**ARL**

**US Army Research Laboratory**

# Enhancements to the Redmine Database Metrics Plug-in

**by Terry C Jameson**

**NOTICES**

**Disclaimers**

The findings in this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

Citation of manufacturer's or trade names does not constitute an official endorsement or approval of the use thereof.

Destroy this report when it is no longer needed. Do not return it to the originator.

US Army Research Laboratory

# Enhancements to the Redmine Database Metrics Plug-in

**by Terry C Jameson**
*Computational and Information Sciences Directorate, ARL*

# REPORT DOCUMENTATION PAGE

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.
**PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

| 1. REPORT DATE *(DD-MM-YYYY)* | 2. REPORT TYPE | 3. DATES COVERED (From - To) |
|---|---|---|
| August 2017 | Technical Note | 2016 November 05–2017 May 31 |

| 4. TITLE AND SUBTITLE | 5a. CONTRACT NUMBER |
|---|---|
| Enhancements to the Redmine Database Metrics Plug-in | |
| | 5b. GRANT NUMBER |
| | 5c. PROGRAM ELEMENT NUMBER |

| 6. AUTHOR(S) | 5d. PROJECT NUMBER |
|---|---|
| Terry C Jameson | |
| | 5e. TASK NUMBER |
| | 5f. WORK UNIT NUMBER |

| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) | 8. PERFORMING ORGANIZATION REPORT NUMBER |
|---|---|
| US Army Research Laboratory<br>Computational and Information Sciences Directorate<br>ATTN: RDRL-CIE<br>White Sands Missile Range, NM 88002-5501 | ARL-TN-0840 |

| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) | 10. SPONSOR/MONITOR'S ACRONYM(S) |
|---|---|
| | |
| | 11. SPONSOR/MONITOR'S REPORT NUMBER(S) |

**12. DISTRIBUTION/AVAILABILITY STATEMENT**

Approved for public release; distribution is unlimited.

**13. SUPPLEMENTARY NOTES**

**14. ABSTRACT**

The Redmine project management web application has been adopted within the US Army Research Laboratory's Computational and Information Sciences Directorate as a database solution to track upcoming events, assigned tasks, and so forth. A Redmine plug-in has been developed to use the web application to quantify various metrics parameters in a database structure and plot the information in a ready-to-use format. This report summarized several enhancements that have been implemented in the plug-in as a result of suggestions made by users.

**15. SUBJECT TERMS**

metrics, Redmine web application, Redmine metrics plug-in, campaigns, database records, database trends

| 16. SECURITY CLASSIFICATION OF: | | | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES | 19a. NAME OF RESPONSIBLE PERSON |
|---|---|---|---|---|---|
| a. REPORT | b. ABSTRACT | c. THIS PAGE | | | Terry C Jameson |
| Unclassified | Unclassified | Unclassified | SAR | 20 | 19b. TELEPHONE NUMBER (Include area code)<br>(575) 678-3924 |

# Contents

## List of Figures

## Acknowledgments

The author wishes to thank Mr Michael Gray for his valuable suggestions to improve the data export capabilities of the Redmine Metrics Plug-in (RMP).

The author also thanks Ms Paula Bonham for her suggestion to add document categories that enable better tracking of the status of articles that are being prepared for publication in a scientific journal.

The author also wishes to express appreciation to the Redmine application and RMP software developers, Mr Ian King and Dr Richard Hoffman, of Secure Mission Solutions, LLC, for their continuing assistance in implementing the RMP upgrades described in this report.

INTENTIONALLY LEFT BLANK.

## 1.  Introduction

During the winter of 2015, the US Army Research Laboratory (ARL) Computational and Information Sciences Directorate (CISD) implemented a Redmine Metrics Plug-in (RMP) as a new component of the Redmine project management web application.* The Redmine plug-in† enabled the use of the numerous, powerful features of the web application. The many capabilities of the RMP have been described in Jameson[1], and the 4 CISD research divisions have been employing the RMP since then. As the RMP has been put to full use, several helpful improvements have been implemented within the application; this report summarizes those recent improvements.

## 2.  Accessing the Redmine Metrics Plug-in (RMP)

The RMP can be accessed by completing the following steps:

1) Navigate to https://cfo-w.arl.army.mil.

2) Click "Accept Conditions and Continue".

3) Click "Login with Open ID".

