



Demonstration of Selected Usability Evaluation Techniques for Data Repositories' Interfaces/Services

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National Center for Atmospheric Research

ESIP Winter Meeting 2017



Agenda

- Introduction: Cognitive Walkthrough
- Background: Data Management Training Clearinghouse
- Use Case: Tasks and Evaluations
- Questions/Feedback?



Introduction: Cognitive Walkthrough

- Sauro, Jeff. (2011, August 2). *What's The Difference Between A Heuristic Evaluation And A Cognitive Walkthrough?* Retrieved from <http://www.measuringu.com/blog/he-cw.php>
- Usability Body of Knowledge. (N. D.). *Cognitive Walkthrough*. Retrieved from <http://www.usabilitybok.org/cognitive-walkthrough>

Cognitive Walkthrough

- Also a usability inspection technique, but the emphasis is on a series of tasks and asking a set of questions from the perspective of the user.
- Evaluation is focused on understanding the system's learnability for new or infrequent users.
- The process was originally developed more than 20 years ago by Cathleen Wharton, John Rieman, Clayton Lewis, and Peter Polson and has several variations.

General Cognitive Walkthrough Procedure



1. Define the users and their goals.
2. Define the tasks that the users would attempt and the criteria for success.
3. Go over the tasks step-by-step through the lens of the user with the actual interface, and ask the following questions:
 - Will the user try to achieve the right effect?
 - Will the user notice that the correct action is available?
 - Will the user associate the correct action with the effect to be achieved?
 - If the correct action is performed, will the user see that progress is being made toward solution of the task?
4. Compare success criteria and the actual steps.



Background: Data Management Training (DMT) Clearinghouse



DMT Clearinghouse

<http://dmtclearinghouse.esipfed.org/>

http://wiki.esipfed.org/index.php/Clearinghouse_Project



Data Management Training

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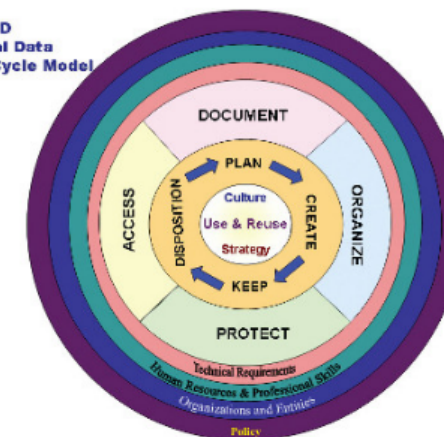
The Data Management Training (DMT) Clearinghouse is a registry for online learning resources focusing on research data management.

It was created in a collaboration between the [U.S. Geological Survey's Community for Data Integration](#), the [Earth Sciences Information Partnership \(ESIP\)](#), and [DataONE](#).

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IWGDD
Digital Data
Life Cycle Model



IWGDD Lifecycle - https://www.nitrd.gov/About/Harnessing_Power_Web.pdf

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Use Case: Tasks and Evaluations

