

Usability Report

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TCOM 305
Dr. Crane
7 March 2017

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Executive Summary

The purpose of this document is to examine and analyze the results of the usability testing as they pertain to the Sustainability B.S. Capstone Manual. In the following sections we discuss the methods employed in these tests, the results, and our overall recommendations for moving forward with the project to better enhance the user experience.

Our user participants were comprised of two male and three female students between the ages of 20 and 25. Our group decided this would be the most beneficial demographic to reach considering Eastern Washington University students are a main target of the capstone manual.

Before testing began, users were prompted to fill out and sign a consent form (Appendix C). This informed the users on how their information during the test would be used. To employ effective testing, we implemented the think-aloud protocol. Two group members took detailed notes during the entirety of the testing (Appendix A). A timesheet (Appendix B) was also created in order to show the times it took each user to complete the individual tasks. Each user was allotted 30 minutes of time to complete the tasks; although, no user exceeded 15 minutes. Having the raw time data will assist our group in understanding which parts of the manual need to be readdressed due to user confusion. After the conclusion of the testing, each user was given a simple questionnaire (Appendix C) to fill out to express any last moment ideas or comments regarding the usability of the manual.

Our goals and objectives were met during the testing and our group now has very valuable information to consider while making some final changes to the manual. Our main goal was to understand how easy the manual was to navigate, and as a group we have found areas within the document that are successful and some areas that may need to be revisited for redesign. Main problems encountered with users was mistaking information topics for one another or simply having difficulty finding certain topics - especially when not using the table of contents.

To deal with these problems, our group will revisit the Sustainability B.S. Capstone Manual, and make detailed changes throughout the document to provide an overall better user experience. Things to consider would be to bold some heading text (e.g. the three phases of the capstone) and making lists more prevalent to the user. The finished manual should be a document that is easy for users to scan and provide the ability to find the needed information sections by glancing through the table of contents and/or based on the natural hierarchy of the heading information.

With these changes, our group hopes to be able to provide our clients with a polished template that allows for the utmost effective user experience.

Illustrations

The following is a list of informational illustrations and data that can be found within this document.

Figure 1: Task/Scenario (see pg. 6)

A formal list of tasks that were presented during the usability test.

Figure 2: Questionnaire Results (see pg. 7)

This graph shows the results of the questionnaire scale.

Figure 3: Average User Time (see pg. 7)

This graph shows the averages of the times it took each user to complete the five tasks and average total time.

Figure 4: Individual User Times (see pg. 12)

This table shows the raw data of the specific times it took each user to complete each task, questionnaire, and total testing time.

Figure 5: Questionnaire and Consent Forms (see pg. 13)

Uploaded files of the completed consent forms and questionnaires. The following questionnaires corresponds with the user from the consent form above.

Body

Introduction

Our group conducted usability testing for our prototype of the Sustainability B.S. Capstone Manual. This test was intended to inform our team which areas of the manual still need to be readdressed to better the overall user experience.

We implemented our usability test by selecting five user participants and allotting them 30 minutes (or less) to complete a series of five tasks and a post-test questionnaire. These tasks included simple directions, such as finding certain information within the document based on the use of the table of contents and natural hierarchy of the document with headers. During the testing, we timed each task and recorded the data thoroughly throughout the testing. Our users were encouraged to take part of think-aloud protocol, this allowed our data collection to be most effective.

Prior to this study, our group had only conducted individual research with one user each with the original, unchanged manual that was provided by our clients. This initial study allowed us to know which areas of the manual needed to be altered first and enabled us to create our first prototype. With the the most recent usability test, we were able to further our research and have gained knowledge on how to redesign our prototype to enhance user experience.

Methodology

Our test included a formal testing experience and environment. Our test was conducted on Tuesday, March 2nd starting at 3:00 p.m. and ending at 5:30 p.m. Our testing took place on the Eastern Washington

University Campus in Patterson Hall (room 240). This is a computer lab classroom, but the computers were not used during this particular usability test.

