which is not required) that the librarian may add later in the workflow, before deposit.

The following sections of this document describe different ways to record that evolving metadata in preparation for the final deposit.

## ***Required Bibliographic Metadata***

The following bibliographic metadata must be provided in order for a remediated resource to be deposited.

Note that only a small subset of these is needed for search. But all of these must be provided—if not by the DSO, then by the librarian—when the remediated resource is deposited. This makes the information in the EMMA database more complete and helpful.

- The file name of the remediated resource.
- The title of the remediated resource.
- The author(s), editor(s), or other creator(s).
- The primary language or languages of the resource. (CV-MV)
- The repository the remediated resource is to be deposited in—its source repository if from one of the other EMMA repositories, otherwise EMMA. (CV)
- The type of resource, e.g., “text,” “sound,” “image,” “collection,” “interactive resource,” “dataset.” (CV)
- The format of the resource, e.g., PDF, EPUB, Braille, Word, etc. (CV)

## ***Required Remediation Metadata***

The following remediation metadata must be provided in order for the remediated resource to be deposited.

- Whether the whole resource has been remediated—“true” or “false.” (CV)
- The portions of the resource (e.g., certain chapters of a book) that were remediated if the whole resource wasn’t.
- Remediation status—“remediated,” “not remediated,” or “born accessible” (i.e. the resource as obtained did not need any remediation, it was sufficiently accessible as-is). (CV)
- Remediation comments (free text, e.g., “OCR’d,” “proofed and corrected OCR,” “converted to Word,” “added image descriptions,” “fixed the headings,” “tagged the PDF,” “Table 5 is only image + alt text,” etc.—what the DSO thinks a subsequent DSO would want to know).

## ***Optional Bibliographic Metadata***

The following information is very useful for search, to more precisely identify the deposited resource by a subsequent DSO. However, many of these properties may not be known by the depositing DSO, so they have not been designated as required for deposit.

- Persistent identifier(s) of the resource, such as an ISBN for a book or DOI for a journal article.
- Related identifiers, such as the ISBN of the print edition if the resource is the ebook with a different ISBN.
- The publication date of the remediated resource in a formal syntax. (Can be just a year, e.g., “2016,” a more precise date in YYYYMMDD format, or even the issue date of a journal an article was published in, such as “Spring 2014.”)
- The version of the resource (free text, e.g., “Second Edition,” “3rd. ed.,” “Large print,” “Preprint,” etc.).
- The series type if the resource is a member of a series—“book,” “journal,” “magazine,” or “newspaper.”(CV)
- The name of the series (e.g., “Harry Potter,” “PLOS One,” “The Atlantic,” etc.).
- The position of the resource in the series (e.g., “3,” “Book Two,” “Volume One,” “December 2018 issue,” etc.).

- The publisher name.
- The type of rights associated with the work—“Copyright,” “Creative Commons,” “Public Domain,” or “Other.” (CV)
- The copyright date (in mm/dd/yyyy format).
- The subject of the work (free text).
- A description (a free text description of the work).

## ***Optional Remediation Metadata***

The following information is very useful to a DSO seeking a resource that has been fully or partially remediated in a manner that a given end user needs. While these properties are not required in order to deposit a resource, DSOs are encouraged to include any of these optional properties.

In addition to providing specific properties—some enabling free text and others requiring the use of a controlled vocabulary—there is also an open-ended accessibility summary property to enable the inclusion of information not covered by the other properties.

- Accessibility-specific file types like “BRF,” “Nemeth,” “UEB,” or “EBAE.” (CV)
- The date the remediated resource and its metadata were accepted into EMMA, in mm/dd/yyyy format.
- The source of the file that was remediated, for example “publisher,” “library,” “student,” “Access Text Network,” or one of the participating EMMA repositories. (CV)
- The source of the metadata (free text, for example a combination of “Google Books, DSO, and Library”).
- The name of the DSO that performed the remediation.
- What was done in the remediation, e.g., “Scanned and OCR’d,” “Tagged PDF,” “Added Image Descriptions,” “Structured Headings,” “Fixed Tables,” “Linked TOC,” etc. (CV-MV)
- The text quality of the remediated resource: “Raw OCR,” “Cleaned OCR,” “Rekeyed,” “Proofread,” “Published.” (CV)
- The date the remediation was completed, in mm/dd/yyyy format.

- Accessibility features of the remediated resource (whether provided by the remediation or already a feature of the source file), e.g., “Print Page Numbers,” “TTS Markup,” “Described Math,” “MathML,” “Alternative Text,” “Long Description,” etc. (CV-MV)
- How navigation can be controlled, e.g., “Full Keyboard Control,” “Full Mouse Control,” “Full Voice Control,” “Full Touch Control,” etc. (CV-MV; aligns with EPUB/schema.org metadata)
- Accessibility hazard information—“Flashing Hazard,” “No Flashing Hazard,” “Motion Simulation Hazard,” “No Motion Simulation Hazard,” “Sound Hazard,” “No Sound Hazard.” (CV-MV; aligns with EPUB/schema.org metadata)
- The mode or modes by which the content of the resource can be consumed, e.g., “Textual,” “Visual,” “Auditory,” “Tactile,” etc. (CV-MV; aligns with EPUB/schema.org metadata)
- The mode or modes that are each alone sufficient to consume all of the content of the resource—“Auditory,” “Tactile,” “Textual,” “Visual.” Thus for a book with images, “Textual” would be sufficient only if image descriptions are provided along with the text. (CV-MV; aligns with EPUB/schema.org metadata)
- A free-text summary of accessibility issues associated with the resource that the depositing DSO wants to communicate to other DSOs that might use it.