Use Case Setup

1. Define the user and his/her goals.

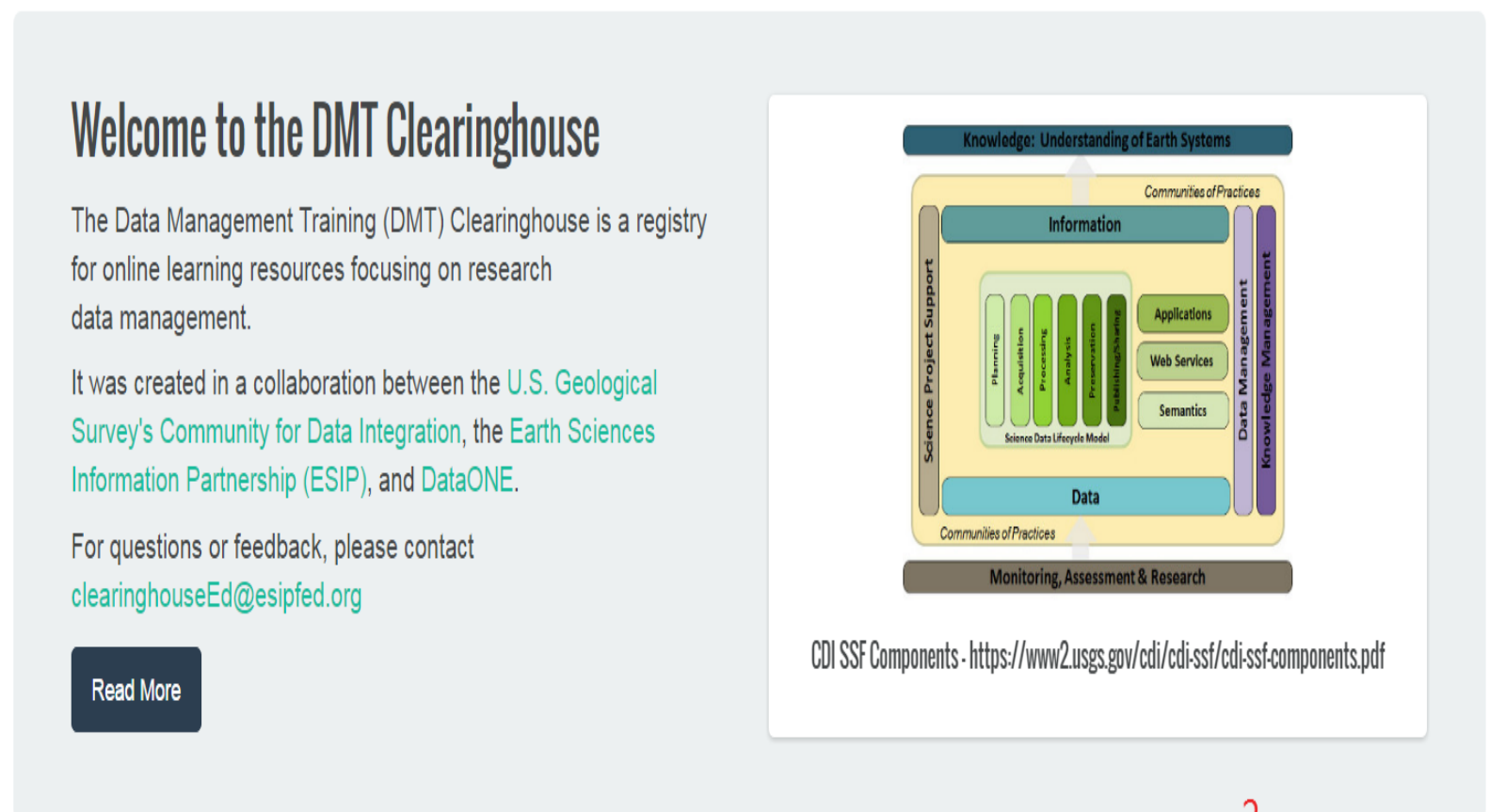
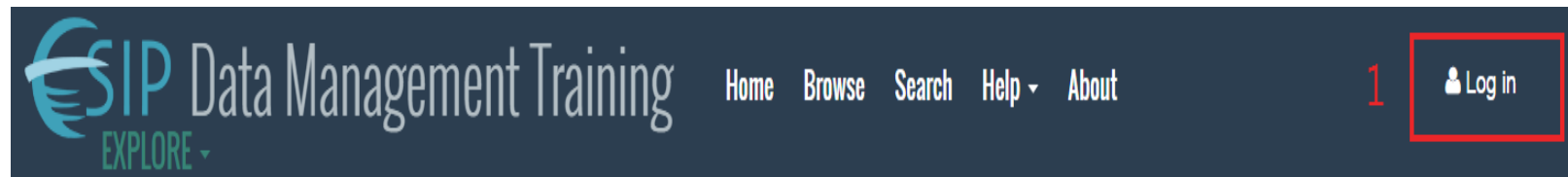
- A potential depositor who would like to share his/her education/training with the DMT Clearinghouse in order to facilitate public discovery/access/use.

2. Define the tasks that the user would like to achieve.

- User wants to find the document/webpage that provides the overview or the description of the submission process.
- User wants to find the document/webpage that enables the actual submission.

Task 1: Steps

- User wants to find the document/webpage that provides the overview or the description of the submission process.
- Step 1: User logs into the Clearinghouse.
- Step 2: User selects the “Submit” function either from the top menu or from the box in the lower right hand corner.