We had five selected users. From our previous research and requests from our clients, we decided our target users should be EWU students at senior or junior level, and preferably in the major that is related to the Sustainability program. These students will be needing to complete their own capstone process soon, so their input was very beneficial to our research for the redesign of the manual. Our five users included two female and three male students. All users were between the ages of 20 and 25. This will be the most common age group to use capstone manuals at the university. Our recruiting methods included mainly personal invites from group members.

During the testing, two group members collected detailed data on a paper copy, and then inputted their notes into the electronic data sheet. We made sure to record what the users thought as they used the manual and participated in think-aloud protocol. Our moderator instructed the user on how the test was to be performed, gave each task, and distributed the manual and questionnaire. Meanwhile, another group member recorded the time it took to complete each task. Users were given a total of 30 minutes to complete all tasks, but it never exceeded 15 minutes. We were able to use these recorded times to know which tasks were causing the users to face the most challenge.

Goals and Objectives

Our broad goals for this project was to increase the usability, thereby reducing stress, for the primary users, while fulfilling the design needs of our clients by producing a template that they can easily update themselves. An initial redesign was implemented in order to address these issues, however testing for effectiveness was necessary in order to measure the success of these design choices. To that end the a series of tasks were given to each individual test subject (see Tasks/Scenarios).

The test objectives were designed in order to help us answer the following questions that inform the overall design usability of the product.

1. Is the document easy to navigate?
 - Confusion around a document will only add to the mounting stress felt by a student or community partner. Clarity is essential for a smooth running program.
2. Does it alleviate stress?
 - A document that is difficult to use due to structure will only add to stress. If a specific piece of information is needed in order to proceed, spending a significant amount of time looking for it is unacceptable.
3. Is the hierarchy of information logical?
 - What is important to the student vs the community partner vs the client? A well laid out document in this vein should very specifically lead the user through its process with a clearly defined beginning and end. When finished with a document such as this, the user should not be left wondering if there is anything else to complete or if something was left out.

4. Is this clearly a document associated with EWU?
 - Is this an EWU document, supported by the University and its faculty, or is it something else? A clear logo shows ownership, which in turn can be a comfort to the user. The issue is to provide that clarity and comfort while not overpowering the rest of the document.

Metrics

Time was the main method used to understand overall user experience during the usability testing. Before beginning the testing, our group's expectation for our users would be that they could complete all five tasks within 30 minutes. This projection was proven to be accurate. We timed how long it took each user to complete the individual tasks and post-test questionnaire. Knowing these separate time allowed our group to know which tasks were exceptionally challenging. For example, Task 1 (refer to Tasks/Scenarios) took an average of 0:67 for users to complete. Whereas, Task 2 took an average of 2:39 minutes to complete.

Failure or success on a task only relied on the user's ability to find the correct information within the manual. For the most part, users were ultimately able to accurately complete the tasks, but some incidents showed users were getting confused with some topics.

The last method used was the post-test questionnaire (Appendix C). This questionnaire provided a rating scale of the user experience and two short-response answers that further elaborated on the effectiveness of the usability. The questionnaires allow our group to get concrete answers on how the users felt at the conclusion of the testing.

Participants

In order to complete the usability test we recruited people that met our user profile guidelines. All of our participants met the age of 20-25, and the class standing, which means the participant had to be a junior or senior. The participant had to have a major related to our capstone, but we made exceptions because our group members didn't know many people in a health related major. Only one user was in a similar major, and it showed in our testing because he went through the capstone more efficiently. He was also experienced with a senior capstone because he had recently gone through a similar document for his major. Also, the users that participated in our testing was either transfers or a non-transfers student.

Tasks/Scenarios

Each user was given a scenario as being a student entering the Sustainability Capstone Course. The idea of the scenario was that the student is looking through the Capstone Manual for the first time to find important information regarding the course.

The user tasks included the following:

1. Find the details of the capstone grading system

2. Find a list of documents you as the student would need to submit to your faculty advisor
3. How many total hours and credits of Capstone must the student finish in order to graduate?
4. Without the use of the TOC, find the answer for: “When is a student eligible for the capstone?”
5. Without the use of the TOC, what are the 3 phases of the course requirements?