## Uploading Single Files

The fundamental way to deposit a remediated resource is to do what is called a “single file upload.” This enables staff from a DSO or the academic library at its institution to deposit files one at a time, as the remediation work is finished.

If your remediated resource consists of more than a single file—for example, a file for each chapter of a book—you need to create a .zip file of the resource.

The starting point is at [emma.lib.virginia.edu](http://emma.lib.virginia.edu), which will take you to the EMMA landing page:

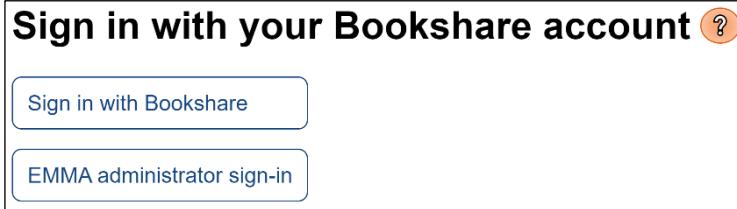


Note the question mark in the orange circle: clicking on this provides detailed help information. These occur at many places in the EMMA user interface.

## Step One: Sign In

While the EMMA user interface is freely available for searching the repositories, only registered users—staff at the DSO or library of a member institution—can download resources, upload remediated resources, or perform other functions.

In the initial implementation of EMMA, you need a Bookshare account to access the full EMMA functionality. Clicking on the “Sign in” button in the upper right corner will present a “Sign in with Bookshare” button:



Clicking that button will present this dialog:

A screenshot of the Bookshare sign-in dialog. It features a blue header with the Bookshare logo and "A BENETECH INITIATIVE". The main form has fields for "Email or Username\*" containing "emmadso@bookshare.org", and "Password\*" containing a masked password. Below the password field is a note about forgotten passwords and a link to "request a new password". At the bottom is a "Sign In" button.

## **Step Two: Go to Uploads**

Clicking on the “Uploads” option below the EMMA logo on the left of that same web page shown above will present this updated dialog:

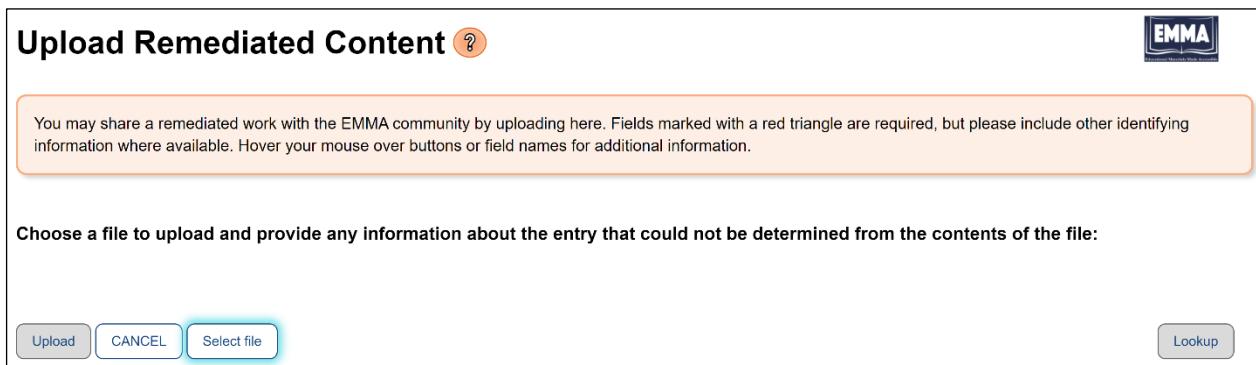


Search | Uploads | Bulk Uploads | Tools | Help | Account  
Upload Actions [List All] [Create] [Change] [Remove]

The “List All” button will list all of your past and current uploads. The “Create” button is for submitting a new item to EMMA. The “Change” button is for updating an existing EMMA entry. The “Remove” button enables you to remove an existing EMMA entry.

## **Step Three: Select the File to be Deposited**

Clicking on “Create” will present this:



Upload Remediated Content ?

You may share a remediated work with the EMMA community by uploading here. Fields marked with a red triangle are required, but please include other identifying information where available. Hover your mouse over buttons or field names for additional information.

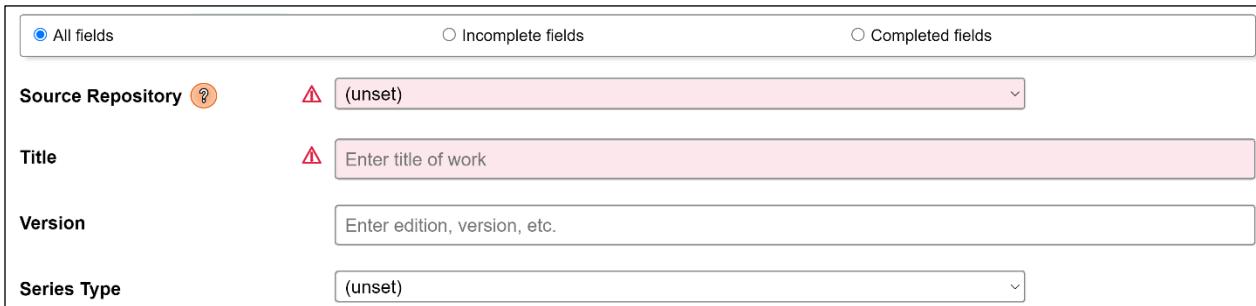
Choose a file to upload and provide any information about the entry that could not be determined from the contents of the file:

Upload CANCEL Select file Lookup

Choose the “Select file” button and navigate to the file. EMMA will perform a quick scan of the file before proceeding.