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Task 1: Steps - Continued



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Required Information

Recommended Information:
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Recommended Information:
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Recommended Information:
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Title *

URL - the landing page for the learning resource

<https://oedbreeze.cr.usgs.gov/dm-value/>

Author(s) - the individual or organization credited with creating the learning resource.

Author Name

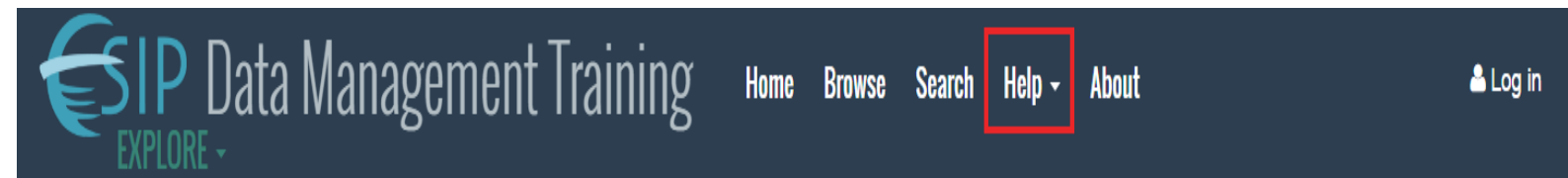


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Task 1: Evaluation

- User wants to find the document/webpage that provides the overview or the description of the submission process.
- Step 1: User logs into the Clearinghouse.
 - Evaluation: Since there is a “Help” menu on the Home page, it is very likely that users would explore this page first and scan rest of the Home page before logging in.

➡ It is likely that users **will not succeed** in taking this step.



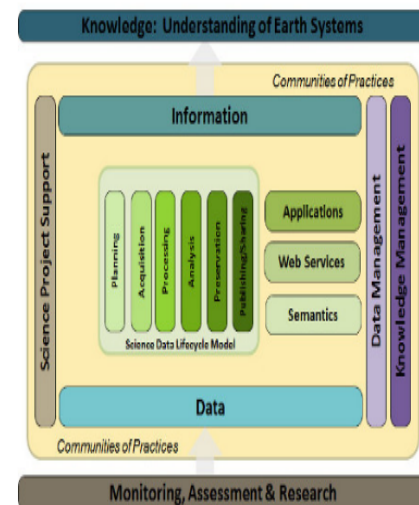
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CDI SSF Components - <https://www2.usgs.gov/cdi/cdi-ssf/cdi-ssf-components.pdf>