In addition, the user was asked to fill out a consent form (Appendix C) before the task as well as a questionnaire immediately following. Each of the tasks was conducted by simply asking each participant to demonstrate and complete each task while thinking aloud and talking through any and all confusion experienced.

Task 1: Find the details of the capstone grading system

The purpose of this task was to give us data on the usability and effectiveness of the table of contents. This was expected to be the easiest task to complete.

Task 2: Find a list of documents you as the student would need to submit to your faculty advisor

This task’s purpose was to see how easy or difficult it was to find what required documents are needed to be submitted. Given the importance of the documents, they should be located in an easy to find and understand place.

Task 3: How many total hours and credits of Capstone must the student finish in order to graduate?

This information was located throughout the document but was worded a little differently in some places. The purpose of this was to see which location of the credits was found most and which was easiest to understand.

Task 4: Without the use of the TOC, find the answer for: “When is a student eligible for the capstone?”

These last two were to test the headers and overall usability of the document itself. This answer was in the FAQs near the back of the document and required plenty of scanning for optimal observation.

Task 5: Without the use of the TOC, what are the 3 phases of the course requirements?

This task was a little bit simpler than the last but was also meant to test the headers and how easy it is to navigate the document.

Post-task, Post-test Results

Our post task/test results were shown in our collected questionnaires (Appendix C) and time sheet data (Appendix B). Below is a column chart exhibiting the findings based off of the questionnaire scale. We used a scale that rated the following statements from 1-5 (5 being strongly agree and 1 being strongly disagree).

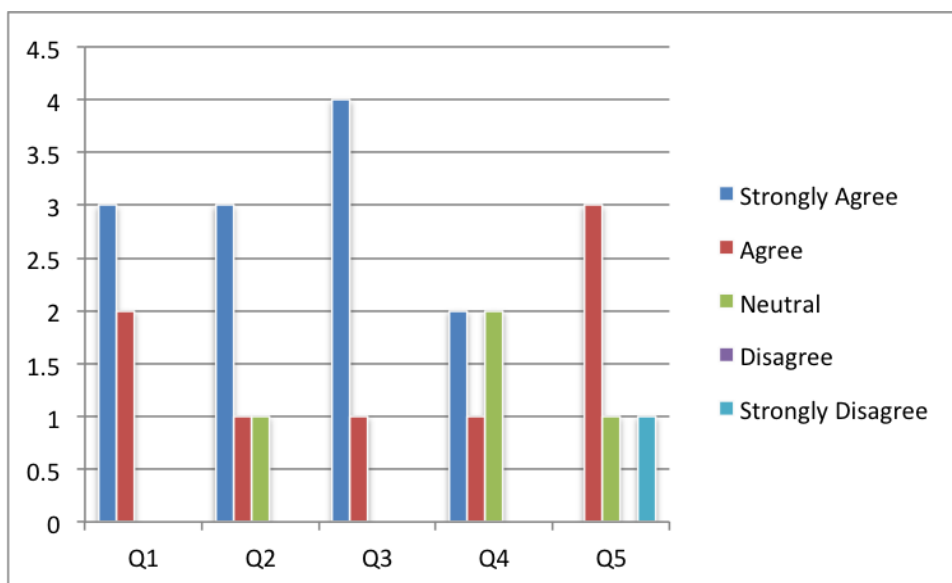
Q1: I felt comfortable during the usability test.

Q2: The tasks were easy to follow.

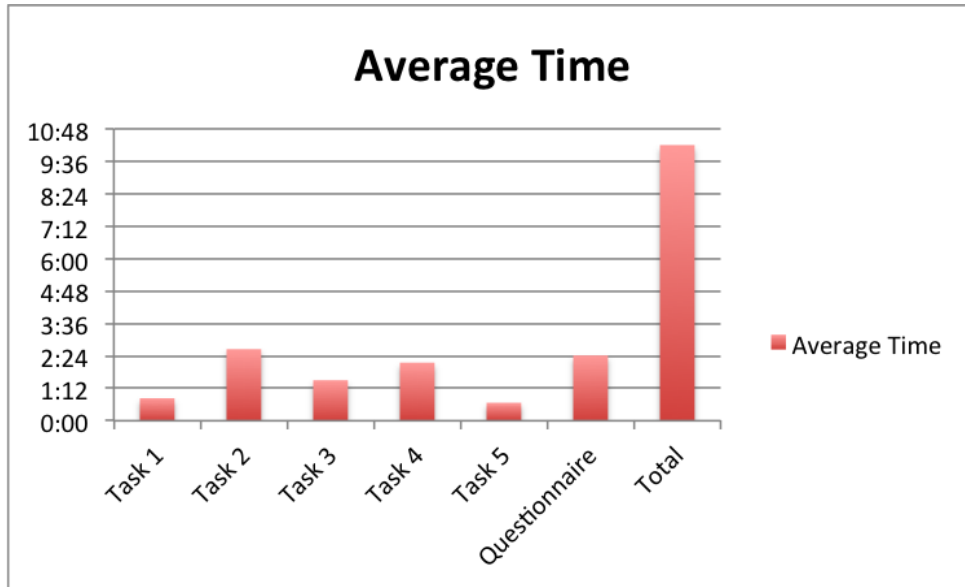
Q3: The amount of information provided was appropriate.

Q4: The manual is user-friendly.

Q5: I did not experience any confusion during the test.



Below shows a chart exhibiting the average time it took each user to complete the tasks and the average total time it took the user to complete the entire manual. These averages will assist in our understanding of where users are experiencing the most confusion. For instance, Task 1 seems to be a fairly easy concept to grasp for users; however, Task 2 seemed to cause more confusion given the longer time average.



Raw time and questionnaire data can be viewed in Appendix B and Appendix C.

Test Results

During the usability test, each user participant was given the same set of tasks to complete. The way each user went about completing the individual tasks varied, but generally relied heavily on skimming and scanning information.

Task 1 was to find the grading system of the capstone. This task generally caused little to no problem with our users. All users first instinct was to glance over the table of contents, and all chose the heading “Grading of Capstone” and flipped to the corresponding page number.

Task 2 resulted in some more problems and caused some slightly complications while completing. Four out of the five user participants had issues locating the required documents to submit to the faculty advisor. As a result, the average time to complete this particular task was pretty high given the simplicity of the original task. This might call for redesign. One user ultimately found the required documents, while the others were left a bit confused. Many users seemed to be looking for a specific section that called for required materials.

Task 3 asked users to find the total number of hours and credits required to complete for the capstone program in order to graduate. User 2 and 5 had no problems finding this information, as they had previously seen this information in the introduction. User 1 and 3 turned to student responsibilities and checklist section. The sentence “Minimum requirements are 1-3 locations requiring 400 hrs (15 credits), 200 hrs (8 credits), or 134 hrs (5 credits) for 1, 2, or 3 locations respectively” (pg. 9) confused one of our users, and was unsure what each of these individuals number requirements meant. The user responded “I don’t know if we need all 3”.

When our tasks required that the users no longer use the table of contents, but instead rely on headers and document hierarchy to complete the following tasks they encountered some problems scanning and skimming the document's information. Two user participants flipped automatically to the FAQ section to look for the answers. This is where the answer to eligibility was found. This same task because other users to face some trouble as they flipped through the document numerous times looking for the needed information. They assumed the information we were looking for was just student responsibilities, when we were looking for a single, concrete answer. As the users skimmed the manual longer, it became obvious that they were becoming increasingly frustrated.

The final task required the user participants to find the three phases of the capstone. All users found this information by trying to scan the through the document pages a few times. One user expressed that it "sounds like it would be in student requirements", and when the information was not found in this section was left a little confused on where to look next.