## **Step Four: Provide the Metadata**

Clicking on “Create” will also present all of the metadata properties, with fields in which you’ll provide the values.



All fields       Incomplete fields       Completed fields

Source Repository ? ⚠ (unset)

Title ⚠ Enter title of work

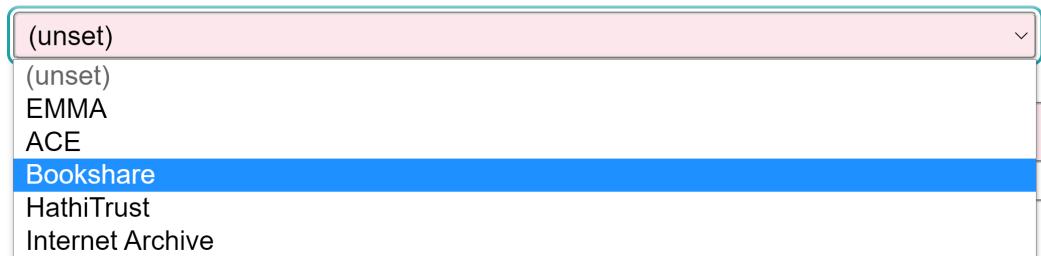
Version Enter edition, version, etc.

Series Type (unset)

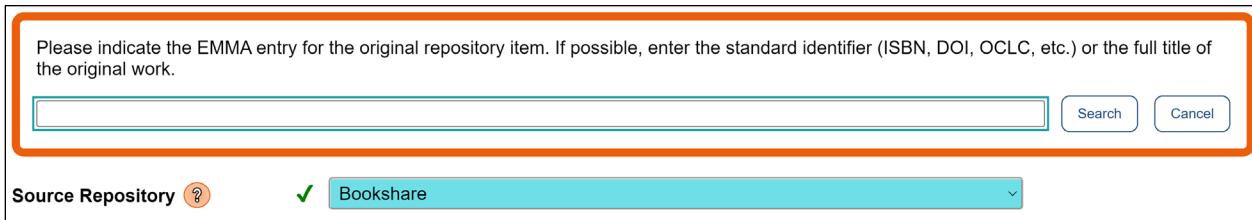
You can choose to show all the fields, only the incomplete ones, or only the completed fields.

The required fields are shaded in pink and have the red triangle icon next to them. The clear fields are optional. The gray text briefly describes the nature of the information needed there.

The fields that say “(unset)” and have a down arrow at their right end provide the drop-down lists of the available controlled vocabulary terms for that particular metadata property. Select the appropriate one like this:



For the source repository entry, you need to identify the original repository item that you downloaded to remediate. Use this dialog that pops up when you've indicated the repository:



This enables the repository to properly associate your remediated version with the original version of the same work.

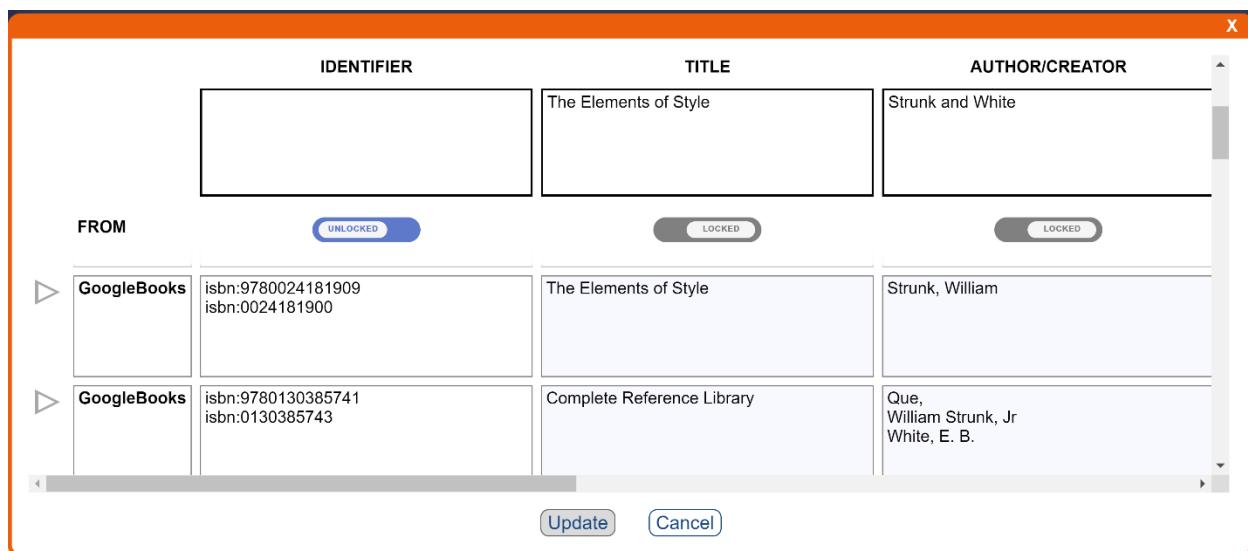
Properties that have extensive controlled vocabularies are presented as scrollable checklists, like this:



## ***Using the Bibliographic Lookup Function***

Once you've provided a unique identifier like an ISBN, or at least the title and author of the work, you can click on the "Lookup" button to obtain bibliographic metadata from one or more of three authoritative online sources: Google Books, WorldCat, and Crossref. You can then choose the result that has the most useful metadata and click "Update," which will populate the relevant fields on the file upload form.