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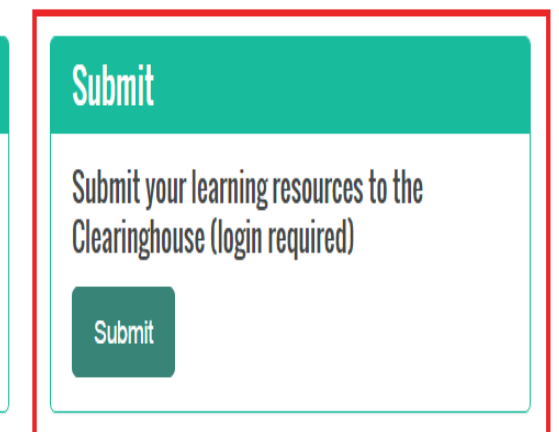
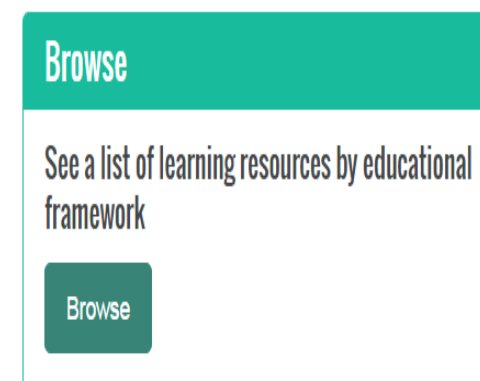
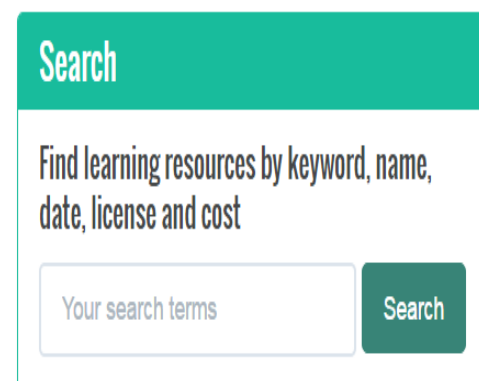
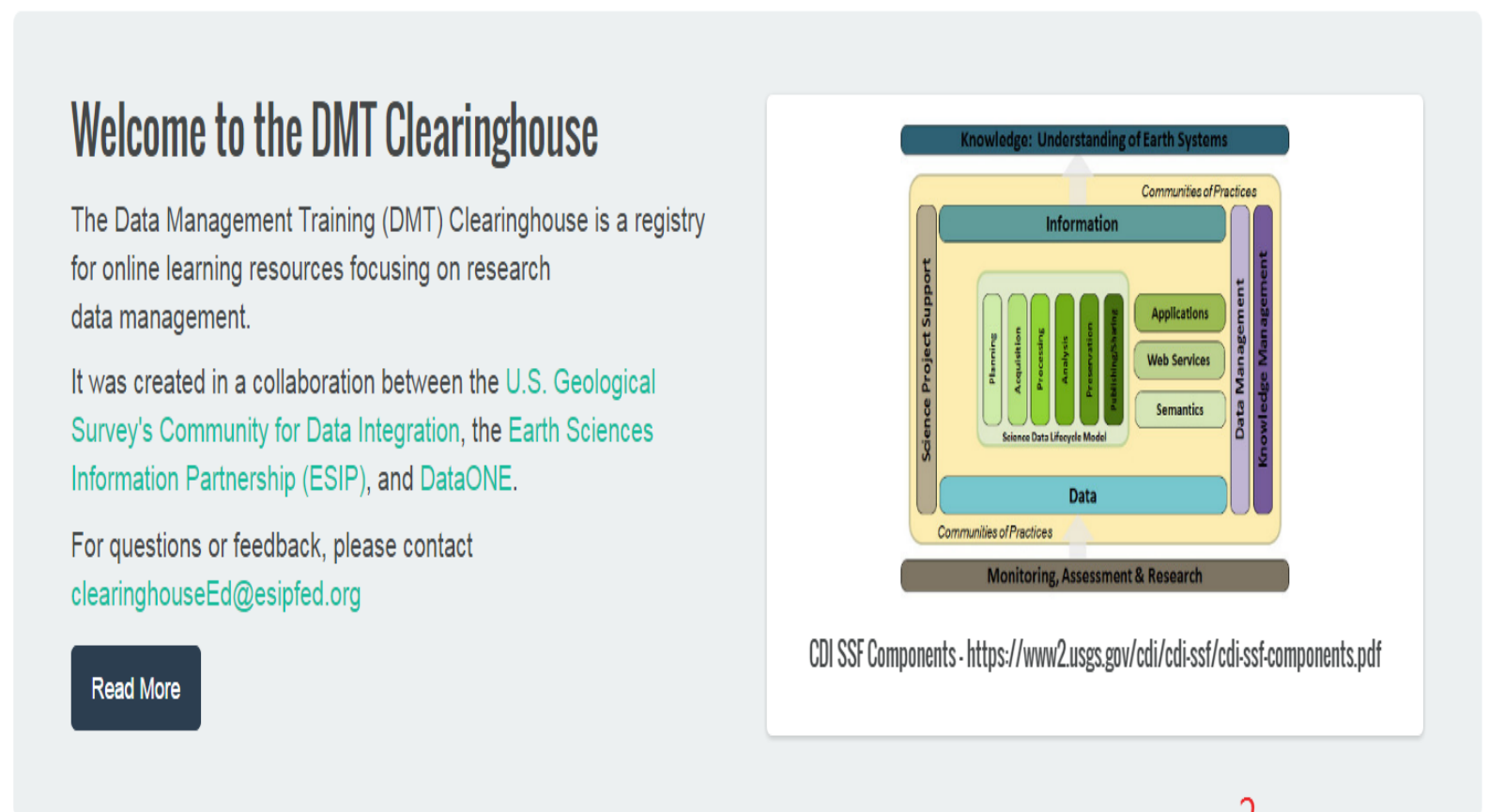
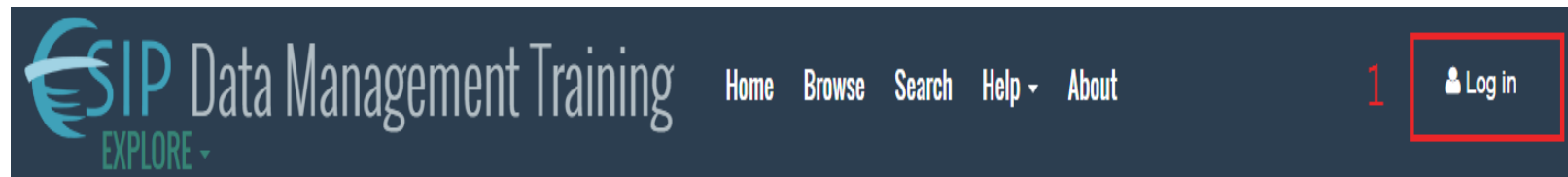
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Task 1: Evaluation - Continued