4) Click "ACCEPT".

5) Click "Login" in the "CAC" section (then enter PIN if requested).

6) Click "OK" to verify the certificate.

7) In the top-right corner of the screen, in the "Jump to a project . . ." drop-down menu, select the desired division's Redmine project ("Office of the Director" or specific division).

8) Click the "Metrics" tab.

All of the metrics tables are displayed across the top.

## 3.  Recent Revisions

The RMP has recently been updated with the following revisions:

- Selectable tables and fiscal year (FY) for export to an Excel workbook

---

*Additional information about Redmine can be found at www.redmine.org/.

† A plug-in is something similar to an Excel macro by which a specific, repetitive task is accomplished.

- Selectable export of citations/references by type, writing style, and FY

- Enhanced naming convention options for Technology Program Agreements and Technology Development & Transition Agreements

- Military career fields added

- Document status categories

These updates are described in the following sections.

## 3.1 RMP Export to Excel

The RMP has a feature by which the database can be exported into an Excel workbook, edited, and then imported back into Redmine. The exported file is named according to the convention "cisd-div-metrics_yyyy-mm-dd.xlsx" where "div" is the division (e.g., "bed" [the Battlefield Environment Division]). This feature can be a great time-saver when multiple records need to be edited or added at the same time (as opposed to clicking on the pencil or green "plus sign" icons to edit or add individual records, respectively). The export and import functions appear at the bottom right of each table in the RMP. In previous versions of the RMP, the entire metrics dataset (personnel, publications, agreements, patents, etc.) was exported to an Excel workbook, regardless of which table the user was viewing when the export command was selected. When importing back into the RMP, the entire Excel workbook was imported (all data tables for all FYs). However, it is often not desirable that the complete RMP dataset be exported at once, and the suggestion was made that a selectable feature be implemented. Thus, in the newest version of the RMP, a selection box graphical user interface (GUI) appears when "Export to XLSX" is clicked, regardless from which data table the user selects the export option (Fig. 1). The user then selects which tables are to be exported and for which FY, and then clicks on the green "Export" button. Only the selected tables and FY will appear in the Excel workbook. In Fig. 1, only the "Publications" for FY16 were selected for export.
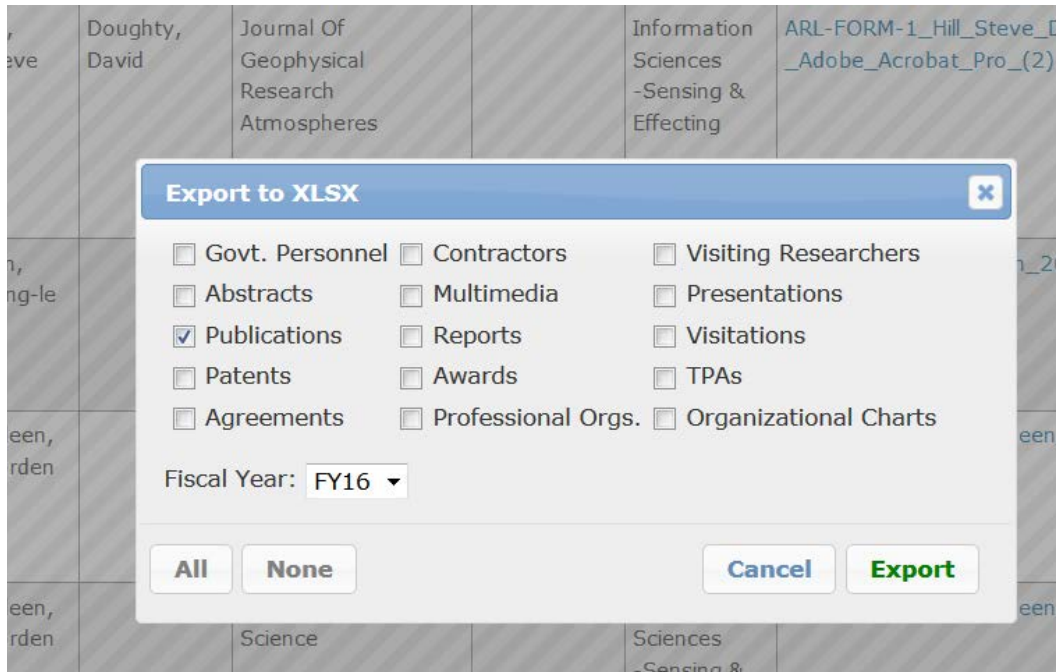
**Fig. 1    Example of selectable export function**

Once "Export" is selected, the familiar options box appears (Fig. 2), allowing the user to either open the exported file directly or to save it in a desired location. If the workbook is opened from this drop-down menu, it will be in a read-only format, and editing the data is not possible.
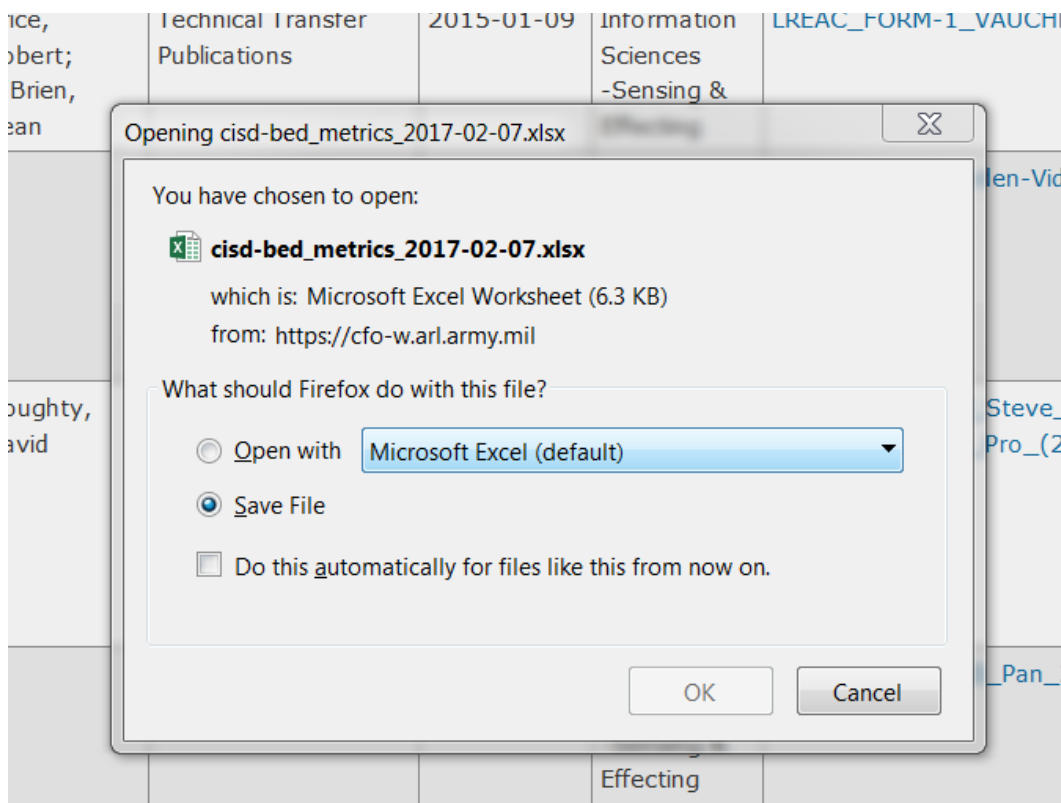
**Fig. 2    Open/Save option when exporting RMP data to Excel**

## 3.2  RMP Citations Export

It is sometimes desirable to have publications and other types of documents that are archived in the RMP be output in citation format for inclusion in new documents. A feature has been added by which a number of record types can be exported in several styles of citation formats, depending upon the author's preference. The various types of metrics documents that can be output in citation format are books, book chapters, conference proceedings, journal publications, multimedia presentations, and briefings. Citation styles include APA, MLA, and Chicago.[*]

The citations export feature is accessed by clicking on "Export Citations" at the bottom-right of any of the RMP tabs (immediately beneath "Import from XLSX"). When this link is clicked, a selection GUI is displayed, as shown in Fig. 3.

---

[*]These 3 citation styles will be described in greater detail in the following paragraphs.

**Fig. 3     Citations export selection**

In the top section, the format or citation style is chosen—either APA, MLA, or Chicago. Below are descriptions and examples of the 3 citation styles:

- APA (American Psychological Association): Most commonly used to cite sources within the social sciences.[2]

    Doughty, David, et al. (2016). Automated aerosol Raman spectrometer from Battelle for semi-continuous sampling of atmospheric aerosols. *Journal of Quantitative Spectroscopy and Radiative Transfer*.

- MLA (Modern Language Association): Most commonly used to write papers and cite sources within the liberal arts and humanities.[3]

    Doughty, David, et al. "Automated aerosol Raman spectrometer from Battelle for semi-continuous sampling of atmospheric aerosol". *Journal of Quantitative Spectroscopy and Radiative Transfer* (2016): Journal Publication

- The Chicago Manual of Style (CMS): Covers a variety of topics from manuscript preparation and publication to grammar, usage, punctuation, and documentation. As explained in Purdue University's Online Writing

Lab (OWL) website, "The material in this resource focuses primarily on one of the two CMS documentation styles: the Notes-Bibliography System (NB), which is used by those in literature, history, and the arts. The other documentation style, the Author-Date System, is nearly identical in content but slightly different in form and is preferred in the social/sciences."[4]

> Doughty, David, et al. "Automated aerosol Raman spectrometer from Battelle for semi-continuous sampling of atmospheric aerosol". *Journal of Quantitative Spectroscopy and Radiative Transfer* (2016): Journal Publication

The middle section of the GUI allows the user to select one or many Source Categories. There are 3 Source Types, including Publications, Multimedia, and Presentations. Just below, the FY is selected. In Fig. 3, the APA citation style for "Journal Pub (Ref)" (refereed journal publication) in FY16 has been selected. When the "Submit" button is clicked, the following text page is displayed (Fig. 4).



**Publications**

Journal Pub (Ref):

Creegan, Ed. (2016). A Case Study of the Mechanisms Modulating the Evolution of Valley Fog. *Pure and Applied Geophysics.*

Videen, Gorden. (2015). A Method to Retrieve Super-Thin Cloud Optical Depth over Ocean background with Polarized Sunlight. *Atmospheric Chemistry & Physics Discussions 15.*

Creegan, Ed. (2016). An Overview of the MATERHORN fog Project: OBSERVATIONS AND PREDICTIBILITY . *Pure and Applied Geophysics.*

Hocut, Chris. (2016). Assessment of Planetary Boundary-Layer Schemes in the Weather Research and Forecasting Mesoscale Model Using MATERHORN Field Data. *Boundary-Layer Meteorology.*

Knapp, Dave, et al. (2016). Atmospheric Impacts and Effects Predictions and Applications for Future Megacity and Dense Urban Area Operations. *Small Wars Journal.*

Doughty, David, et al. (2016). Automated aerosol Raman spectrometer from Battelle for semi-continuous sampling of atmospheric aerosol. *Journal of Quantitative Spectroscopy and Radiative Transfer.*

Videen, Gorden. (2016). Characterization of a Photometric Anomal in Mare Nubium. *Planetary and Space Science.*

Videen, Gorden, et al. (2015). Charge-Induced Electromagnetic Resonances in Nonparticles. *Annalen der Physik 527.*

Toggle Source Types On | Off
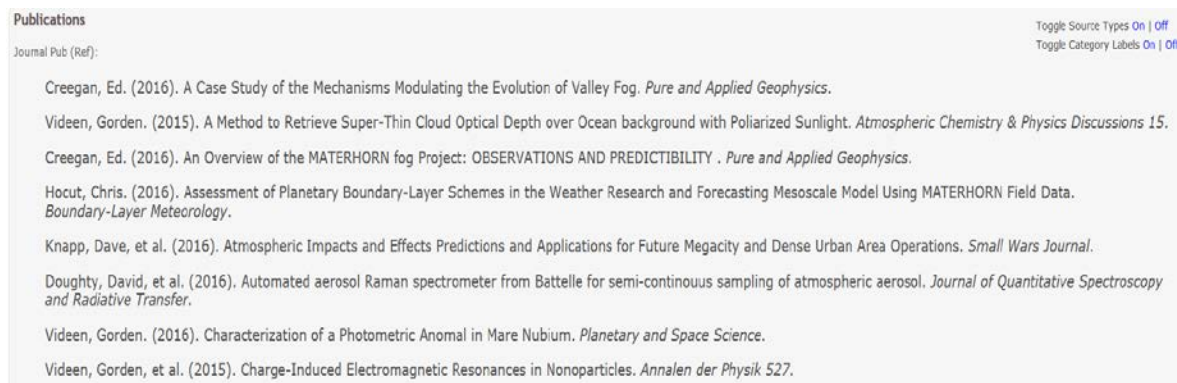Toggle Category Labels On | Off

**Fig. 4     Citations export text page**

Unlike the RMP export to Excel, citations are exported to a simple text page from which they may be copy/pasted into a document. In the top-right of the displayed text page, the citations may be modified to toggle on/off the Source Types (such as Publications) and Category Labels (such as Journal Pub (Ref)).

