

**Council of Nova Scotia Archives
MemoryNS User Experience Testing Report**

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This report details the MemoryNS user experience (UX) testing that took place during July and August 2021. Included are the results and subsequent analysis of the testing data, as well as recommendations for improvements to the MemoryNS interface.

What is User Experience Testing?

At its simplest, user experience testing is "all about how users feel when interacting with a website or interface" (Schmidt, A. and Etches, A., 2012, p.1). The goal in performing UX testing is to gain an understanding of how users interact with and experience a system; is it easy to navigate? Do links and buttons perform the way the user thinks they should? Can the user complete whatever tasks they need to? Ultimately, UX testing allows for a study of a system via the impressions of users interacting with that system in order to improve its functionality and ease of use.

The MemoryNS UX Testing Process

The user experience documents were developed by Lindsey MacCallum, with input and advice from Lisa Snider and Lydia Hunsberger, between August 2020 – June 2021. This documentation includes the following, which are available in full in the appendices:

- A. Facilitator Instructions & Script
- B. MemoryNS Member (back-end) User Questionnaire (pre-task questions, task questions, and post-task questions)
- C. MemoryNS Research (front-end) User Questionnaire (pre-task questions, task questions, and post-task questions)
- D. Member Scoring Sheet
- E. Researcher Scoring Sheet

User experience testing on the MemoryNS platform was conducted during Summer 2021 by Lisa Snider. Due to COVID-19, this testing took place virtually online via Zoom. Advertising for volunteers to participate in UX testing was sent via the Council of Nova Scotia Archives email listserv, and ultimately a total of six participants were selected to undergo UX testing on both the “back-end” of MemoryNS (i.e., logging in to MemoryNS and adding descriptions, authority records, etc.) as well as on the “front-end” of MemoryNS (i.e., the user interface the general public interact with).

Some participants were tested on both the back-end and front-end of MemoryNS, while others only participated in one test, either of the back-end or of the front-end. In the end, five participants underwent UX testing on the back-end of MemoryNS and five participants

underwent UX testing on the front-end of MemoryNS. Lindsey MacCallum analyzed the data from the UX testing and wrote this final report.

UX Survey Design

The MemoryNS UX survey design was based on three principles:

1. Ensuring that each tested task was discrete and required users to test one function at a time, rather than multiple functions or tasks;
2. Ensuring the tasks were testing the system itself, not users pre-existing knowledge or experience;
3. Ensuring all task questions used the same scale to facilitate comparative analysis.

To ensure the last principle, the testing documentation incorporated the System Usability Scale (SUS) into the UX test questions. More details about SUS can be found below. The UX test began with a pre-test, which asked users to provide basic demographic information about themselves, e.g., if they had used MemoryNS before, if they had ever received prior instruction on how to use MemoryNS, etc.

The test itself was comprised of ten tasks that were designed to help us learn if users would be able to find specific information; interpret results and records; use search limits/facets; and find and use various functions. More specifically, survey participants for the back-end of MemoryNS were asked to:

1. Login to a user's MemoryNS account
2. Add a new archival description.
3. Add a new authority record.
4. Attach an authority record to an archival description.
5. Edit information in the date field of an existing archival description.
6. Add a digital object to an archival description.
7. Delete a digital object to an archival description.
8. Publish an archival description.
9. Edit an archival institution's profile.
10. Search for a known archival fonds.

Survey participants who undertook the front-end testing of MemoryNS attempted to complete the following tasks:

1. Find a specific archival institution's profile page.
2. Search via subject access point.
3. Search for records with digital objects.
4. Search for records at a file level.
5. Narrow search results to records from a specific archival institution.
6. Identify to which archival institution an archival description belongs to.
7. Search for a specific type of object.
8. Use the clipboard functionality to generate a CSV report.
9. Do an advanced search using the date limiter.
10. Identify where to find help tutorials for MemoryNS.

In conjunction with those tasks, the System Usability Scale was included in the post-task questionnaire, in which participants were asked about their experiences performing the tasks; once compiled, these responses enabled a score rating the overall usability of the interface.

The System Usability Scale

The purpose of the System Usability Scale is to provide a singular score that rates the overall usability of a product. According to Bangor et al. (2008), the test itself is "technology agnostic", which means that it can be used on a variety of different types of interface technologies (p. 574).

The score is easily interpreted because it calculates to a whole number and translates well to a standard letter grade scale (Bangor et al., 2009). Scores above 90 indicate an exceptional product, scores above 80 are good, scores above 70 are passable, and anything below 70 needs work (Bangor et al., 2009). Based on research by Tullis and Stetson (2004), the SUS is highly reliable even with small sample sizes. According to their study, the SUS performed better than other similar usability instruments, with 100% accuracy when the sample size was 12 or higher (Tullis and Stetson, 2004).

The SUS is comprised of 10 statements which are accompanied by a 5-point Likert scale that ranges from Strongly Disagree to Strongly Agree (Brooke, 1996). The statements on the SUS alternate between positive and negative, and can be slightly modified to suit the specific needs of the study (Lewis, 2014). Brooke (2013), who created the SUS in 1985, explains that the alternating statements may help to reduce response biases. This project used the following statements for both groups of users being tested:

1. I will use MemoryNS frequently in the future.
2. I found MemoryNS complicated to use.
3. I thought MemoryNS was easy to use.
4. I think that I would need help to be able to use MemoryNS.
5. I think MemoryNS works well.
6. I found MemoryNS to be ineffective.
7. I would imagine that most people would learn to use MemoryNS very quickly.
8. I found MemoryNS hard to use.
9. I felt confident using MemoryNS.
10. I would prefer to not use MemoryNS in the future.

As recommended by Bangor et al. (2009), an extra question was added that included a 7-point adjective rating scale. The purpose of this rating scale is twofold. First, it helps to validate the SUS score; and second, it provides an additional and easy-to-understand way of describing the results of the score.

Post-test Question 16: Overall, I would rate the user-friendliness of MemoryNS as:

Worst imaginable | Awful | Poor | Just OK | Good | Excellent | Best imaginable

In addition to the SUS, the post-task questions also included two questions about the labels and symbols used in MemoryNS and four open questions asking about the users' impressions of the interface and offering room for suggestions for improvement:

- What I liked best about MemoryNS was:
- What I liked least about MemoryNS was:
- If I could change anything about MemoryNS, it would be:
- Final comments or questions:

Results

Front-end users

The MemoryNS front-end testing had a total of five participants (n=5). These participants use MemoryNS most commonly for scholarly research and for general interest. Four of the five participants had received training on how to use MemoryNS in the past, while only one participant had not received training. This lack of training did have an impact on how well users were able to navigate MemoryNS: the four users who had received prior MemoryNS instruction had high SUS scores, whereas the one user who did not receive prior MemoryNS instruction had a much lower SUS score (see Figure 3 for more details). These results indicate that training is an important component to front-end users having a positive user experience with MemoryNS.

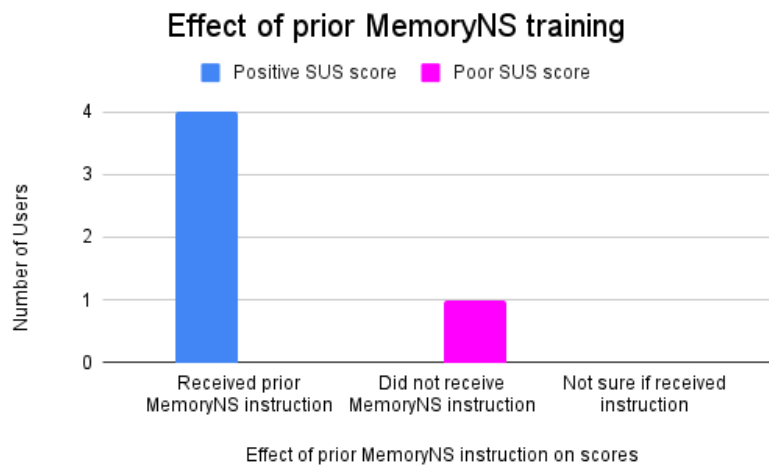
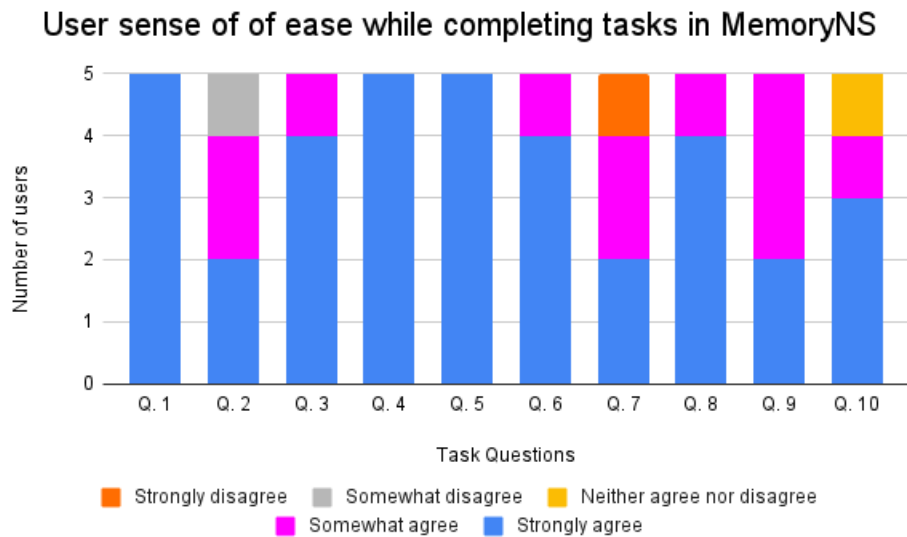


Figure 1: Users who had received training on how to use MemoryNS as a search tool produced positive SUS scores (above 70 percent) while the user who did not receive training produced a negative SUS score (below 60). Of note, front-end users were not asked who had provided training to them. Bar chart results: four users had received prior MemoryNS instruction and had positive SUS scores; one user did not receive prior MemoryNS instruction and had a negative SUS score.

As detailed on page 3, front-end participants were asked to complete ten tasks. Of those ten tasks, there were three that proved most troublesome for users:



- 1: Find a specific archival institution's profile page.
- 2: Search via subject access point.**
- 3: Search for records with digital objects.
- 4: Search for records at file level.
- 5: Search records from specific archival institution.
- 6: Identify to which archival institution an archival description belongs to.
- 7: Search for specific type of object.**
- 8: Use clipboard to generate CSV report.
- 9: Advanced search using date limiter.**
- 10: Identify MemoryNS help tutorials

Figure 2 : Front-end users struggled with completing three tasks: searching using a subject access point, searching for a specific type of object (a painting), and using the date limiter functionality in the Advanced Search. Bar chart results: Q.1: All five users strongly agree. Q.2: Two users strongly agree, two users somewhat agree, one user somewhat agree. Q.3: Four users strongly agree, one user somewhat agrees. Q.4: All five users strongly agree. Q. 5: All five users strongly agree. Q.6: Four users strongly agree, one user somewhat agrees. Q.7: Two users strongly agree, two users somewhat agree, one user strongly disagrees. Q.8: Four users strongly agree, one user somewhat agrees. Q.9: Two users strongly agree, three users somewhat agree. Q.10: Three users strongly agree, one user somewhat agrees, one user neither agrees nor disagrees.

Task: Search via subject access point.

Participants felt uncertain about this task due to the variety of options for conducting a search; some expressed uncertainty or confusion, and wondered if they were “doing it right.” Most of the users were unclear about the distinction between using the Subject access point to search versus searching archival descriptions, the latter of which they were more familiar with.

Task: Search for specific type of object.

For this task users were asked to do a search in MemoryNS for paintings held by member institutions. While a couple used the Extent and medium search option from the Advanced Search, others attempted several different unsuccessful searches, including using Subject access points and attempting to use the Genre access point; though the latter in particular seemed to be in a relevant vein of identifying types of objects, there was no corresponding genre term for painting.

Task: Advanced search using date limiter

Users reported several issues when using the advanced search to search for records from the 18th century: they found the calendar pop-up annoying and were confused by the drop-down menu only went as far back as 1921, and multiple users reported during the testing process previous experiences of attempting to search by date for known items and receiving null results.

User satisfaction with MemoryNS researcher user interface (front-end)

In order to determine users' overall satisfaction with the MemoryNS interface, we analyzed the SUS scores derived from the post-task questions. Based on the responses from our five participants, our overall average SUS score came to 87.5, which translates to a B in the standard letter grade scale, or a 'good' rate of acceptability (Bangor et al., 2009). The responses to Q16, the adjective rating question, had a mean total of 5, which also translates to a 'good' rating, indicating that our findings are valid. This rating is in line with our SUS score, which falls on the higher end of the 'good' range when compared to the scale developed by Bangor et al. (2009), which places a 'good' result at scores higher than 72.75 (p. 587-8).

Of note is the difference in scores between users who had received prior training on how to use MemoryNS, and those users who had not received prior training. The user who had not received training had a SUS score of 67.5, which was much lower than the 92.5 average SUS score of users who had received training. As noted on page 4, SUS scores below 70 indicate the software (MemoryNS uses Access to Memory (AtoM)) requires work to make it more functional for users.

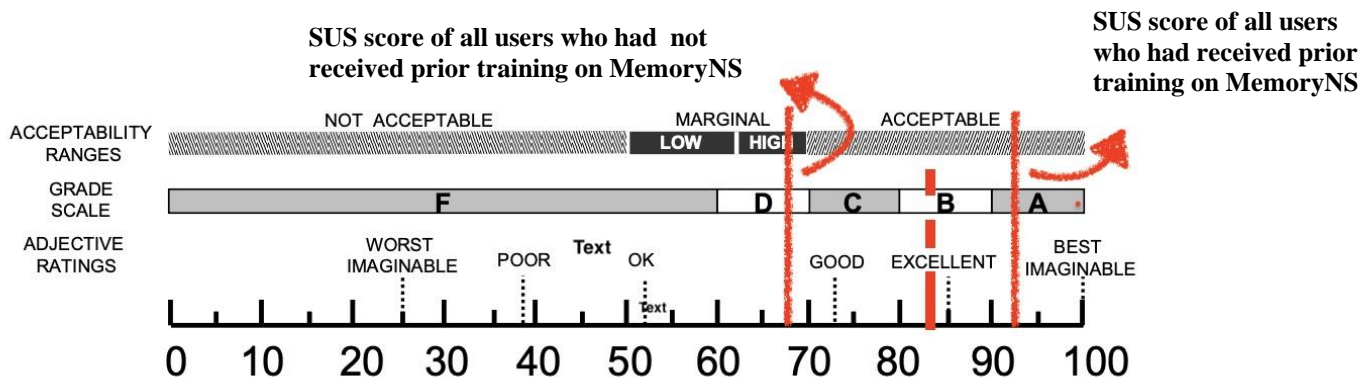


Figure 3: MemoryNS UX SUS Score is 87.5 for researcher user 'front-end' interface (adapted from Bangor et al., 2009, p. 121). For users who had not received prior training on MemoryNS, the SUS score is 67.5, and for the users who had received prior training on MemoryNS, the SUS score is 92.5.

The addition of the adjective rating scale has helped to validate our results, both with the comparison within our survey, and compared to a large-scale analysis conducted by Bangor et al. (2009). They compiled the results from 212 studies and found a mean overall SUS score 72.75, with a corresponding adjective rating of 'good'. The MemoryNS front-end score of 87.5 is very high in comparison, which we attribute to the particular group of participants in this testing process, who overall demonstrated high levels of knowledge of, and experience with, MemoryNS. While there are alternatives, the SUS is a good tool for general usability testing. It is technology agnostic, quick to administer, results in a single score that is easily understood, and is non-proprietary (Bangor et al., 2009). Our results indicate that while the MemoryNS interface is a good user interface for 'front-end' researchers, there are aspects of its design that could be improved.

User perspectives

As described on page 3, the post-task questions also included open-ended questions in which users could provide us, in their own words, their perception of the interface. Participants appreciated the multi-repository functionality of MemoryNS, which allows them to search the holdings of institutions across the province. They also liked the clipboard functionality, which allowed them to compile lists of relevant records. Users also liked the many search filters available to them on the search results page, as well as in the Advanced Search.

All of the users offered ideas to improve the front-end of MemoryNS. Some of the ideas presented by participants include:

- Enabling a more visual search of MemoryNS, such as via timelines or decade bubbles
- Allow users to more easily search phrases
- A permanent list of participating institutions in MemoryNS in alphabetical order on the homepage to allow users to more easily select the a specific institution.
- Revising the clipboard CSV export to automatically download a report instead of needing to refresh the page
- Less reliance on archival terminology in the basic search so lower the use barrier for people who aren't familiar with archival records and archival hierarchies.

Back-end users

The back-end participants (n=5) use MemoryNS in their professional lives while working at a variety of heritage institutions: historical societies, university archives, provincial archives, and genealogical archives. All of the participants had used MemoryNS before, and four of the five participants had received training on how to use MemoryNS in the past from CNSA, while only one participant had not received training. This lack of training did have an impact on how well the user was able to navigate MemoryNS as evidenced by their negative SUS score (see Figure 6 for more details). Again, as with front-end users, back-end users demonstrated how essential it is to have training on how to use MemoryNS:

Effect of prior MemoryNS instruction on SUS scores

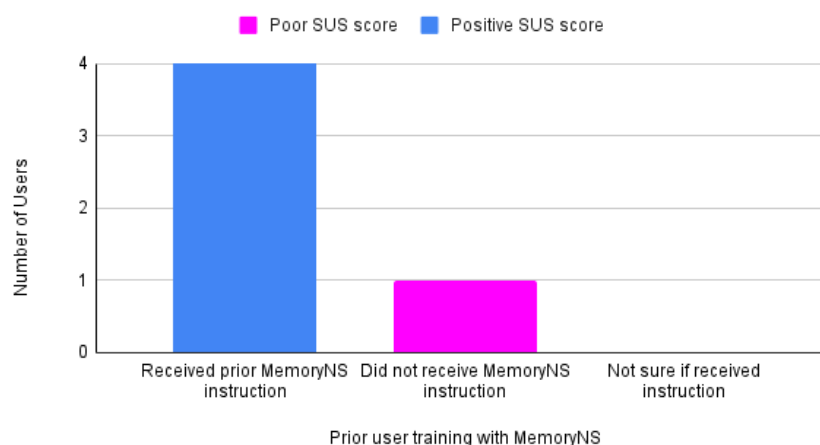


Figure 4: Participants who had received training from the CNSA prior to the testing all produced positive System Usability Scale scores (above 70), while the one participant who had not received training had a negative SUS score (under 60). Of note, back-end users were explicitly asked if they had received training from CNSA. Bar chart results: four users had received prior MemoryNS instruction and had positive SUS scores; one user did not receive prior MemoryNS instruction and had a negative SUS score. These results indicate that training is an important component to back-end users having a positive user experience with MemoryNS.

As detailed on page 3, back-end participants were asked to complete ten tasks. Of those ten tasks, there were three that proved most troublesome for users:

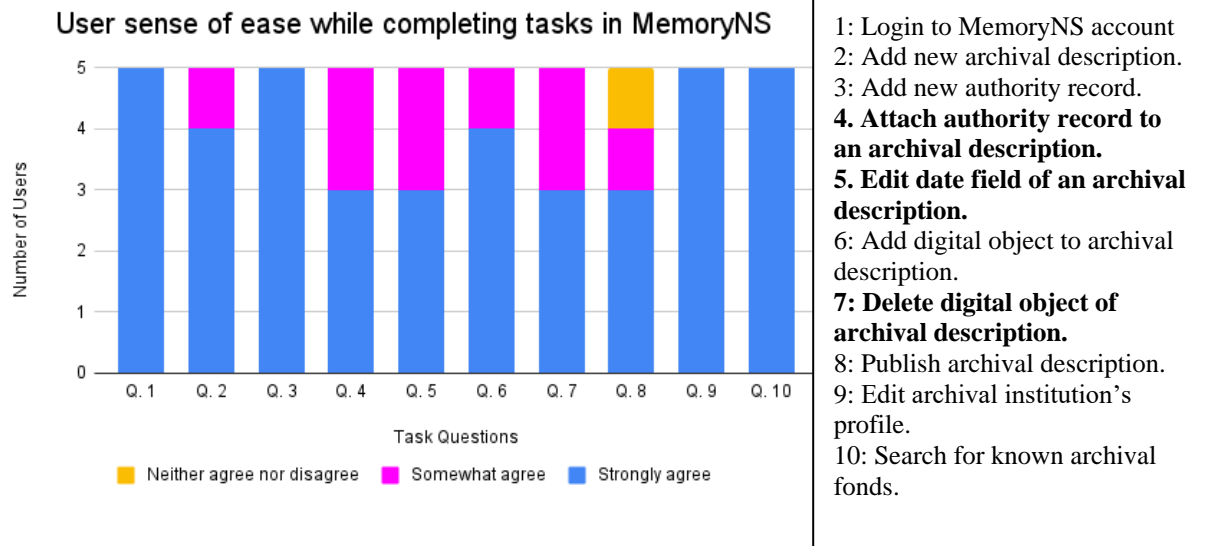


Figure 5: Back-end users struggled with completing three tasks: attaching an authority record to an archival description, editing the date field of an archival description, and deleting a digital object from an archival description. Bar chart results: Q.1: All five users strongly agree. Q.2: Four users strongly agree, one user somewhat agrees. Q.3: All five users strongly agree. Q.4: Three users strongly agree, two users somewhat agrees. Q. 5: Three users strongly agree, two users somewhat agrees. Q.6: Four users strongly agree, one user somewhat agrees. Q.7: Three users strongly agree, two users somewhat agrees. Q.8: Three users strongly agree, one user somewhat agrees, one user neither agrees nor disagrees. Q.9: All five users strongly agree. Q.10: All five users strongly agree.

Task: Attach an authority record to an archival description.

Users struggled with attaching an authority record to an archival description; even those that were successful encountered challenges in finding again the archival description draft they had created after having left it to create a new authority record. In addition, the term “authority record” isn’t used in the archival description fields, which made some users doubt themselves as they attempted to use the Date Creation field to attach the authority record. One user confused the Name Access Point field for the authority record field.

Task: Edit information in the date field of an existing archival description.

User struggles with editing the date fields in an archival description stems from the uncertainty described above with authority records; even some participants who completed the task and strongly agreed that the task was easy hesitated over which section of the description they should or could edit, fearing interference with the authority record in some way.

Task: Delete a digital object to an archival description.

Most participants had never performed this task, and were thus uncertain about where to look for a delete functionality. Some suggested the delete function for the entire archival description, while others selected the 'More' button but didn't connect the 'Edit digital object' option with the delete functionality.

User satisfaction with MemoryNS member user interface (back-end)

In order to determine users' overall satisfaction with the MemoryNS interface, we analyzed the SUS scores derived from the post-task questions. Based on the responses from our five participants, our SUS score came to 85.5, which translates to a B in the standard letter grade scale, or a 'good' rate of acceptability (Bangor et al., 2009). The responses to Q16, the adjective rating question, had a mean total of 5.6, which also translates to a 'good' rating. This rating is in line with our SUS score, which falls on the high end of the 'good' range when compared to the scale developed by Bangor et al. (2009).

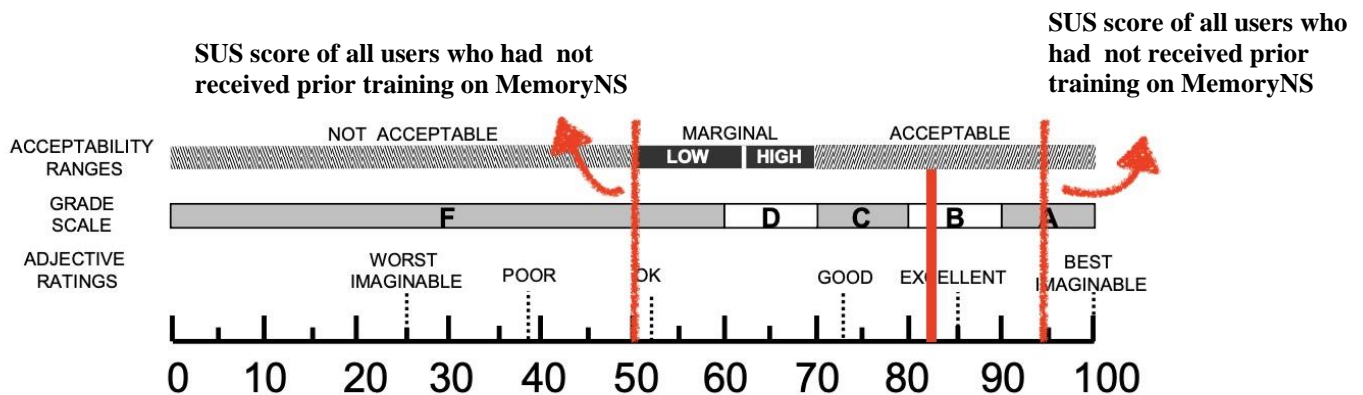


Figure 6: MemoryNS UX SUS score of 85.5 for back-end user interface (adapted from Bangor et al., 2009, p. 121). For users who had not received prior training on MemoryNS, the SUS score is 50, and for the users who had received prior training on MemoryNS, the SUS score is 94.4.

Just like with the front-end user testing, the MemoryNS average score of 85.5 for the back-end is very high in comparison, but also in line with the 87.5 SUS score for the front-end, demonstrating the reliability of our results. Again we found a substantial difference in scores between users who had received prior training on how to use MemoryNS, and those users who had not received prior training. The user who had not received training had a SUS score of 50, which was much lower than the 94.5 average SUS score of users who had received training. This is notable because a score of 50 indicates significant work is required on the software to make it more user friendly.

User perspectives

As described on page 4, the post-task questions also included open-ended questions in which users could provide us, in their own words, their perception of the interface. We then analyzed those responses for common themes.

Participants appreciated the multi-repository functionality of MemoryNS, which allows them to search the holdings of institutions across the province. Likewise, participants appreciated the

opportunity MemoryNS offers to make their own archival holdings more accessible to general public online, which has particularly expanded rural or small institution's capacity for outreach.

All of the users offered ideas for improvement to the back-end of MemoryNS, a selection of which include:

- Restrict opportunities for duplicate creation of access points (subject, name, etc).
- Lengthen the amount of time available to CNSA members to enter data in order to prevent timing out of a login and potentially losing data.

Recommendations

Based upon a review of the UX testing data, recommendations for improving the MemoryNS 'front-end' user interface are as follows:

- Revise the search functionality for dates, including removing the pop-up calendar
- Better integrate all access points (Name, Subject, Genre) into searching, and allow for a controlled vocabulary within MemoryNS to avoid duplication and errors.
- Streamline the search process, including renaming "Global search" and making more clear the hierarchical nature of archival records.

Based upon a review of the UX testing data, recommendations for improving the MemoryNS 'back-end' user interface are as follows:

- Use clearer, more intuitive language for the function of attaching an authority record to an archival description
- Make clearer the distinction between authority record dates and the dates of the archival record.
- Pull out all digital object functionality from the 'More' button on an archival description and create a specific button for uploading, editing, and deleting digital object.

Conclusion

The MemoryNS user experience testing process was challenged by operating within COVID-19 constraints, but ultimately successful in providing valid data for analysis. The quantitative and qualitative data and resulting analysis indicates that while MemoryNS is a good, usable platform, there are improvements to be made in order to make it a more intuitive system for front-end researchers and a more efficient system for archival staff working in the back-end of the system. Undertaking the above recommendations will improve the overall usability of MemoryNS and create a more user-friendly interface for all MemoryNS users.

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Appendix A: Facilitator Instructions & Script

Requirements for study

- Private room where participant will not be disturbed during the study. Participants must be comfortable with sharing their screen with the facilitator.
 - Screen sharing done via Zoom.
- A computer with reliable internet access.

Recruiting participants

- Back-end users: Lisa to reach out to CNSA listserv
- An ideal participant to evaluate front-end users:
 - Is not an employee at an archive or museum that uses Memory NS. Employees are more likely to have an advantage when it comes to being familiar with the MemoryNS interface and are not representative of the research base.
 - Has experience or interest in conducting research using primary resources.
- Suggestions to find researcher participants:
 - SIMSA can email current SIM students via the LIST-SERV.
 - DAGS may be able to help with recruitment.
 - Historical Society
 - Promote study on social media? (Twitter, Facebook, etc.)

Facilitator's Checklist

Before participant enters meeting:

- Make sure your computer is working, connected to the internet, and has a working microphone.
- Instruct the participant to clear their cache. ([Instructions here](#))
- Have a copy of the task scoring sheet open on facilitator's computer ready to be filled out
- Make sure to provide an electronic copy of the survey for the user to read and fill out and also have a copy open on the facilitator's screen to read from/refer to.
- Enter a unique identifier in the User # section at the top of the survey and scoring sheet for each new user

Welcome

- Introduce yourself, and thank participant for having an interest in participating in the study.
- Explain the purpose of the usability test.
- Ask for questions, concerns.
- Send the participant the link to the MemoryNS basic search page
- Ensure participant enables screen sharing.
- Facilitator hit record

Pre-task questionnaire

- Have participant complete pre-task questionnaire section of the UX Survey.

Instructions for task

- Explain to the participant that they will be completing specific tasks that will involve using MemoryNS.
- Explain that an integral part of the study involves having the participants ‘think-aloud’, and describe how the think-out-loud process works, with examples (see Script).
- Explain that the facilitator will be taking notes about the participant’s experience.
- Explain that after each task there will be a brief evaluation of the task to complete before moving on to the next task.

Read each question aloud, allowing the participant to complete a task before moving on to the next. Please note the following:

- Task 1 asks the participant to login to MemoryNS; ensure they remain logged in throughout the testing process
- If a participant fails to complete a task, guide them to reset the user interface to a place where the participant can attempt to complete the next task.
 - Example: a participant fails to find the link to complete an action, and the following task asks them to build upon that action; in this scenario, the facilitator should guide the participant to the link and through the action so that they start from that point to locate the item’s subject headings.
- During this process, give feedback on the quality of the think-out-loud procedure; if necessary, encourage more feedback from the participant by reviewing the process again, with examples.
- If you are unsure about anything you’ve observed, ask the participant for clarification. Ask very open-ended questions, such as “Can you explain what you meant by _____?”. Avoid leading the participant with your questions, such as “The search options are really frustrating for you, aren’t they?”
- Facilitator fill out scoring sheet as participant completes each task.

Post-task questionnaire

- After all tasks are completed, have participant complete the post-task questionnaire section of the UX Survey.

After completion of the UX Survey:

- Have participant email completed UX Survey to Facilitator.
- End recording
- Thank participant for their time.
- If the participant had difficulty with a certain task (e.g., didn’t know how to add a digital object), offer to provide a demonstration.

After testing session:

- send both UX Survey and Scoring Sheet to Lindsey.

Testing MemoryNS

Adapted from *Rocket Surgery Made Easy* © 2010 Steve Krug

- **Web browser should be open to the MemoryNS Discovery search interface.**

Hi, my name is _____, and I'm going to be guiding you through the MemoryNS User Experience session today.

You probably already have a good idea of why we asked you here, but let me go over it again briefly. We're asking you to use the MemoryNS search interface so we can see how you interact with it, and also so we can observe and record your experiences and impressions as you use it. The session should take about forty-five minutes.

The first thing I want to make clear right away is that we're testing the *site*, not you. You can't do anything wrong here. User experience testing is an important component in the study of human-computer interaction. We are conducting this investigation so that we can help make your experience with primary research, and the experience of all researchers using MemoryNS at archives and museums across Nova Scotia, as useful and fulfilling as possible. What you are doing today is important.

As you use the site, I'm going to ask you to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking AND feeling. This will be a big help to us. We're doing this to improve the site, so we need to hear your honest reactions. If you love something, let me know; if you don't understand something, let me know; if you can't stand something, let me know! It may feel uncomfortable at first to say out-loud what you are doing as you do it, so let me demonstrate for you right now so you understand what we need.

- **Open a new tab and go to [Google](#).**
- **Talk through a simple search for the weather in your city today that expresses the kind of think-aloud responses we are looking for. For example "I have an outside event to attend tonight and I'm worried about the weather" or "I wonder if it's going to snow tonight and if I'll have to shovel tomorrow morning". A good practice here is to make a mistake on purpose and then talk through it. Maybe you click on the wrong city, or look at the extended forecast instead of the short-term forecast.**

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since we're interested in how people do when they don't have someone sitting next to them to help. But if you still have any questions when we're done I'll try to answer them then. And if you need to take a break at any point, just let me know. Also, if at any time you decide you don't want to keep participating in the study, you are free to leave, though we will save any data we collected up until that point.

You will not be individually identified in any reporting of the results of this study. If you have any questions about how the data will be used, stored, or communicated, just ask.

As part of your verbal consent to participate in this study, I'm going to ask you to agree or disagree with the following statements:

1. I understand what the risks and benefits are to participating in this study.

2. I understand that my participation is voluntary and that I can end my participation at any time without penalty.
3. I have had adequate time to think about the study and have had the opportunity to ask questions.

- **If they don't want to participate, thank them and end the Zoom session.**

OK. Before we look at the site, I'd like you to fill out this pre-task questionnaire.

- **Have the participant complete the pre-task questions.**

OK, great. We can start looking at things now.

- **Have the participant start sharing their screen.**
- **Send the participant the link to the MemoryNS basic search page.**

Now I'm going to ask you to try doing some specific tasks. I'm going to read each one out loud and give you a printed copy of the tasks. After you complete the task, you will be asked to fill out a quick evaluation.

As much as possible, it will help us if you can try to think out loud as you go along.

- **Turn to page 3 for Task Questions.**
- **Read Task One out loud.**
- **Allow the user to proceed until they complete the task(s), or until you don't feel like it's producing any value or the user becomes very frustrated.**
- **Ask the participant to fill out the post-task evaluation.**
- **Repeat for each question or until the time runs out.**

Now, I would like you to fill out the post-task questionnaire.

- **Turn to page 13 for the post-task questionnaire.**

Were there any tasks that you felt were difficult or confusing? Would you like me to show you how to do them now?

- **If there were tasks that a user couldn't complete, show them how to do them (if they want to learn).**

Do you have any questions for me, now that we're done?

- **Give the participant their incentive, if applicable.**
- **Thank the participant and end the session.**

Appendix B: Back-end Pre-Task, Survey, and Post-Task Questions

1. I am currently working at a:

- Museum/Historical Society
- University/College archive
- Municipal/local government archive
- Provincial archive
- Business/Corporate archive
- Church/religious archive
- Genealogical centre
- Thematic archive

3. I know what MemoryNS is.

Yes	No	Not sure
-----	----	----------

4. I have used MemoryNS before.

Yes	No	Not sure
-----	----	----------

5. I use MemoryNS:

Every day	A few times per week	A few times per month	A few times per year	Never
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6. I have received instruction from the CNSA on how to use MemoryNS.

Yes	No	Not sure
-----	----	----------

7. I am confident using MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
-------------------	-------------------	-------------------------------	-------------------	-------------------

Page Break

Task Questions

Task One

Show me how to log in to your account in MemoryNS.

Evaluate

I found it easy to log in to my account.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Two

Add a new description that includes a series-level record.

Evaluate

I found it easy to add a new description.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Three

Add a new authority record to the description.

Evaluate

I found it easy to add a new authority record.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Four

Link an existing authority record to the description.

Evaluate

I found it easy to link an existing authority record.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Five

Select an existing description from your institution and show me how to edit the information in the date section.

Evaluate

I found it easy to edit information to the date section.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Six

Add a digital object to the description created in Task 2 by uploading an object.

Evaluate

I found it easy to upload an object.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Seven

Delete the digital object you just added.

Evaluate

I found it easy to delete a digital object.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Eight

Publish the description you created in Task 2.

Evaluate

I found it easy to publish a description.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Nine

Navigate to your institution's profile and add a phone number.

Evaluate

I found it easy to find my institution's profile.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Ten

Search for and select the Aileen Meagher fonds.

Evaluate

I found it easy to find the Aileen Meagher fonds.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Post-Task Questions

1. I will use MemoryNS frequently in the future.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

2. I found MemoryNS complicated to use.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

3. I thought MemoryNS was easy to use.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

4. I think that I would need help to be able to use MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

5. I think MemoryNS works well.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

6. I found MemoryNS to be ineffective.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

7. I would imagine that most people would learn to use MemoryNS very quickly.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

8. I found MemoryNS hard to use.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

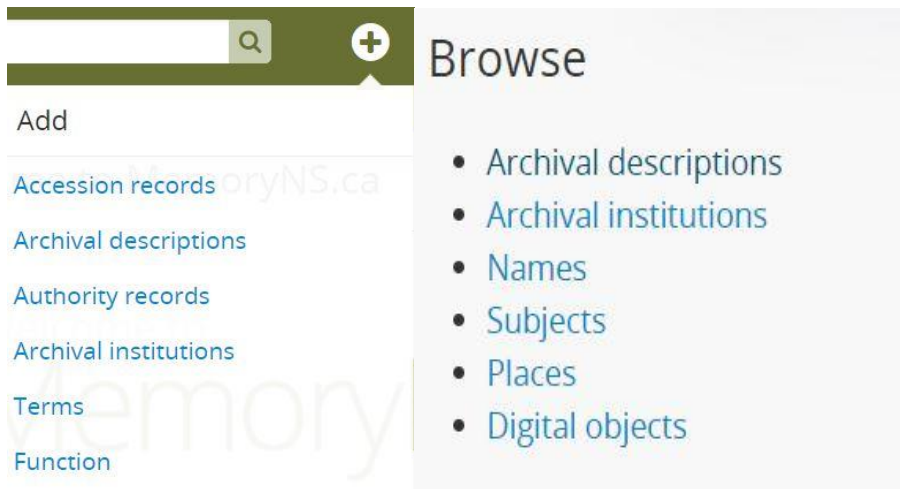
9. I felt confident using MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

10. I would prefer to not use MemoryNS in the future.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

11. I found the terminology used in MemoryNS easy to understand:



Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

12. I found the symbols in MemoryNS easy to understand:



Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

13. What I liked best about MemoryNS was:

14. What I liked least about MemoryNS was:

15. If I could change anything about MemoryNS, it would be:

16. Overall, I would rate the user-friendliness of MemoryNS as:

Worst imaginable	Awful	Poor	Just OK	Good	Excellent	Best imaginable
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17. Final comments or questions:

Appendix C: Front-end Pre-Task, Survey, and Post-Task Questions

1. I currently use MemoryNS mainly for:

- ___ Genealogy
- ___ Scholarly research
- ___ General interest
- ___ Education
- ___ Other: _____

3. I know what MemoryNS is.

Yes	No	Not sure
-----	----	----------

4. I have used MemoryNS before.

Yes	No	Not sure
-----	----	----------

5. I use MemoryNS:

Every day	A few times per week	A few times per month	A few times per year	Never
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6. I have received instruction on how to use MemoryNS.

Yes	No	Not sure
-----	----	----------

7. I am confident using MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
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Page Break

Task Questions

Task One

Show me how to navigate to the Nova Scotia Archives profile page.

Evaluate

I found it easy to find the Nova Scotia Archives profile page.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Two

Go back to the MemoryNS home page. Now search for the subject “fishing”. How many archival descriptions use this subject term?

Evaluate

I found it easy to search MemoryNS by subject.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Three

Go to the Advanced Search. Now search for records with digital objects using the search term “agriculture.” How many results have digital objects?

Evaluate

I found it easy to search for records with digital objects.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
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Task Four

Go to the Advanced Search. Search for Dr. Les Bentley at the file level. How many descriptions at the file level exist for this search?

Evaluate

I found it easy to search by level of description.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
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Task Five

Go back to the MemoryNS home page and search for records about Africville. Narrow your results by selecting records from the Halifax Municipal Archives.

Evaluate

I found it easy to narrow search results by archival institution.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
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Task Six

Go back to the MemoryNS home page and search for the Jane B. Wisdom fonds. Which institution do these fonds belong to?

Evaluate

I found it easy to identify the archival institution which holds these records.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Seven

Go to the Advanced Search. How would you search MemoryNS for paintings?

Evaluate

I found it easy to search for records about paintings in MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Eight

Go back to the MemoryNS home page and search for records about the Cold War. Using the clipboard, add three different records to a list and export it to a .CSV file.

Evaluate

I found it easy to use the clipboard functionality in MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Nine

Go to the Advanced Search. Demonstrate how to find records from the 1700s in MemoryNS.

Evaluate

I found it easy to search by date in MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Task Ten

Show me how to access the MemoryNS help tutorials.

Evaluate

I found it easy to find the MemoryNS help tutorials.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

I felt frustrated trying to complete this task.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

Page Break

Post-Task Questions

1. I will use MemoryNS frequently in the future.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

2. I found MemoryNS complicated to use.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

3. I thought MemoryNS was easy to use.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

4. I think that I would need help to be able to use MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

5. I think MemoryNS works well.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

6. I found MemoryNS to be ineffective.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

7. I would imagine that most people would learn to use MemoryNS very quickly.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

8. I found MemoryNS hard to use.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

9. I felt confident using MemoryNS.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

10. I would prefer to not use MemoryNS in the future.

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

11. I found the terminology used in MemoryNS easy to understand:

Browse

- Archival descriptions
- Archival institutions
- Names
- Subjects
- Places
- Digital objects

Find results with:

Search in

Limit results to:

Repository

Top-level description

Filter results by:

Level of description Digital object available Finding aid

Copyright status General material designation

Top-level descriptions All descriptions

Filter by date range:

Start End Overlapping Exact

Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

12. I found the symbols in MemoryNS easy to understand:



Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
----------------	----------------	----------------------------	-------------------	-------------------

13. What I liked best about MemoryNS was:

14. What I liked least about MemoryNS was:

15. If I could change anything about MemoryNS, it would be:

16. Overall, I would rate the user-friendliness of MemoryNS as:

Worst imaginable	Awful	Poor	Just OK	Good	Excellent	Best imaginable
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17. Final comments or questions:

Appendix D: CNSA Member (back-end) Scoring Sheet

Task	Did they fully complete the task?
1. Show me how to log in to your account in MemoryNS	_____ /1 YES _____ /0 NO
Notes:	
2. Add a new description that includes a series-level record.	_____ /1 YES _____ /0 NO
Notes:	
3. Add a new authority record and link it to the fonds-level description created in Task 2.	_____ /1 YES _____ /0 NO
Notes:	
4. Link an existing authority record to the description you created.	_____ /1 YES _____ /0 NO
Notes:	
5. Select an existing description from your institution and add information in the date section.	_____ /1 YES _____ /0 NO

Notes:	
6. Add a digital object to the description created in Task 2 by uploading an object.	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
7. Delete that digital object you just added.	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
8. Publish the description you created in Task 2.	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
9. Navigate to your institution's profile and add a phone number.	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
10. Search for and select the Aileen Meagher fonds.	<input type="checkbox"/> /1 YES

	____/0 NO
Notes:	
Total:	____ / 10

Appendix E: Researcher (front-end) Scoring Sheet

Task	Did they fully complete the task?
1. Show me how to navigate to the Nova Scotia Archives profile page.	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
2. Go back to the MemoryNS home page. Now search for the subject “fishing”. How many archival descriptions use this subject term?	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
3. Go to the Advanced Search. Now search for records with digital objects using the search term “agriculture.” How many results have digital objects?	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	
4. Go to the Advanced Search. Search for Dr. Les Bentley at the file level. How many descriptions at the file level exist for this search?	<input type="checkbox"/> /1 YES <input type="checkbox"/> /0 NO
Notes:	

<p>5. Go back to the MemoryNS home page and search for records about Africville. Narrow your results by selecting records from the Halifax Municipal Archives.</p>	<p>_____ /1 YES _____ /0 NO</p>
<p>Notes:</p>	
<p>6. Go back to the MemoryNS home page and search for the Jane B. Wisdom fonds. Which institution do these fonds belong to?</p>	<p>_____ /1 YES _____ /0 NO</p>
<p>Notes:</p>	
<p>7. Go to the Advanced Search. How would you search MemoryNS for paintings?</p>	<p>_____ /1 YES _____ /0 NO</p>
<p>Notes:</p>	
<p>8. Go back to the MemoryNS home page and search for records about the Cold War. Using the clipboard, add three different records to a list and export it to a .CSV file.</p>	<p>_____ /1 YES _____ /0 NO</p>
<p>Notes:</p>	
<p>9. Go to the Advanced Search. Demonstrate how to find records from the 1700s in MemoryNS.</p>	<p>_____ /1 YES _____ /0 NO</p>

Notes:	
10. Show me how to access the MemoryNS help tutorials.	_____/1 YES _____/0 NO
Notes:	
Total:	_____/10