



Reactor Operations and Engineering (ROE) Digital Transformation

Obsolete Data Application Transition

Saanvi Shashikiran, Georgetown University '27 Kaw Moo, Swarthmore College '26



Goals

- 1. Develop applications to better organize NCNR records, documents, and information.
- This will confront the issues with data management that the NCNR has faced for decades.
- 2. Transition the NCNR from SharePoint OnPrem to SharePoint Online.
 - SharePoint Online unlocks a multitude of useful document management features and allows for integration with Microsoft 365 applications.





Projects to Achieve Goals

- Record Repository Application (RRA)
- Engineering Document Library
- Project Management Application (PMA)
- Future Projects
 - Engineering Change Notice (ECN)/Engineering Change Request (ECR) Application
 - Procurement Application



Records Repository Application

What is it?

The RRA will centralize information such as the NCNR records and ensure it is easily accessible.

Our Work:

- 1. Developed user requirements using the NIST Ex Libris Primo Library
- 2. We met with subject matter experts and software developers to improve our requirements documentation.
- 3. We completed a comprehensive final requirements document.



RRA Requirements

NUST Center for Neutron Research NIST CENTER FOR NEUTRON RESEARCH

Functional and Non-Functional Requirements Records Repository Application

Table of Contents

1.	Background	2
2.	Purpose	2
3.	Scope	2
4.	Definitions	3
5.	Acronyms	5
6.	Roles and Responsibilities	7
7.	Example	8
8.	System Benefits	8
9.	Assumptions and Constraints	9
10.	Functional Requirements	10
11.	Non-Functional Requirements	33
Traceability		35
12.	Validation Requirements	35
13.	Testing	36
14.	Training	36
15.	Additional Requirements	36
16.	References	39



5

Engineering Document Library

What is it?

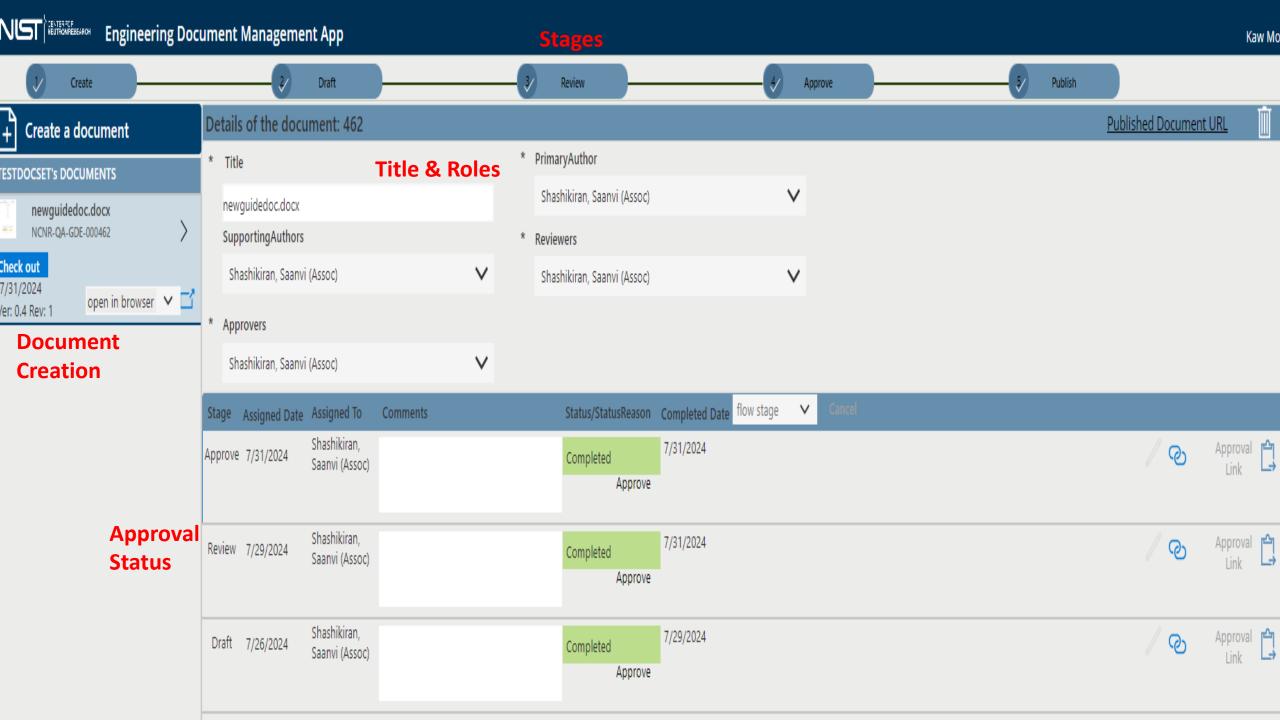
A tool for creating documents, tracking document stages on the pathway to publishing, and