Recommendations

After the completion of our usability test, our group compiled our data and made decisions on what parts of the Sustainability B.S. Capstone Manual still needed to be redesigned to allow for a better user experience.

1) Add additional headers that will assist in the organized hierarchy of the document.

The first task that caused an assortment of problems was Task 2; this enabled users to find the required documents that needed to be submitted to the student's faculty advisor. Although, some users were ultimately able to find this information, it was causing unneeded stress for some, as they needed to repeatedly shuffle through the manual to find this important piece of information.

2) Bold the three phases of the capstone.

The three phases are not bolded in the manual. In fact, our users generally flipped past it one or more times before they came back through and carefully scanned the document to find the information. This can be corrected by adding emphasis to each phase by bolding.

3) Clear up the time commitment expectations of the capstone.

Task 3 asked users to find the total hours and credits required of the capstone. This information was found in the introduction, but was generally passed over by students who directly went to "student requirements". Since this was a natural place users would look to, it should be considered to clearly add needed hours and credits to this section.

These general recommendation will enable our group to create a manual that will enhance the overall user experience. Most problems faced by users either occurred from misunderstanding information or having

trouble when it came to scanning and skimming the document. User confusion leads to user stress, and this is something we intend to avoid while making our next redesigns to the manual.

Next Steps

Our next step in this project is to update our version of the manual based upon the results of the usability test. In addition we will also be adding a watermark to each page to indicate that the manual is still in the draft stage. The redesign aesthetic will also be applied to the forms that accompany the manual as a part of the capstone packet. These changes will be applied in Adobe inDesign rather than in Microsoft word or another word processing program. This will result in the creation of a template that meets our clients, and the users, needs which they can easily cut and paste content into as needed in the future when the Sustainability program finally comes together.

Appendices

Appendix A

Test Data

1. Erica-

Task 1: Used table of contents to find grading of capstone. Completed task with no confusion

Task 2: Using the table of contents, user scanned through to student responsibilities, went to page 7 and completed the task. No confusion.

Task 3: Used the table of content and found a checklist and timeline. Found information but was confused by the wording of it.

Task 4: Scanned through the headers and block paragraphs, found the FAQ section and completed the task. No confusion, just took time to flip to back.

Task 5: Scanned the document and remembered seeing the student requirements. Flipped there and completed task rather easily.

Recommendations: To bold the three "Phase" headers

2. Laura-

Task 1: TOC to the grading of capstone. Completed with no confusion.

Task 2: TOC to checklist and found a broad list of assignments but not the documents. The document is unclear about what documents need to be submitted.

Task 3: Looked through TOC and then started in the intro, missed the information. Went back to the TOC and went to capstone features. No luck and went back to the intro and completed the task. The document could be better ordered.

Task 4: Looks in the intro, flipped through entire document and never completed the task.

Task 5: Scanned headers and found a list of responsibilities but not the phases. User never completed the task but believed she had.

Recommendations: Entry requirements are important and could be sooner in the document.

3. Melanie-

Task 1: TOC to grading, task completed.

Task 2: Began with TOC, ended up scanning document. Didn't find list within document, only in TOC.

Task 3: TOC to student responsibilities. Then went to timeline. User tried three different pages, went back to timeline and found it. Wording was confusing.

Task 4: Scanned intro and headers. Went through entire FAQ section and didn't see it but later found it.

Task 5: Flips and scans through document and came across course requirements to find the three phases.

Recommendations: header and pages in TOC with documents. Header above sections when continuing to next page

4. Cristian-

Task 1: Flipped past the TOC, scanned headers and found grading.

Task 2: Scans, goes back to TOC. No documents found.

Task 3: Went to TOC, scanned document. Found the FAQs and completed the task

Task 4: Document was open to the page and user completed task quickly and easily.

Task 5: Scans document backwards from the FAQs and found the three phases under requirements.

5. Phoenix-

Task 1: Follows TOC to grading. Task completed.

Task 2: Scans TOC, goes to requirements. Scanning headers, user eventually went back to the TOC. Found a list in TOC but none in the document. Backtracks, starts over and didn't ever complete the task.