Specific terms in the citations may be queried to quickly locate records of interest. In Fig. 5, the word "Raman" was queried from among the FY16 refereed journal publications, with the resulting records displayed on the right with the queried word highlighted in yellow (including the example citation for "Doughty").

**Fig. 5   Citations term query**

## 3.3 Enhanced Naming Conventions

Jameson[1] describes the specialized class of agreements called Technology Program Agreements (TPAs), the use of which has been de-emphasized by ARL's senior management. However, CISD has retained a somewhat streamlined version of the TPA called a Technology Development and Transition Agreement (TDTA). The first TDTA was implemented in FY17 with one of BED's stakeholder partners. While entering the TDTA information in the RMP Agreements section, it was noted that the naming convention was limited to the former TPA format, not allowing descriptive titles to be given to the new document type. This restriction has been corrected and appropriate, descriptive titles can now be given to new TDTAs.

## 3.4 Career Fields

When entering new personnel records in either the Govt. Personnel or Contractor tables, a Career Field or Job Title (respectively) must be selected. Selections for both government civilian and contractors are made from the Career Field table. Some CISD divisions currently have, or will have, military personnel assigned, who they will want to track in the RMP. Military Officer and Military Enlisted have been added to the Career Field table to allow such selections. Also, several contractor job titles have been added to the Career Field table to allow full accounting of those personnel.

## 3.5  Document Status Categories

Whenever research papers or books/book chapters are submitted for editing to peer-review panels, there is a span of time during which the review is taking place prior to the article's acceptance for publication, and additional time passage from acceptance to actual publication. In the Category field of the Publications table, 2 new categories have been added: Submitted and Accepted – Awaiting Publication. Thus, when a publication has been submitted to a peer-review panel and its record is first entered into the RMP, its status can be noted. When the author is notified that it has been accepted for publication, its status can be changed accordingly. Once actually published, the paper's status can be updated to the appropriate category (such as "Journal Pub (Ref)").

## 4.  Summary

A plug-in to the Redmine database application is described in which many of the metrics required by the US Army Research Laboratory's Computational and Information Sciences Directorate are recorded, summarized, and displayed. The RMP has proven to be a valuable repository of metrics and other types of data being tracked on an annual basis. The Redmine Metrics Plug-in's (RMP's) versatility and relative ease of modification have allowed many modifications and enhancements to be made, and will ensure that new additions will be readily implemented as its use continues.

## 5.  References

1.  Jameson TC. Redmine database metrics plug-in user's guide. White Sands Missile Range (NM): Army Research Laboratory (US); 2016. Report No.: ARL-TR-7724.

2.  Purdue Online Writing Lab. APA in-text citations: the basics. West Lafayette (IN): Purdue University; c2017 [accessed 2017 Aug 24]. https://owl.english.purdue.edu/owl/resource/560/02/.

3.  Purdue Online Writing Lab. MLA formatting and style guide. West Lafayette (IN): Purdue University; c2017 [accessed 2017 Aug 24]. https://owl.english.purdue.edu/owl/resource/747/01/.

4.  Purdue Online Writing Lab. Chicago Manual of Style 16th edition. West Lafayette (IN): Purdue University; c2017 [accessed 2017 Aug 24]. https://owl.english.purdue.edu/owl/resource/717/01/.

## List of Symbols, Abbreviations, and Acronyms

APA            American Psychological Association

ARL            US Army Research Laboratory

BED            Battlefield Environment Division

CISD           Computational and Information Sciences Directorate

CMS           Chicago Manual of Style

FY             fiscal year

GUI            graphical user interface

Journal Pub (Ref)    Journal Publication – Refereed

MLA           Modern Language Association

RMP           Redmine Metrics Plug-in

TDTA          Technology Development and Transition Agreement

TPA           Technology Program Agreement

INTENTIONALLY LEFT BLANK.