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# **docBuilder Requirements Specification**



**Goddard Space Flight Center**  
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# docBuilder Requirements

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## Preface

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## **Abstract**

This document provides the docBUILDER system requirements presented as a set of user stories following the Agile development approach.

*Keywords: CMR, UMM, MMT, GCMD, Metadata*



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# 1 INTRODUCTION

The docBUILDER metadata authoring tool (<https://gcmd.nasa.gov/collaborate/docbuilder.html>) is a web-based user interface which allows metadata authors to create or modify data set descriptions using the Directory Interchange Format (DIF) and submit those descriptions for ingest to the Common Metadata Repository (CMR).

## 1.1 Purpose

The purpose of this document is to capture the system requirements for the docBUILDER tool.

## 1.2 Scope

This document covers requirements and user stories for docBUILDER. The user stories in this document are high level requirements and do not represent the low level user stories describing all of the docBuilder's functionality. This document does not contain release notes or any version reporting. This document does not cover test criteria for any requirements or user stories.

## 1.3 Related Documentation

The latest versions of all documents below should be used. The latest Earth Science Data and Information System (ESDIS) Project documents can be obtained from Uniform Resource Locator (URL): <https://ops1-cm.ems.eosdis.nasa.gov>. ESDIS documents have a document number starting with either 423 or 505. Other documents are available for reference in the ESDIS project library website at: [http://esdisfmp01.gsfc.nasa.gov/esdis\\_lib/default.php](http://esdisfmp01.gsfc.nasa.gov/esdis_lib/default.php) unless indicated otherwise.

### 1.3.1 Applicable Documents

The following documents are referenced within or are directly applicable, or contain policies or other directive matters that are binding upon the content of this document.

Document Number	Document Title
423-RQMT-003	Metadata Requirements Base Reference Document
423-CDRD-EED2	Contract Data Requirements Document for Earth Observing System Data and Information System (EOSDIS) Evolution and Development 2 (EED2)
N/A	EOSDIS EED2 Statement of Work for Providing Development, Sustaining Engineering, and Continuous Evolution of the Earthdata Search Tool
<a href="https://git.earthdata.nasa.gov/projects/EMFD">EOSDIS</a>	<a href="https://git.earthdata.nasa.gov/projects/EMFD">https://git.earthdata.nasa.gov/projects/EMFD</a>

[Metadata](#)  
[Format Depot](#)

### 1.3.2 Reference Documents

The following documents are not binding on the content but referenced herein and amplify or clarify the information presented in this document.

Document Number	Document Title
NPR 2810.1A	Security of Information Technology document

## 1.4 Agile Programming and Requirements Analysis

The EOSDIS Evolution and Development 2 (EED2) teams are using Agile Programming methodologies throughout the software development lifecycle-including the requirements analysis phase. The process of developing requirements has not changed much from other software programming management methods such as waterfall or iterative methods. The two major differences between Agile and other methods are:

1. A greater emphasis on stakeholder participation
2. Requirements are allowed to evolve throughout the Agile development process to account for changing priorities, new requirements that were left out initially, or changes due to issues encountered during development and testing

These two differences may not seem all that different from other methods; however, requirements managed by Agile processes provide for a much more flexible framework from which to develop software.

In this document, requirements are captured as a set of User Stories written in the form:

"As a <role> I want to <action> so that I can <explanation>".

The requirement is told from the perspective from a user role instead of the generic "The system shall...". Requirements written in this form helps to refine the system requirement by identifying the user or consumer of the required functionality, the function that the user needs, and why this function is needed. The concept of providing value to the system user is reflected in the explanation of the user story form. This provides the rationale or the benefit of the requirement.

Requirements that begin "As docBUILDER, ...", do not refer to the older style of "The system shall..." statements. In the context of User Stories, "docBUILDER" takes an active role by ensuring that those processes in the

workflow that are to be automated will be managed by the system itself. The action describes what needs to be done, not how it needs to be implemented. This allows the developer to choose from "Best Practices" techniques on how to best implement a requirement. The first principle of the Agile Manifesto is:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software. (<http://agilemanifesto.org/principles.html>)

docBUILDER requirements and user stories will be tracked and maintained using Atlassian's Jama Requirements Management tool. The user stories presented in this document are written to a Systems Requirements level and will be kept in sync with the user stories maintained in Jama. Of note is that the stories in this document have all been approved, but not all have been prioritized for implementation as of the date of this document.

## 1.5 User Roles

The following roles will be used to clarify the docBUILDER User Stories by defining system boundaries and those that are responsible for completing the tasks associated with these requirements.

### 1.5.1 docBuilder System

The docBUILDER System allows metadata authors to create and update metadata records for submission to the CMR.

### 1.5.2 docBUILDER Operator

The docBUILDER Operator is responsible for the day to day maintenance and monitoring of the system. The docBUILDER Operator works with the CMR Operator to troubleshoot issues when they occur.

### 1.5.3 docBUILDER User

docBUILDER Users are Metadata Authors and Metadata Curators who use docBUILDER to create and submit metadata holdings to the CMR.

