# Introduction

The Metadata Manager is a utility designed for Records Clerks managing custom metadata properties embedded files formatted as .pdf documents. The utility displays existing custom metadata properties in a grid control and allows editing of individual metadata properties stored within selected file or files. Extensible Metadata Platform (XMP) templates are supported and used for bulk modification of selected files using data stored in Excel. Basic reporting features that exports properties used for Destruction Logs and Record Inventories to Excel.

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## Scope

|  |  |
| --- | --- |
| **In Scope** | **Out of Scope** |
| Windows Forms Application | There will be no web based or mobile access. |
| Display, Create, Edit metadata fields in .pdf files using XMP templates. | Although XMP templates are standard and can be used by many formats, only .pdf files will be supported at this time. |
| Open, Display, Edit and Export existing XMP templates. | Initial XMP templates will be created manually with an XML editor. |
| Reading, exporting, and modifying custom metadata stored in .pdf formatted files. | Editing of pdf content, notes, annotations, etc. metadata properties will be the only changes made to .pdf files. |
| Persistent data stored as embedded metadata; metadata properties entries stored in Excel spreadsheets prior to importing. | There will be no persistent data stored in an external database. |

## Timing

Development work will be completed by the end of Spring Quarter. [Demo date with Rosie?]

## Operating Environment

The Metadata Manager will run as a Windows Console Application on an average Windows 10 PC.

## Security

This utility is intended to manage metadata embedded in Public Records and will run under the context of the currently logged in windows user.

## Deliverables

Customized XMP template that includes the .pdf standard fields, selected fields from the Dublin core standard, and custom metadata reflecting archive and retention requirements.

Excel spreadsheets formatted for data entry. These sheets will be exported to comma delimited files to be read by the Metadata Manager in order to manage embedded custom metadata fields in .pdf formatted files.

# Tools & Reference

Jesse : Help with tools

https://docs.microsoft.com/en-us/dotnet/csharp/fundamentals/coding-style/coding-conventions

Andrea’s working Notes

**Trello** : <https://trello.com/b/lJ5LjTWR/work>

Pdf “Properties” and “fields” are different.

Acronyms and File Formats

Microsoft Visual Studio 2022

C#

**GitHub :** <https://github.com/PowellAndrea/Capstone>

**Trello** : <https://trello.com/b/lJ5LjTWR/work>

**Lucid Chart**

**VS Code 2022**

[**https://sourceforge.net/projects/exiftool/**](https://sourceforge.net/projects/exiftool/)

**exiftool:** <https://sourceforge.net/projects/exiftool/>

*Perl library and command-line application for reading, writing and editing meta information (EXIF, IPTC, XMP, and more) in a wide variety of file formats (JPEG, TIFF, PNG, PDF, RAW, and more).*

**Bridge:** [**https://developer.adobe.com/bridge**](https://developer.adobe.com/bridge)

## XMP SDK

**XMP-Toolkit-SDK :** <https://github.com/adobe/XMP-Toolkit-SDK/blob/main/docs/XMPFilesPluginSDK.pdf>

**XMP Specification & SDK :** <https://www.adobe.com/devnet/xmp.html>

**XMP metadata from the Adobe Experience League**

<https://experienceleague.adobe.com/docs/experience-manager-64/assets/administer/xmp.html>

## Dublin Core

**Dublin Core metadata**

<https://www.dublincore.org/specifications/dublin-core/dcmi-terms/>

<https://developer.adobe.com/xmp/docs/XMPNamespaces/dc/>

**Dublin Core Schemas**

**https://www.dublincore.org/schemas/xmls/**

DC Terms: <https://www.dublincore.org/schemas/xmls/qdc/2008/02/11/dcterms.xsd>

DC Elements: <https://www.dublincore.org/schemas/xmls/qdc/2008/02/11/dc.xsd>

DCMI Type: <https://www.dublincore.org/schemas/xmls/qdc/2008/02/11/dcmitype.xsd>

DC Simple: <https://www.dublincore.org/schemas/xmls/qdc/2008/02/11/simpledc.xsd>

http://purl.org/dc/elements/1.1/ <http://dublincore.org/schemas/xmls/qdc/dc.xsd>

http://purl.org/dc/terms/ <http://dublincore.org/schemas/xmls/qdc/dcterms.xsd>

http://purl.org/dc/dcmitype/ <http://dublincore.org/schemas/xmls/qdc/dcmitype.xsd>

# Features

1. Management of metadata properties embedded in .pdf records.
   1. Display pre-existing metadata properties from selected .pdfs within a grid control (UC: 1.1)
   2. Ability to modify metadata properties within a grid control for a single file (UC: 1.2)
   3. Ability for the user to select multiple .pdf files
   4. Ability to apply bulk metadata to user selected .pdf files
   5. Ability to update multiple custom metadata properties in selected .pdf files by applying an XMP template. Properties that do not exist are created. (UC: 1.5)
2. Management XMP Templates
   1. Display existing template fields in a Grid Control
   2. Modify pre-existing properties from XMP template within a Grid Control
   3. Export modified metadata properties as XMP formatted template
   4. Export modified metadata properties as user readable property tree formatted for Excel
3. Reporting by Exporting in Excel Format
   1. Fields Report for Record Inventory
   2. Fields Report for Record Destruction Log
   3. (Future) Formatted Destruction Request Form
   4. (Future) Formatted Archival Transmittal Form

# Class Diagrams

Diagram

Description automatically generated

Table

Description automatically generated

# Use Case Diagrams

## UC 1.1 - Displaying Metadata Embedded in pdf Files

Record Manager needs the ability to display existing metadata in a grid view in order to easily view and manage properties embedded in .pdf files stored in the local file system.

Diagram

Description automatically generated

## UC 1.2 - Modifying Metadata in Grid View

Records Clerk needs the ability to select one or more .pdf files from the grid view in order to manually modify properties common to the set of selected files.Diagram

Description automatically generated

## UC 1.5 - Modifying Metadata using XMP Templates

User needs to view the metadata properties embedded in selected .pdf files stored on the local filesystem so that they can update document properties.

Diagram

Description automatically generated with low confidence

# Activity Diagrams

## Activity : Select and Load files

Diagram

Description automatically generated

# Reports

# Reference Forms

The ability to create forms is out of scope for the current project, however the example forms are included here as reference to required Archival metadata properties used by these reports.

## Public Records Destruction Log

Table

Description automatically generated

## Digital Records Inventory

The record inventory form will be similar to the format used by the Digital Archives Transfer. In the future, the Metadata Manager will produce this type of report for both internal record inventory and digital archive transfer inventory sheets.

Text

Description automatically generated with medium confidence

## Standard .pdf Metadata Properties

Graphical user interface, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated