DataONE Sociocultural and Usability & Assessment Working Groups

Communication and Information

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UX Report: User-Experience Testing of the DataONE Website

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User-Experience Testing of the DataONE Website
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DataONE's Usability and Assessment Working Group conducted a standard usability study for product improvement of the Member Node documentation on the DataONE website (www.dataone.org). This report discusses the researcher's findings and provides suggestions and recommendations for improvement.

METHODOLOGY

Testing

User-eXperience testing was conducted July 24-25 2017 at the DataONE Users Group meeting held in Bloomington, Indiana.

Tests were recorded using TechSmith® Morae Recorder. This software allows the researcher to record and analyze the participants as they complete the questionnaire, survey, and tasks. The researcher used a standard methodology, where participants were given tasks and the researcher observed the participants complete the tasks without assisting the participants. The researcher sat next to the participants and asked them to verbalize their thoughts during the tasks; additionally, the participants were given a survey at the end of the tasks.

Participants were asked three demographic questions, including their involvement with DataONE, the type of institution they work for, and their role at their institution. They were then asked to complete seven tasks using the DataONE website. The tasks asked them where they would go to become involved with DataONE and then explored the various features of the Member Nodes pages. Once they completed the tasks they were asked to rate three statements from very unsatisfied to very satisfied, and then they answered three open-ended questions about their experience. The UX test document can be found in Appendix 2.

A member of the DataONE team conducted the tests at the DataONE Users Group meeting, and the UXL manager reviewed the videos of the usability tests and observed how the participants interacted with the website to identify any usability or functionality issues the participants encountered.

Figure 1 shows the length of each test rounded to the nearest minute. The average length of the testing was 15 minutes. The testing ranged from 12 to 19 minutes.

Figure 1. Length of Test (in minutes)

Participant	Length (minutes)
P1	18
P2	19
P3	12
P4	18
P5	12
P6	12
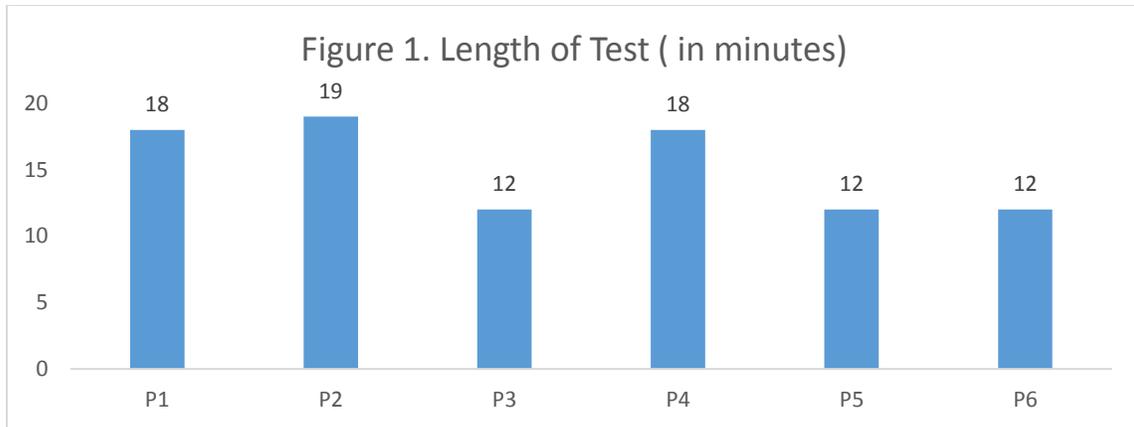
Participants

Six participants completed the UX testing. The participants were all members of the DataONE users group. They volunteered by either signing up for a time on a Google Doc or by talking to the researcher at the DataONE Users Group Meeting. Table 1 shows the demographics of the participants. Only one participant was a member of a current Member Node.

Table 1. Demographics of Participants

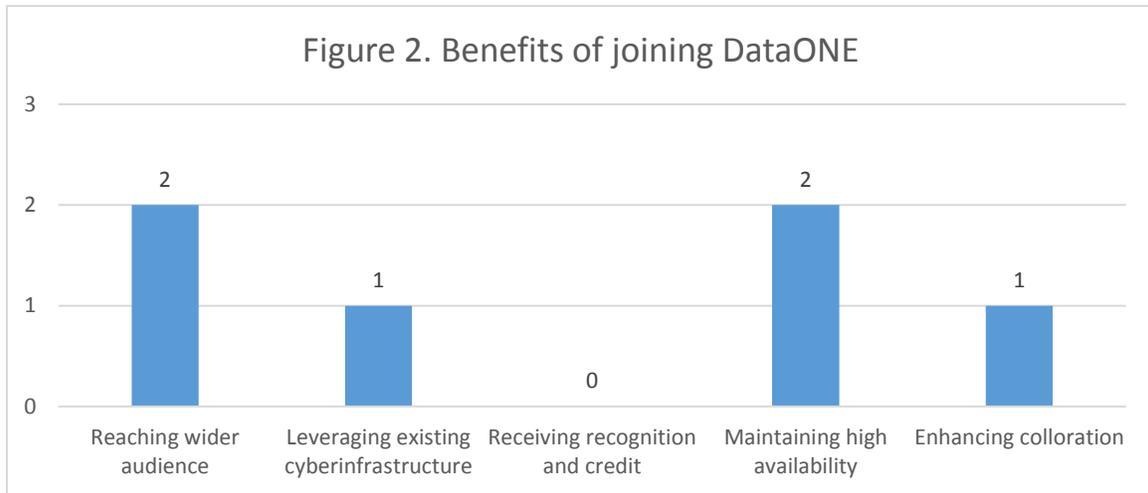|	Involvement with DataONE	Place of Work	Role at Institution
P1	Upcoming Member Node	Data repository	Associate director for technology and architecture
P2	Interested in joining	Research and development center	Curation and stewardship
P3	Current Member Node	Government agency	Coordinator for community for data integration & physical scientist
P4	Interested in joining	Research university	Assistant professor in IS
P5	Interested in joining	Government agency	Software project manager
P6	Representative from ICPSR	Research university	Data curator and applications developer

TASKS AND USABILITY ISSUES

The first task asked participants, "You run a data center and you want to connect your data center to DataONE. Where would you go to get started?" Four participants used the top menu to go to Participate→Member Nodes. Two participants used the home page to look under Participate.

One of those participants first searched for "member nodes". His search did not return any relevant information, and the participant ended up using the top menu to navigate to the Member Nodes page.

After the first task, participants were asked if there is a way we could improve the process of joining or connecting with DataONE. Three participants would like the Member Node information to be separated from the "Participate" tab, and two participants suggested having a more visible way to contact DataONE, such as an e-mail address.

The second task asked participants to find the benefits of becoming a member node. All participants found the information. After finding the benefits, we asked the participants which benefit appeals to you the most. Out of the five benefits listed on the page, participants had a range of preferred benefits (See Figure 2).

Figure 2. Benefits of joining DataONE

Benefit	Count
Reaching wider audience	2
Leveraging existing cyberinfrastructure	1
Receiving recognition and credit	0
Maintaining high availability	2
Enhancing colloration	1

The third task asked participants to find the requirements to becoming a member node. All participants were able to complete the task. One participant did not think all users would be familiar with the term, resource maps, and he thought providing a definition on the requirements page would be helpful.

The fourth task asked them to find the four phases associated with becoming a member node.

The fifth task asked participants, "Find information on deploying as a Generic Member Node. While all participants completed the task, they had a hard time locating the information on the Deployment Routes page because the term is primarily referred to as an abbreviation (see image below).

Integrate a repository with GMN

GMN, one the existing Member Node products, can also be configured to interoperate with an existing repository, providing most functionality except data object storage. This route may be appropriate for organizations with a third-party repository that cannot be extended.

Generic Member Node overview

Most users will not be familiar with the term, Generic Member Node, and therefore, the term should be written out. The abbreviation can be used once the term has been introduced.

Additionally there is a typo in the above image. The current text reads, "GMN, one the existing Member node products" when it should read, "GMN, one of the existing Member Node products."

The sixth task asked participants to find the detailed deployment process. Participants had a harder time with this task than with the previous tasks. The only link to the detailed deployment process is in

the text of the "How to Become a Member Node" webpage. Participants had a hard time seeing the link (see image below).

A user should be able to quickly scan a page to find relevant information, but the detailed deployment process is buried in a lot of text. The detailed deployment process should be available through menu navigation.

Additionally, there is other information involved in the deployment process that is located in other locations (e.g., information on the APIs, Metacat, etc.). For example, one of the participants is an associate director for an upcoming member node, and as he read information about deploying as a GMN (http://dataone-python.readthedocs.io/en/latest/gmn/index.html), he was surprised to see that he needed an SLL certificate. He said he "hadn't even thought about it."   There were other elements on the page that also seemed to surprise him. This demonstrates disconnect between what is listed as requirements for becoming a member node and the detailed process. Providing a more comprehensive and cohesive section of the member node pages that relates to the technical aspects of the deployment process could help make sure member nodes have all the relevant information without having to rely on direct contact with a member of the DataONE team.

The final task asked participants to find the date of the next Member Node Forum. Most participants were not familiar with the forum, and needed clarification as to what the event is. Providing context or definition around how the Member Node Forum is displayed in the website and on the menu may help direct users to it.

 Participants also said they would like another way to get in contact with DataONE besides the forum, which currently seems to be the only option listed on the website. Additionally, the contact information for the Forum needs to be updated (see image below).