Metadata Author - a Provider who has permission to create, edit and submit metadata records for their organization

Metadata Curator - someone who has been assigned a role by NASA to review CMR metadata and assess its quality

## 2 REQUIREMENTS

### 2.1 Graphical User Interface Design

The following stories are related to the overall visual design and behavior of the docBUILDER Graphical User Interface (GUI).

Story ID	User Story
<a href="#">CMR-STORY-586</a>	As a user, the docBuilder tool should display the look and feel of the EarthData environment
<a href="#">CMR-STORY-587</a>	As a user, the docBuilder tool should have a link for users to request a new account on the landing page
<a href="#">CMR-STORY-588</a>	As a user, the docBuilder tool should have a "Forgot password/username" link on the landing page
<a href="#">CMR-STORY-589</a>	As a user, the docBuilder tool should have a "Help" link on the landing page

### 2.2 User Authentication

The following stories are related to the authentication of users via Earthdata Login formerly the User Registration System.

Story ID	User Story
<a href="#">CMR-STORY-483</a>	As a Metadata Author, I want to access docBuilder using Earthdata Login credentials
<a href="#">CMR-STORY-487</a>	As a DAAC user, I want to be added to a list of approved accounts to use the CMR docBuilder
<a href="#">CMR-STORY-500</a>	As a user, I want my email address and/or Earthdata Login account information to be associated with a particular record/set of records
<a href="#">CMR-STORY-590</a>	As a Metadata Curator, I want to access docBuilder using Earthdata Login credentials
<a href="#">CMR-STORY-591</a>	As a Metadata Curator, I want to view and approve/disapprove new requests for CMR docBuilder access in a web-based GUI queue environment
<a href="#">CMR-STORY-592</a>	As a Metadata Curator, I want to maintain the list of users with CMR docBuilder access in a web-based GUI environment
<a href="#">CMR-STORY-594</a>	As a DAAC user with Elevated Privileges, I want to manage my staff CMR docBuilder privileges in a web-based GUI queue environment
<a href="#">CMR-STORY-595</a>	As a user, I will need to confirm that my access to the CMR docBuilder is still necessary every 365 days

## 2.3 Metadata Creation and Submission

The following stories are related to creating, editing and submitting metadata to the CMR.

Story ID	User Story
<a href="#">CMR-STORY-488</a>	As a Metadata Curator, I want to submit a metadata record directly into the CMR repository using the CMR docBuilder tool
<a href="#">CMR-STORY-489</a>	As a Metadata Author, I want my submitted metadata record to be available immediately in the CMR Repository (required for granule metadata ingest)
<a href="#">CMR-STORY-490</a>	As a Metadata Author, I want to be notified automatically by email that my metadata record is available in the CMR Repository
<a href="#">CMR-STORY-491</a>	As a Metadata Curator, I want all metadata submitted directly into the CMR through CMR docBuilder to be flagged as "Unreviewed"
<a href="#">CMR-STORY-492</a>	As a Metadata Author, I want to write a new metadata record in the CMR docBuilder using the DIF standard
<a href="#">CMR-STORY-493</a>	As a Metadata Author, I want to write a new metadata record in the CMR docBuilder using the ECHO 10 format
<a href="#">CMR-STORY-494</a>	As a Metadata Author, I want to validate my metadata record against the UMM-C model
<a href="#">CMR-STORY-495</a>	As a Metadata Author, I want to update information in an existing "reviewed" metadata record in the CMR using CMR docBuilder
<a href="#">CMR-STORY-496</a>	As a Metadata Author, I want to write a metadata record using a custom template specific to my provider so that I can have the default values required by my discipline automatically populated
<a href="#">CMR-STORY-497</a>	As a Metadata Author, I want to save a metadata record draft and return to it at a later time
<a href="#">CMR-STORY-499</a>	As a Metadata Author, I want to preview my metadata record before submission
<a href="#">CMR-STORY-502</a>	As a Metadata Author, I want the CMR Validation API to ignore the URLs in the metadata record in docBuilder as they are to be checked later in the QA process
<a href="#">CMR-STORY-503</a>	As a Metadata Author, I want to be able to make group edits with other assigned users to a metadata record in docBuilder

## Appendix A. Abbreviations and Acronyms

API	Application Programming Interface
CCB	Configuration Change Board
CCR	Configuration Change Request
CDRD	Contract Data Requirements Document
CMO	Configuration Management Office
CMR	Common Metadata Repository
DAAC	Distributed Active Archive Center
DIF	Directory Interchange Format
ECHO	EOS Clearing House
EED2	EOSDIS Evolution and Development 2
EOS	Earth Observing System
EOSDIS	Earth Observing System Data and Information System
ESDIS	Earth Science Data and Information System
GCMD	Global Change Master Directory
GSFC	Goddard Space Flight Center
GUI	Graphical User Interface
ID	Identifier
MMT	Metadata Modelling Tool
NASA	National Aeronautics and Space Administration
NPR	NASA Procedural Requirement
QA	Quality Assurance
RQMT	Requirement
UMM	Unified Metadata Model
UMM-C	Unified Metadata Model - Collection
URL	Uniform Resource Locator
URS	User Registration Service - renamed EDL (Earthdata Login)