Start by entering either an identifier (e.g., an ISBN or DOI) or a title and author name in the proper fields of either the single file upload screen or the bulk upload screen described in the next section. Then click the "Lookup" button  on the top right of the single file upload screen or the star button  on the left of each manifest on the bulk upload screen. The results will be presented like this:



The screenshot shows a search interface for 'The Elements of Style'. At the top, there are three input fields: 'IDENTIFIER', 'TITLE', and 'AUTHOR/CREATOR'. The 'TITLE' field contains 'The Elements of Style' and the 'AUTHOR/CREATOR' field contains 'Strunk and White'. Below these are three status buttons: 'FROM' (UNLOCKED), 'TITLE' (LOCKED), and 'AUTHOR/CREATOR' (LOCKED). A scrollable list of search results is displayed, showing two entries from GoogleBooks:

FROM	ISBN	TITLE	AUTHOR/CREATOR
GoogleBooks	isbn:9780024181909 isbn:0024181900	The Elements of Style	Strunk, William
GoogleBooks	isbn:9780130385741 isbn:0130385743	Complete Reference Library	Que, William Strunk, Jr White, E. B.

At the bottom are 'Update' and 'Cancel' buttons.

Note that you don't have to have the full author name or even the full title wording to get results. On the lookup shown above, a large number of results were returned; only a very few were of the actual work being sought. This is because the search function is designed to prioritize possibility over precision, to enable you to choose the best result rather than returning a more precise set that might miss what you're seeking based on what you've input.

Choose the one you want to use by clicking on the triangle pointer on the left and metadata from that record will be incorporated into your single file upload interface or bulk upload manifest like this:

The screenshot shows a dialog box with an orange border. At the top, there are three columns: 'IDENTIFIER', 'TITLE', and 'AUTHOR/CREATOR'. Under 'IDENTIFIER', there are two rows of ISBN numbers: 'isbn:9780024181909' and 'isbn:0024181900'. Under 'TITLE', there is one row: 'The Elements of Style'. Under 'AUTHOR/CREATOR', there is one row: 'Strunk and White'. Below these columns, there is a section labeled 'FROM' with three entries: 'GoogleBooks' (with a play icon), 'GoogleBooks' (with a play icon), and 'GoogleBooks' (with a play icon). Each entry has an ISBN and a title. The first 'GoogleBooks' entry has 'isbn:9780024181909' and 'isbn:0024181900', 'The Elements of Style' as the title, and 'Strunk, William' as the author. The second 'GoogleBooks' entry has 'isbn:9780130385741' and 'isbn:0130385743', 'Complete Reference Library' as the title, and 'Que, William Strunk. Jr' as the author. The third 'GoogleBooks' entry is partially visible. At the bottom of the dialog are 'Update' and 'Cancel' buttons.

Below the properties input at the top of the screen there are indicators saying “Locked” or “Unlocked.” Two of them in the example above—the title and author/creator—are marked “Locked.” That prevents the metadata that you already have in those fields from being overwritten. Only metadata from the lookup record that aligns with the properties required by EMMA which are left unlocked will be imported.

In this case, the Author/Creator field says “Strunk and White,” which is how the authors of this book are commonly stated. The metadata from Google Books only had “Strunk, William” in that field, but this was not imported because that field had been locked.

Clicking the “Update” button at the bottom of that dialog will populate your upload interface with metadata from the lookup:

The screenshot shows an upload interface with three fields: 'Publisher', 'Author/Creator', and 'Identifier'. The 'Publisher' field contains 'Macmillan College'. The 'Author/Creator' field contains 'Strunk and White' with a green checkmark to its left. The 'Identifier' field contains 'isbn:9780024181909' and 'isbn:0024181900'. The entire interface is enclosed in a light gray box.

## **Step Five: Upload the File**

When you begin to provide metadata, the “Upload” button is inactive:



When all of the *required* metadata has been provided, that button becomes actionable. You don’t need to do the upload at that point; you can continue to add optional metadata.

When the metadata has been checked to be sure it’s accurate and complete, clicking that “Upload” button will upload your file with its associated metadata. The EMMA infrastructure will take over at that point to make sure the resource is deposited to the proper repository in the manner that specific repository requires.

## **The Bulk Upload Process**

Instead of uploading remediated resources one-by-one as the remediation work is completed, many DSOs prefer to accumulate remediated resources for upload at a later time—for example, at the end of a semester, or once all the resources for a given student have been remediated. And note that you can also upload resources that don’t need remediation because they are born accessible.

On the initial release of the system, the Bulk Upload function can only be used for depositing remediated resources to EMMA; for the other repositories, the single file upload must be used.

The following sections describe two other ways to get information into the EMMA Bulk Upload function: integrating a client-specific tracking spreadsheet and using the EMMA Manifest Template.

### ***The Bulk Upload Manifest***

Selecting “Bulk Uploads” from the landing page brings you to this:



Note that this is plural. You may have more than one bulk upload manifest in the works or saved. Each bulk upload has a manifest describing all of the resources it contains.