Task 3: TOC to objectives, task complete.

Task 4: Scans the intro and headers, looking for, "to start/to begin." Tries student responsibilities and continues to scan and finally found in FAQs.

Task 5: Scanned headers, missed "requirements" but found "phases."

Recommendations: suggests clear list for forms

Appendix B

User Times

In minutes	User 1	User 2	User 3	User 4	User 5
Task 1	0:27	1:11	1:22	0:27	0:47
Task 2	1:21	2:10	2:53	1:06	5:46
Task 3	2:33	1:43	2:16	0:29	0:33
Task 4	2:13	1:14	3:22	0:25	3:19
Task 5	0:29	1:12	0:51	0:19	0:30
Questionnaire	2:09	3:12	4:09	0:59	1:37
Total	9:12	10:42	14:53	3:45	12:32

Appendix C

Questionnaires and Consent Forms

Eastern Washington University

Consent Form

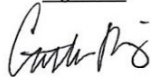
Information use and Consent

The information on this form will be used for the sole purpose of enhancing the usability of the Sustainability Capstone Manual. Your information will not be shared with anyone outside of our team. By signing this consent form, you are giving us permission to use your information and responses gathered from the usability test for the purposes of our document redesign.

Please fill in and/or circle within the response field as needed.

Name (please print):	Cristian Rivas
Gender:	Male
Age:	22
Major:	Exercise Science
Class Standing:	Senior Freshman / Sophomore / Junior / <u>Senior</u>
Are you a Transfer Student?	<u>Yes</u> / No
Have you used a Capstone Manual before?	<u>Yes</u> / No

Signature



Date

3/2/17

Usability Questionnaire

Sustainability B.S. Capstone Manual

James Bailey | Riley Baker | Abigail Scarborough | Alejandro Zuniga

Please circle which number fits best.

Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

I felt comfortable during the usability test.

1 2 3 4 5

The tasks were easy to follow.

1 2 3 4 5

The amount of information provided was appropriate.

1 2 3 4 5

The manual is user-friendly.

1 2 3 4 5

I did not experience any confusion during the test.

1 2 3 4 5

What made the manual most effective for usability?

Having a table of contents that describes each section of the manual

What changes would make the manual more effective for usability?

None

Eastern Washington University

Consent Form

Information use and Consent

The information on this form will be used for the sole purpose of enhancing the usability of the Sustainability Capstone Manual. Your information will not be shared with anyone outside of our team. By signing this consent form, you are giving us permission to use your information and responses gathered from the usability test for the purposes of our document redesign.

Please fill in and/or circle within the response field as needed.

Name (please print):	ERICA COOK	
Gender:	F	
Age:	20	
Major:	B.S. Developmental Psych	
Class Standing:	senior	Freshman / Sophomore / Junior / <input checked="" type="radio"/> Senior
Are you a Transfer Student?	NO	Yes / <input checked="" type="radio"/> No
Have you used a Capstone Manual before?		Yes / <input checked="" type="radio"/> No

Signature

Erica Cook

Date

3.2.17

Usability Questionnaire

Sustainability B.S. Capstone Manual

James Bailey | Riley Baker | Abigail Scarborough | Alejandro Zuniga

Please circle which number fits best.

Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

I felt comfortable during the usability test.

1 2 3 4 (5)

The tasks were easy to follow.

1 2 3 4 (5)

The amount of information provided was appropriate.

1 2 3 4 (5)

The manual is user-friendly.

1 2 3 4 (5)

I did not experience any confusion during the test.

1 2 3 (4) 5

What made the manual most effective for usability?

the headlines at the top of each section & the table of contents.

What changes would make the manual more effective for usability?

Make more of the main points bolded & stand out.
But other than that, it was pretty effective already.

* "bold in" the Phasus

Eastern Washington University

Consent Form

Information use and Consent

The information on this form will be used for the sole purpose of enhancing the usability of the Sustainability Capstone Manual. Your information will not be shared with anyone outside of our team. By signing this consent form, you are giving us permission to use your information and responses gathered from the usability test for the purposes of our document redesign.