maintaining version control.

Our work:

- 1. Created Visio workflows.
- 2. Developed user requirements through interviews with end users.
- 3. Collaborated with a software developer on the final product.
- 4. Beta tested to solve functionality issues.





Project Management Application

What is it?

An application to organize all past, present, and future projects.

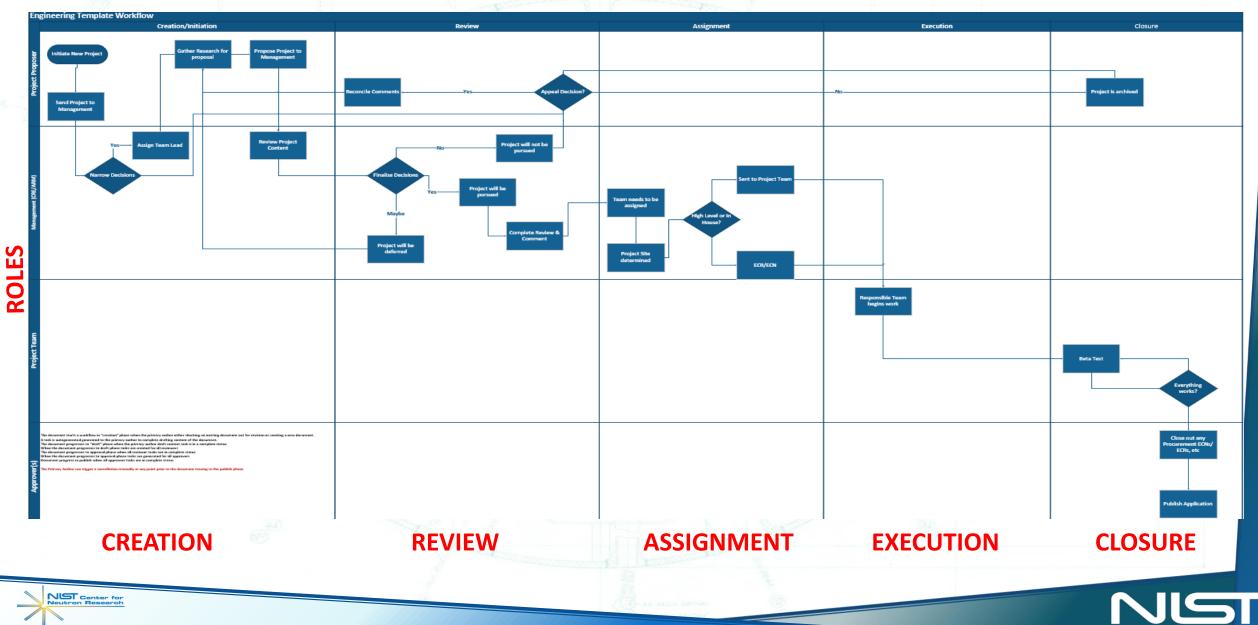
Our work:

- 1. Created Visio workflows.
- 2. Interviewed with the Acting Chief, Reactor Engineering (CRE) and Chief, Aging Reactor Management (ChARM) to discuss and collect information of user needs and lifecycles.
- 3. Developed user requirements.