OVERALL IMPRESSIONS

Participants were pleased with the website. Upon completion of the tasks, we asked three rating questions and two open-ended questions. They were asked to rate how easy it was to get to the right information on the site, their confidence in the quality of the information received, and their overall experience. Participants were also asked if there was any terminology or jargon they did not understand, and if they could change one thing about the website what would they change?

Overall, participants said their experience with DataONE was satisfactory. All participants said they were satisfied or very satisfied with their ability to get to the right information on the site, had confidence in the quality of information received, and with their overall experience.

Participants did not have too much trouble with the terminology on the website because most had prior knowledge of the site. They thought GMN (generic member node) needed to be written out, and they thought Member Node might be a hard term for new users. Participants had a variety of suggestions for how to improve the website, including improving the search results to decreasing the amount of text. Their full responses can be found in Appendix 2. Five of the participants also expressed interest in following up with DataONE about additional usability surveys and studies.

If continuing to grow the member node community and plan on making the onboarding process more intuitive and able to do by yourself, may want to pull out member node information from general information in the website. Deployment information and technical information that's only applicable to upcoming and current MNs should be in a separate menu.

This UX study examined member node information for a general audience. Additional UX studies with a targeted audience (e.g., those involved in the implementation of member nodes) where we can target more specialized member node documentation may help further improve the DataONE website's member node information.

Member Node Documentation

Demographics:

1.   What is your involvement with DataONE?
1.   Current Member Node
2.   Upcoming Member Node
3.   Interested in joining DataONE
4.   Other (Please Specify): _____

2.   What type of institution do you work for?
a.   University/College Research Institution
b.   University/College Institution
c.   Government Agency
d.   Corporate Entity
e.   Non-Profit Agency
f.   Data Repository
g.   Academic Society
h.   Independent
i.   Other_____

3.   What is your role with your data repository or institution? _____

4.   How familiar are you with DataONE's Member Node documentation/implementation? 1 (not familiar at all) to 5 (very familiar)

Tasks:

1.   You run a data center and you want to connect your data center to DataONE. Where would you go to get started?
a.   Is there a way we could improve this process? _____
2.   Find the benefits of becoming a Member Node.
.   Which benefit appeals to you the most? Why? _____
3.   Find the requirements to becoming a member node.
.   Would your institution/repository qualify to become a member node? Please explain.
4.   Find the four phases associated with becoming a Member Node.
5.   Find information on deploying as a Generic Member Node.
6.   Find the detailed deployment process.
7.   When is the next Member Node Forum?

Follow-up Questions:

Scale questions: rank these statements from 1 (very unsatisfied) to 5 (very satisfied)

1.   I was able to easily get to the right information on the site.

2.   I have confidence in the quality of information received.

3.   Your overall experience was …

1.   If you could change one thing about how information about Member Nodes is displayed on the website, what would you change? _____

2.   Was there any terminology or jargon you did not understand? If so, what terminology did you find challenging? _____

4.   Are you willing to be contacted for a follow-up interview? Name: _____ E-mail: _____

APPENDIX 2

Post-Task Survey

I was able to easily get to the right information on the site.							
Recording	very unsatisfied	1	2	3	4	5	very satisfied
User_1					X		
user_2					X		
User_3						X	
User_4					X		
user_5					X		
user_6						X	
I have confidence in the quality of the information received.							
Recording	very unsatisfied	1	2	3	4	5	very satisfied
User_1						X	
user_2					X		
User_3						X	
User_4						X	
user_5						X	
user_6						X	
Your overall experience was...							
Recording	very unsatisfied	1	2	3	4	5	very satisfied
User_1					X		
user_2					X		
User_3						X	
User_4					X		
user_5					X		
user_6						X	

If you could change one thing about how information about Member nodes is displayed on the website, what would you change?

- Drawing a blank on this one-- I think it's pretty well laid out with clear links.
- Ensure the 'Member Node' side menu is also advertised or can be accessed via the top menu bar.
- It's all pretty organized.
- Maybe you could include an events calendar so that it's easier to identify when upcoming events are going to occur.
- search results aren't in the ideal order
- There is a lot of text, which is good in the sense of lots of detailed observation, but for a person doing a causal skim of the website, it would be too dense to capture their attention.

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Was there any terminology or jargon you did not understand? If so, what terminology did you find challenging?

- GMN might not immediately be recognized as 'generic member node'-- spell it out more often. Also 'Resource map' in the requirement page could use a pop up definition or link for explanation.
- I am familiar with Dataone, so I know that MN means member node, but this acronym might need to be explained more clearly.
- As a new comer, I would have to read about 'Generic Member Notes' GMN. Sometimes the abbreviations for member nodes, I need to think a minute about.
- No
- no (I am somewhat familiar with DataOne terminology)
- No, unfamiliar jargon seems to be well explained by the context.