<input type="button" value="△"/> <input type="button" value="X"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"><b>Title</b></td><td style="padding: 5px;">Started December 20, 2022 at 11:09 am</td></tr> <tr> <td style="padding: 5px;"><b>Total Items</b></td><td style="padding: 5px;">1</td></tr> <tr> <td style="padding: 5px;"><b>Saved Items</b></td><td style="padding: 5px;">0</td></tr> <tr> <td style="padding: 5px;"><b>Pending Items</b></td><td style="padding: 5px;">1</td></tr> <tr> <td style="padding: 5px;"><b>Created</b></td><td style="padding: 5px;">2022-12-20 16:10:03 UTC</td></tr> <tr> <td style="padding: 5px;"><b>Updated</b></td><td style="padding: 5px;">2022-12-20 16:10:03 UTC</td></tr> </table>	<b>Title</b>	Started December 20, 2022 at 11:09 am	<b>Total Items</b>	1	<b>Saved Items</b>	0	<b>Pending Items</b>	1	<b>Created</b>	2022-12-20 16:10:03 UTC	<b>Updated</b>	2022-12-20 16:10:03 UTC
<b>Title</b>	Started December 20, 2022 at 11:09 am												
<b>Total Items</b>	1												
<b>Saved Items</b>	0												
<b>Pending Items</b>	1												
<b>Created</b>	2022-12-20 16:10:03 UTC												
<b>Updated</b>	2022-12-20 16:10:03 UTC												
<input type="button" value="△"/> <input type="button" value="X"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;"><b>Title</b></td><td style="padding: 5px;">Started December 14, 2022 at 12:19 pm</td></tr> <tr> <td style="padding: 5px;"><b>Total Items</b></td><td style="padding: 5px;">5</td></tr> <tr> <td style="padding: 5px;"><b>Saved Items</b></td><td style="padding: 5px;">0</td></tr> <tr> <td style="padding: 5px;"><b>Pending Items</b></td><td style="padding: 5px;">5</td></tr> <tr> <td style="padding: 5px;"><b>Created</b></td><td style="padding: 5px;">2022-12-14 17:19:51 UTC</td></tr> <tr> <td style="padding: 5px;"><b>Updated</b></td><td style="padding: 5px;">2022-12-14 17:19:51 UTC</td></tr> </table>	<b>Title</b>	Started December 14, 2022 at 12:19 pm	<b>Total Items</b>	5	<b>Saved Items</b>	0	<b>Pending Items</b>	5	<b>Created</b>	2022-12-14 17:19:51 UTC	<b>Updated</b>	2022-12-14 17:19:51 UTC
<b>Title</b>	Started December 14, 2022 at 12:19 pm												
<b>Total Items</b>	5												
<b>Saved Items</b>	0												
<b>Pending Items</b>	5												
<b>Created</b>	2022-12-14 17:19:51 UTC												
<b>Updated</b>	2022-12-14 17:19:51 UTC												

Clicking on “Create” will bring up a new manifest:

The screenshot shows the EMMA Bulk Uploads interface. At the top, there is a navigation bar with links: Search | Uploads | Bulk Uploads | Tools | Help | Account. Below the navigation bar is a toolbar with buttons: Manifest Actions (List All, Create, Change, Remove, Submit). The main area displays a manifest entry with the title "Started March 26, 2023 at 1:57 pm". Below the title are buttons for Save, Cancel, Submit, and Import. To the right of the title are buttons for Page 1, FIRST, PREV, and NEXT. A table below the title contains columns for File Data, Identifiers, Title\*, Author/Creator\*, Version, Series Type, and Series Title. The first row of the table has a plus sign icon (+) in the first column, indicating it can be expanded. The "File Data" column contains icons for file selection and upload. The "Identifiers" column is empty. The "Title\*" and "Author/Creator\*" columns are also empty. The "Version", "Series Type", and "Series Title" columns are empty. At the bottom of the table are navigation arrows for horizontal scrolling.

EMMA defaults to naming the manifest by the date and time when it was created; click the Edit button beside the manifest name to give it the name you want it to have.

Each row in the manifest contains the metadata about a single resource that is to be uploaded. Clicking on the plus sign icon **[+]** in the first cell will add a row for another resource.

Clicking on the arrow in the upper left corner of the first header cell will expand the first cell of each row to explain what the symbols in that cell do:



The three grayed-out status icons in the bottom section will each turn green when its requirements have been fulfilled. The action icons in the top section will become active when the appropriate information has been provided, e.g., providing an identifier or the title and author/creator will activate the “Lookup” icon. That Lookup function is the same as that for Single File Upload (above).

There is a column for each of the properties described in the “Metadata” section above. The headers of columns that are required metadata have a red asterisk, and the cells in that column (here, the “Title” and “Author/Creator” cells) are bordered in red, indicating “missing data”; the borders turn yellow when data is supplied.

Clicking on the down-pointing arrow in the upper right corner of that first header cell will point the arrow up and show what the actual field name for each property is, as well as how it is expressed in the system:

<span style="font-size: 2em;">▶</span> <span style="font-size: 1.5em;">▲</span>	<b>File Data</b> <span style="color: orange;">► field: file_data</span> <span style="color: orange;">► type: json</span>	<b>Identifiers</b> <span style="color: orange;">► field: dc_identifier</span> <span style="color: orange;">► type: one or more string</span>	<b>Title *</b> <span style="color: orange;">► field: dc_title (required)</span> <span style="color: orange;">► type: string</span>	<b>Author/Creator *</b> <span style="color: orange;">► field: dc_creator (required)</span> <span style="color: orange;">► type: one or more string</span>	<b>Version</b> <span style="color: orange;">► field: emma_version</span> <span style="color: orange;">► type: string</span>
---	--	--	--	---	---

Clicking on the right-pointing triangle beside the word “field:” points the arrow down and presents a brief description of that field:

<span style="font-size: 2em;">▶</span> <span style="font-size: 1.5em;">▲</span>	<b>File Data</b> <span style="color: orange;">▼ field: file_data</span> <p>This field holds a reference to the file holding the remediated content which is being submitted for the given manifest item.</p> <span style="color: orange;">► type: json</span>	<b>Identifiers</b> <span style="color: orange;">▼ field: dc_identifier</span> <p>Standard identifier (e.g., ISBN, OCN [OCLC Number], etc.) for the creative work represented by the remediated content file.</p> <span style="color: orange;">► type: one or more string</span>	<b>Title *</b> <span style="color: orange;">▼ field: dc_title (required)</span> <p>Title of the creative work represented by the remediated content file.</p> <span style="color: orange;">► type: string</span>
---	---	---	--

Clicking on a cell (here, the “Version” cell) will reveal a gray prompt describing what metadata belongs there:

	<b>File Data</b> ► field: <code>file_data</code> ► type: <code>json</code>	<b>Identifiers</b> ► field: <code>dc_identifier</code> ► type: one or more <code>string</code>	<b>Title *</b> ► field: <code>dc_title</code> (required) ► type: <code>string</code>	<b>Author/Creator *</b> ► field: <code>dc_creator</code> (required) ► type: one or more <code>string</code>	<b>Version</b> ► field: <code>emma_version</code> ► type: <code>string</code>
	<a href="#">Upload</a> <a href="#">File Name</a>				Edition, version, etc.

For properties that must be expressed in a specific format, clicking on the cell will provide a template (shown in Date Accepted):

► ▼	Date Accepted	Source of Content	Source of Metadata	Remediated By
	<input type="text" value="mm/dd/yyyy"/>			

Properties with CVs provide a pop-up or drop-down list:

The screenshot shows the 'Search | Uploads | Bulk Upload' interface. A dropdown menu is open over a cell in the 'Source of Metadata' column. The menu lists various sources: ACE / Scholars Portal, Bookshare, HathiTrust, Internet Archive, EMMA, ATN (Access Text Network), Publisher, Purchased, Faculty, Student, Library, Another DSO, and Other. The word '(unset)' is visible at the bottom of the dropdown. The main interface includes sections for 'Manifest Actions' (List All, Create), 'Example Manifest' (Save, Cancel, Submit, Import), and a table with columns for 'Date Accepted' and 'Source of Metadata'.

► ▼	Date Accepted	Source of Metadata	Remediated By
		(unset)	

Properties that accommodate more than one value from a controlled vocabulary provide a scrollable checklist:

Language
<input checked="" type="checkbox"/> English
<input checked="" type="checkbox"/> Spanish
<input type="checkbox"/> Afrikaans
<input type="checkbox"/> Amharic
<input type="checkbox"/> Angika
<input type="checkbox"/> Arabic
<input type="checkbox"/> Armenian

Provide the file name in the dialog that pops up by clicking on the “File Name” button in the “File Data” column, as shown below. This must be the complete file name, including the extension, of each resource to be submitted via this Bulk Upload Manifest. Resources composed of many files should be in a .zip archive (all in a single file with the extension “.zip”).

	File Data	Identifiers	Title *	Author/Creator *
	<input type="button" value="Upload"/> <input type="button" value="File Name"/>	ISBN 0-205-31342-6	The Elements of Style	Strunk and White
	Provide the name of a file accessible from your web browser to be acquired at the start of the bulk upload process.			
	Filename <input type="text" value="The_Elements_of_Style.epub"/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>		

Then click the “OK” button to the right of the file name field in the dialog. The file name will appear in that cell looking like this:

File Data
<input type="button" value="Upload"/> <input type="button" value="File Name"/> The_Elements_of_Style.epub

It's most convenient for the Bulk Upload if all the files for a given submission are in the same folder on your computer. That way, when it comes to submitting your manifest, you can just “select all” the files in that folder. There may be other files in that folder than the ones you are submitting; EMMA will only retrieve the ones specified in your manifest.

Providing the file names is required, along with the other required metadata, in order for a manifest to be submitted to EMMA. However, that does not actually upload the resource files themselves to the EMMA repository. That uploading process happens when you submit your manifest, as described in the next section. As with all the metadata, you don't need to provide the file names only when you're ready to submit; you can provide them whenever they're available.

Remember to hit the “Save” button on the manifest when you complete a session of work. When you come back to make more changes, you can always back out of what you’ve just done if you have second thoughts or made mistakes; the manifest will revert back to its status the last time you saved until you hit “Save” again.

Here’s an example of the first four columns of a manifest containing three items for which all of the required metadata has been provided, as indicated by the scroll icons having turned green, and for which the file names have been provided, indicated by the file folder icons having turned green.

	File Data	Identifiers	Title *	Author/Creat
	<div style="display: flex; align-items: center;"> <span>Upload</span> <input type="file"/> <span>File Name</span> <input type="text" value="The_Elements_of_Style.epub"/> </div>	ISBN 0-205-31342-6	The Elements of Style	Strunk and W
	<div style="display: flex; align-items: center;"> <span>Upload</span> <input type="file"/> <span>File Name</span> <input type="text" value="The_Norton_Introduction_to_Literature.zip"/> </div>	LCCN 2021032429 ISBN 9780393870916	The Norton Introduction to Literature	Kelly J. Mays
	<div style="display: flex; align-items: center;"> <span>Upload</span> <input type="file"/> <span>File Name</span> <input type="text" value="Between_the_World_and_Me.epub"/> </div>	9780679645986 (ebook) 9780812993547 (print)	Between the World and Me	Ta-Nehisi Co

Then click the “Save” button as shown below. Now the truck icons have turned green, indicating the manifest is ready to submit.

**Example Manifest** Edit ?

Save
Cancel
Submit
Import
(3 items)
 FIRST
◀
▶

	File Data	Identifiers	Title *
	<div style="display: flex; align-items: center;"> <span>Upload</span> <input type="file"/> <span>File Name</span> <input type="text" value="The_Elements_of_Style.epub"/> </div>	ISBN 0-205-31342-6	The Elements of Style

Changes saved.