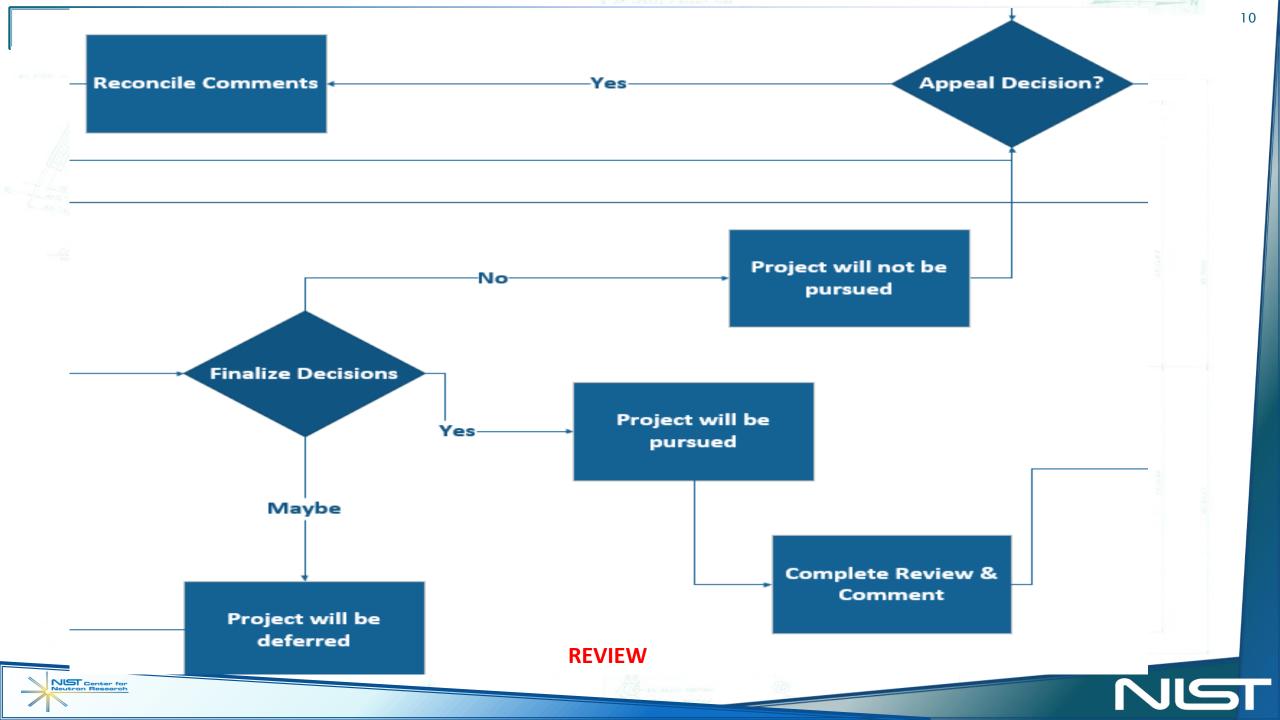




PMA Visio Flowchart



9



Future Projects

- 1. Engineering Change Notices / Engineering Change Requests Application
 - The NCNR needs a new application to manage engineering change notices and requests.
 - The current configuration is located on SharePoint OnPrem, but this data must be shifted over to SharePoint Online for a more efficient future management system.
- 2. Procurement Application
 - The Acquisition Management Division (AMD) requires the submission of procurement packages to be approved for staff to obtain services/products.



Achievements

- 1. We completed the Engineering Document Library Application.
 - The application passed all test cases during beta testing.
- 2. We completed the requirements development for the RRA.
 - The application is in development.
- 3. For projects that have not progressed significantly, we met with the appropriate personnel to understand the scope of the projects.





Takeaways

- 1. Microsoft Visio
- 2. Leadership responsibilities
- 3. Cycle of refining user requirements based on feedback from stakeholders and developers
- 4. Gained experience with beta testing and test case documentation, which sharpened our attention to detail
- 5. Strengthened data management, communication, and time management skills