- User wants to find the document/webpage that provides the overview or the description of the submission process.
 - Step 2: User selects the “Submit” function either from the top menu or from the box in the lower right hand corner.
 - Evaluation: If users try clicking on the “Submit” button from the box in the lower right hand corner, the user will be directed to the sign-in page. We have to assume that the user would try this option and could then sign in successfully in order to arrive at the submission form.
- ➡ It is likely that some users **could succeed** in accomplishing this step.
- Recommendation: Leverage the existing Help page that users could access without logging in and provide the overview of the submission process (preferably in a “step” or workflow format) as a sub-section to the Help page.

Task 2: Steps


- User wants to find the document/webpage that enables the actual submission.
- Step 1: User logs into the Clearinghouse.
- Step 2: User selects the “Submit” function either from the top menu or from the box in the lower right hand corner.



Task 2: Evaluation

- User wants to find the document/webpage that provides the overview or the description of the submission process.
- Step 1: User logs into the Clearinghouse.
 - Evaluation: The “Submit” box on the Home page makes it clear that log in is required. Additionally, if users selects the “Submit” button without reading, users will be directed to the log in page first.

➡ It is likely that users **will succeed** in taking this step.


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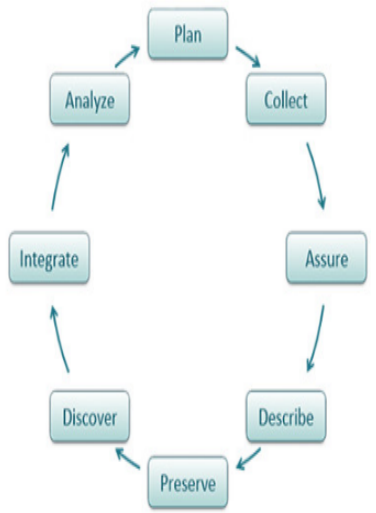
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DataONE Life Cycle - <https://www.dataone.org/data-life-cycle>

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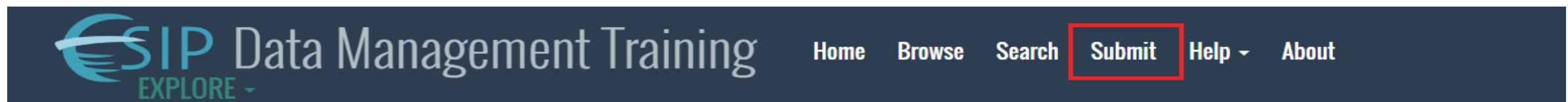
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Task 2: Evaluation - Continued

- User wants to find the document/webpage that enables the actual submission.
 - Step 2: User selects the “Submit” function either from the top menu or from the box in the lower right hand corner.



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- Evaluation: Either “Submit” button will take the users to the same submission form.

➡ It is likely that users will succeed in taking this step.

- Recommendation: Even though users would likely be able to find the submission form successfully, we could improve users’ recognition that a valid account is needed by renaming “Log In” to “Log in/Create New Account” and adding a smaller “Create New Account” link in the “Submit” box.

Task 2: Evaluation - Continued

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DCC Lifecycle - <http://www.dcc.ac.uk/resources/curation-lifecycle-model>

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Questions/Feedback?

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