Please fill in and/or circle within the response field as needed.

Name (please print):	Laura Brown	
Gender:	Female	
Age:	21	
Major:	JRM & Public Relations	
Class Standing:	Senior	Freshman / Sophomore / Junior / <u>Senior</u>
Are you a Transfer Student?		<u>Yes</u> / No
Have you used a Capstone Manual before?		Yes / <u>No</u>

Signature  Date 3/2/2017

Usability Questionnaire

Sustainability B.S. Capstone Manual

James Bailey | Riley Baker | Abigail Scarborough | Alejandro Zuniga

Please circle which number fits best.

Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

I felt comfortable during the usability test.

1 2 3 4 **5**

The tasks were easy to follow.

1 2 3 4 **5**

The amount of information provided was appropriate.

1 2 3 4 **5**

The manual is user-friendly.

1 2 3 **4** 5

I did not experience any confusion during the test.

1 2 3 **4** 5

What made the manual most effective for usability?

very clean design. Very well organized. With one time thumbing through the packet I would have been able to find the example sections fairly quickly

What changes would make the manual more effective for usability?

I would keep a lot of the elements in - I thought it was overall pretty effective.

Eastern Washington University

Consent Form

Information use and Consent

The information on this form will be used for the sole purpose of enhancing the usability of the Sustainability Capstone Manual. Your information will not be shared with anyone outside of our team. By signing this consent form, you are giving us permission to use your information and responses gathered from the usability test for the purposes of our document redesign.

Please fill in and/or circle within the response field as needed.

Name (please print): <i>Melanie Murphy</i>	
Gender: <i>female</i>	
Age: <i>22</i>	
Major: <i>Design</i>	
Class Standing: <i>Senior</i>	Freshman / Sophomore / Junior / <u>Senior</u>
Are you a Transfer Student?	Yes / <u>No</u>
Have you used a Capstone Manual before?	Yes / <u>No</u>

Signature

Date

Melanie R. Murphy

3/2/17

Usability Questionnaire

Sustainability B.S. Capstone Manual

James Bailey | Riley Baker | Abigail Scarborough | Alejandro Zuniga

Please circle which number fits best.

Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

I felt comfortable during the usability test.

1 2 3 4 **5**

The tasks were easy to follow.

1 2 **3** 4 5

The amount of information provided was appropriate.

1 2 3 4 **5**

The manual is user-friendly.

1 2 **3** 4 5

I did not experience any confusion during the test.

1 2 3 4 5

What made the manual most effective for usability?

- table of contents
- headers being bold

What changes would make the manual more effective for usability?

Eastern Washington University

Consent Form

Information use and Consent

The information on this form will be used for the sole purpose of enhancing the usability of the Sustainability Capstone Manual. Your information will not be shared with anyone outside of our team. By signing this consent form, you are giving us permission to use your information and responses gathered from the usability test for the purposes of our document redesign.

Please fill in and/or circle within the response field as needed.

Name (please print):	Phoenix Edwards
Gender:	Male
Age:	23
Major:	mechanical eng
Class Standing:	Freshman / Sophomore / <u>Junior</u> / Senior
Are you a Transfer Student?	Y <input checked="" type="radio"/> Yes / No
Have you used a Capstone Manual before?	Yes / <input checked="" type="radio"/> No

Signature



Date

2/10/2017

Usability Questionnaire

Sustainability B.S. Capstone Manual

James Bailey | Riley Baker | Abigail Scarborough | Alejandro Zuniga

Please circle which number fits best.

Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

I felt comfortable during the usability test.

1 2 3 **4** 5

The tasks were easy to follow.

1 2 3 **4** 5

The amount of information provided was appropriate.

1 2 3 **4** 5

The manual is user-friendly.

1 2 **3** 4 5

I did not experience any confusion during the test.

1 **2** 3 4 5

What made the manual most effective for usability?

Table of contents & bold headers

What changes would make the manual more effective for usability?

more bold headers.