## Submitting Your Bulk Upload to EMMA

The “Submit” button in the “Manifest Actions” row will provide a drop-down list of manifests, which enables you to specify the

manifest you want to submit. Alternatively, you can use the “Submit” button in the row of four buttons at the top of the manifest, under the manifest name; that will just submit the present manifest.

The screenshot shows a user interface for managing manifests. At the top, there's a navigation bar with links: Search, Uploads, Bulk Uploads, Tools, Help, and Account. Below the navigation is a toolbar with buttons for Manifest Actions (List All, Create, Change, Remove, Submit). The main area is titled "Submit Manifest Items" with a question mark icon. A dropdown menu is open, showing a list of manifests: "Select a manifest you created" (dropdown title), "Example Manifest" (selected item, highlighted in blue), and other items listed below it: Started March 26, 2023 at 1:57 pm, Started March 25, 2023 at 1:23 pm, Started March 24, 2023 at 10:54 am, and Started March 17, 2023 at 1:55 pm.

That will present a list of the resources in your manifest with an indication of their status.

The screenshot shows the "Example Manifest" page. At the top, there are two buttons: "Start" and "Results". The "Results" button is highlighted. Below the buttons, there's a summary table with columns: Total (3), Ready (0), Queued (0), Submitted (0), and Failed (0). Underneath the summary, there's a button labeled "Files" which is also highlighted. A callout message says: "Use the file chooser to identify all of the files on your machine referenced by \"FILE NEEDED\" in the items below." The main table lists three items:

Item Name	Validation	File Status	Storage Status	Indexing Status	Entry Status
<input type="checkbox"/> ► The Elements of Style / Strunk and White	OK	► FILE NEEDED	NOT STARTED	NOT STARTED	NOT STARTED
<input type="checkbox"/> ► The Norton Introduction to Literature / Kelly J. Mays	OK	► FILE NEEDED	NOT STARTED	NOT STARTED	NOT STARTED
<input type="checkbox"/> ► Between the World and Me / Ta-Nehisi Coates	OK	► FILE NEEDED	NOT STARTED	NOT STARTED	NOT STARTED

This example indicates that the manifest items are complete and valid, but the files themselves have not yet been submitted. Clicking the “Files” button shown highlighted in the screenshot above will enable you to begin the submission process.

Navigate to the folder that contains the files you want to submit. Click on any file in that folder and then hit Ctrl-A, which will select all of them. EMMA will only import the files you've specified and leave the other ones behind.

Then click “Open.” That takes you back to the report, which should show that the files have been obtained. (If that doesn’t happen, check the file names to make sure they don’t have two extensions.)

"Example Manifest"					
Start		Results			
Total	Ready	Queued	Submitted	Failed	
3	3	0	0	0	
Item Name	Validation	File Status	Storage Status	Indexing Status	Entry Status
<input type="checkbox"/> ▶ The Elements of Style / Strunk and White	RESOLVED FILES: 17 : Between_the_World_and_Me.epub : 3896651 bytes 15 : The_Elements_of_Style.epub : 101965 bytes 16 : The_Norton_Introduction_to_Literature.zip : 21443302 bytes	OK	OK	OK	NOT STARTED
<input type="checkbox"/> ▶ The Norton Introduction to Literature / Kelly J. Mays	ALL FILES RESOLVED - ALL ITEMS READY FOR UPLOAD	OK	OK	OK	NOT STARTED
<input type="checkbox"/> ▶ Between the World and Me / Ta-Nehisi Coates		OK	OK	NOT STARTED	NOT STARTED

Click the “X” button on the dialog (or use the Esc key or click outside the dialog) to dismiss it. You should see (above) that all of the cells in File Status now register as “OK.” Now click the highlighted “Start” button below the manifest title. You should see the remaining “NOT STARTED” messages change to “OK.”

"Example Manifest"					
Start		Results			
Total	Ready	Queued	Submitted	Failed	
3	0	0	3	0	
Item Name	Validation	File Status	Storage Status	Indexing Status	Entry Status
<input type="checkbox"/> ▶ The Elements of Style / Strunk and White	OK	OK	OK	OK	OK
<input type="checkbox"/> ▶ The Norton Introduction to Literature / Kelly J. Mays	OK	OK	OK	OK	OK
<input type="checkbox"/> ▶ Between the World and Me / Ta-Nehisi Coates	OK	OK	OK	OK	OK

You’re done! Your resources and metadata have been deposited.

## Using Your Own Tracking Spreadsheet

Most disability services offices keep track of their work with some sort of spreadsheet—Excel, Google Sheets, etc. Those spreadsheets

often have at least some of the metadata needed by EMMA. And it's not difficult for them to be updated to include almost all of the metadata needed by EMMA, especially the required metadata.

But those spreadsheets also typically contain metadata that EMMA doesn't need and which you very likely don't want EMMA to have, like information about the students and other end users (technically referred to as Personally Identifiable Information, or PII), along with information about the DSO staff, schedules, etc.

With some simple temporary modifications, those spreadsheets can be exported to an EMMA bulk upload manifest.

## ***Preparing Your Spreadsheet for Export***

The keys are the field values shown in the expanded header of the bulk upload manifest:

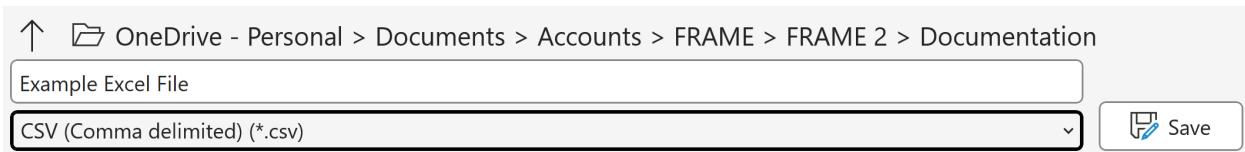
File Data	Title	Version
<p>► <span style="color: red;">▼field: file_data</span></p> <p>This field holds a reference to the file holding the remediated content which is being submitted for the given manifest item.</p> <p>► type: json</p>	<p>► <span style="color: red;">▼field: dc_title (required)</span></p> <p>Title of the creative work represented by the remediated content file.</p> <p>► type: string</p>	<p>► <span style="color: red;">▼field: emma_version</span></p> <p>For book content, the edition or version of the book.</p> <p>► type: string</p>

First, make a copy of your spreadsheet. Then change the headers of the columns you want to export to EMMA to be the EMMA field values: file\_data, dc\_title, emma\_version, etc.

That's all you need to do.

## ***Exporting Your Data***

When the appropriate headers have been updated, save your file as a comma-delimited CSV file. To do that, if you're using Excel, first make sure you're not using AutoSave, and then go to File > Save As, select “CSV (Comma delimited) (\*.csv)” from the drop-down list of file formats, and hit “Save.”



If you’re using Google Sheets, go to File > Download > Comma Separated Values (.csv).

Then go to either an existing manifest or a newly created one in your EMMA Bulk Upload interface and click the “Import” button:



Navigate to your saved CSV file and then click “Open.” This will import only the columns from your spreadsheet that have the EMMA field values in their headers.

While this most likely won’t have everything you need to do your bulk upload deposit, it will at least populate the manifest with all the useful and relevant information that’s in your tracking spreadsheet.

## ***A Note About Sharing the Work***

On EMMA’s initial release, only the individual who has logged into EMMA can work on a given single file upload or bulk upload manifest. Enabling that work to be shared—for example, between staff at the DSO handling the remediation metadata and library staff handling the bibliographic metadata—is the top priority for the next release. In the meantime, using Excel or Google Sheets to enable sharing is a good option.

## **The EMMA Manifest Template**

The most streamlined method of all to provide EMMA metadata for deposit is to use the EMMA manifest template. It is an Excel file that has been engineered for efficiency and accuracy.

It groups the properties in the four categories listed at the beginning of this document: first the seven required bibliographic properties, followed by the four required remediation properties, and then the optional bibliographic properties, and finally the optional remediation properties, with a row for each resource.

A	B	C	D	E	F	G
file_data	dc_title	dc_creator	dc_language	repository	dc_type	dc_format
OriginOfSpecies.pdf	On the Origin of Species	Charles Darwin	eng	emma	text	pdf
anatomy101.docx	Anatomy 101	Kevin Langford	eng	bookshare	text	word
UnderstandingLiterature.epub	Understanding Literature	Robin Mayhead	eng	internetArchive	text	epub

The column headers match the EMMA field names to facilitate importing into the Bulk Upload Manifest. They all have comments to provide explanations and to document which ones are required.

C	D	E	F	G
dc_creator	Heatwole, Jeffrey Lynn (jlh3rx)	c1 ...	dc_format	pdf word epub
Charles Darwin	Name(s) of authors, editors, or other named contributors to the work. This field is REQUIRED for a successful submission.			
Kevin Langford				
Robin Mayhead				

The headers of columns that require controlled vocabularies also list the terms, and the individual cells in those columns provide a drop-down list of the terms to be selected.

G	H	I	G
dc_format	Heatwole, Jeffrey Lynn (jlh3rx)	G1 ...	dc_format
pdf	Heatwole, Jeffrey Lynn (jlh3rx)	Format of the resource to be remediated or in which the remediated resource is provided. This field is REQUIRED for a successful submission.	pdf
word			word
epub			epub
		Controlled Vocabulary List: braille brf daisy daisyAudio epub kurzweil pdf	daisyAudio epub kurzweil pdf grayscalePdf rtf tactile word

For properties that allow more than one term, you must put a semicolon between the values.

You can add columns for your own tracking information; these will not be imported into EMMA because they may contain Personally Identifiable Information (PII) or other information you wouldn't want to share.

The template has a tab that documents all the controlled vocabularies, divided between those that only take a single term and those that can take multiple terms.

A	B	C	D	E	F
<b>Selection is a Single Value Only</b>					<b>Multi-Selections Allowed</b>
<b>Source_Repository</b>					scannedAndOcrd
	emma				proofreadCorrectedOcr
	ace				addedBookmarks
	bookshare				taggedPdf
	hathiTrust				addedImageDescriptions
	internetArchive				structuredHeadings
<b>Completely Remediated</b>					linkedToc
	true				fixedTables
	false				addedMathML
<b>Rights</b>					foreignLanguageMarkup
	publicDomain				transcribersNotes
	creativeCommons				annotations
	copyright				
	other				
<b>Format</b>					alternativeText
	braille				annotations
	brf				audioDescription
	daisy				bookmarks
					...
<b>Controlled Vocabulary</b>					

This template can be exchanged between DSO staff and library staff to share the work. It can be exported to a Google Sheet with all its functionality intact, also enabling shared work.

It can be exported as a CSV file and imported into an EMMA Bulk Upload Manifest. It doesn't have to be complete; you can use the template however it is useful to you and finish the provision of metadata in the EMMA Bulk Upload Manifest after you've imported the saved CSV file.