Technical Communication
Mercer University

To: FEMA Team
From: Jeremy Collins & Sydnei Mayers
Subject: FEMA Usability Test Plan
Date: February 9th, 2021

Purpose

The purpose of this test plan is to provide our team with detailed information regarding our strategy, objectives, resources required, schedule, and deliverables involved with this usability study. This test plan will serve as a point of reference throughout the entire testing process of the Federal Emergency Management Association's (FEMA) website and help keep our team on track. This document is subject to change as this usability study will follow the agile methodology - alternating control between our team and FEMA in continuous two-week increments.

Problem Statement and Test Objectives

The FEMA organization has recently redesigned their website - transferring their existing information to a new layout that better suits their audiences. Specifically, the Disaster & Assistance pages have been a point of focus. FEMA's previous Disaster & Assistance pages were overloaded with information, extending pages that could be shortened. FEMA assessed those pages and categorized their similar information into links that lead to the same information in a more digestible package.

Ideally, FEMA would be able to internally assess whether these changes had impacted their users' experiences. However, FEMA is still experiencing an increased influx of duties due to the pending COVID-19 pandemic. Therefore, as experienced usability professionals, our team will inspect the significance of their recent changes by testing participants, analyzing the results, and presenting our recommendations. We will guide our study with the following objectives:

- Examine whether the purpose of the website is clear
- Evaluate whether the website's features and conventions aid the user's experience
- Determine if the website's content is comprehensive and understandable
- Ensure that the website's new layout improves navigability and readability

Methodology

This section outlines how the test will be performed for each test participant. By following this prescribed methodology, we ensure that we can obtain accurate and consistent usability findings. We will use a consistent procedure, schedule, and participant profile between each test.

Test Procedure

Each test session will begin with the moderator sending a Zoom link to the participant. Once the participant joins the Zoom meeting, the note-taker will be muted with their webcam off, and the moderator will begin the test session. The moderator will begin recording the Zoom meeting once the participant signs the consent form *(see Appendix D)* through Google Forms.

After the consent form has been signed, the participant will be asked to share their screen. The participant will then be asked which browser they are using and directed to FEMA's homepage to begin the usability test.

From there, the moderator will ask the participant to perform five total tasks with an accompanying scenario for each. All tasks and scenarios will be related to FEMA's Disaster & Assistance pages - as they are the focus for this study. The note-taker will record the time spent on each task, whether the participant successfully completed each task, and any notable behaviors, quotes, and metrics.

After completing the usability test, the participant will be asked to complete a System Usability Scale evaluation *(see Appendix E)*, a posttest *(see Appendix F)*, a reaction cards evaluation *(see Appendix G)* through Google Forms. Finally, the participant will be thanked for their time, and the test session will conclude.

Number of Participants

We plan to test a total of six participants and will recruit nine participants. The first participant will participate in the pilot test—the results of which may not be included in the final results of the study.

Length of Test Session

Welcome and consent form signing: 5 minutes
Usability test: 20 (4 minutes per task)
SUS evaluation, posttest, and reaction cards evaluation: 15 minutes
Total time: ~40 minutes

User Profiles

Our testing will focus on those individuals that are **government employees and/or emergency managers**. To simulate an authentic first-time experience, we will test those **government employees that are unfamiliar with FEMA and its website**. Lastly, these individuals must also have **some experience with a computer/laptop**.

Screener (see Appendix B)

To ensure that deadlines are met, FEMA has assisted in recruiting participants. We have created a letter with an accompanying screener that they will solicit to their directory of employees. As we recruit participants, the potential participants will be asked their name, age, email address, available times, and access to a webcam/microphone/quiet place.

Tasks and Scenarios

FEMA has also provided their predetermined tasks that will direct the participants in their tests. Their scenarios and tasks are listed below:

Scenario: You are an emergency manager working on the recovery efforts for the Oklahoma Winter Storm that started October 25, 2020.
> Task 1: Find out which counties are eligible to receive FEMA assistance for emergency work and replacement of damaged buildings.

Scenario: You work in a mayor's office in Clarke county.
> Task 2: Find out if you are eligible to receive money to help support city-wide recovery activities.

Scenario: You are a member of a Congressional oversight committee reviewing federal grants for Hurricane Laura in Louisiana.
> Task 3: Find out how much Public Assistance grant money FEMA has spent.

Scenario: You're helping get FEMA information to community members affected by Hurricane Laura that speak Spanish as their primary language. Where can you find information about this disaster in Spanish?
> Task 4: Find out where you can find information about this disaster in Spanish.

Scenario: You are representing survivors of the Oregon Wildfires in September 2020.
> Task 5: Find out more about that disaster.

Evaluation Methods

FEMA has also provided the criteria that we will need to focus on during the evaluation process. In order to record both qualitative and quantitative data, the following evaluation methods will be used:

- Usability test
    - Time spent per task
    - Success or failure per task
    - Participant behaviors, actions, and quotes
- System Usability Scale evaluation (Google Form)
- Post-test questionnaire (Google Form)
- Reaction cards evaluation (Google Form)

Test Environment and Equipment

Each test will be conducted through remote testing with the moderator and note-taker in a Zoom conference with the participant. The Zoom conference will be recorded by the moderator, who will also prompt the participants to think out loud and guide them through each question.

To conduct the tests, we will need the following equipment and materials:
- A copy of the moderator script
- A copy of the test plan
- Google Forms
- Zoom
- Google Sheets

Deliverables

Upon completion of testing, our results will be compiled into a written report and emailed to the FEMA team. Results may include areas in which the product excels, areas in which users struggled, or bugs found within the product. Our team will suggest ways to improve the product, but the primary aim of the project is to simply observe and take note of how end-users use the product.

Appendix A - Team Checklists

Moderator Checklist

Before participant arrives

- Make sure links to the consent form, SUS evaluation, posttest, reaction cards evaluation, and the moderator's script are readily accessible

Consent form

- Explain test purpose
- Go over digital consent form, allow time to read and sign
- Ask for questions and concerns

Testing

- Go over testing process and review how think aloud process works
- Administer usability test

SUS evaluation, posttest, and reaction cards

- Administer SUS evaluation, posttest, and reaction cards exercise
- Ask participant if they have any further questions or concerns
- Thank participant for their time

After testing

- Send feedback email

Note-Taker Checklist

Before each test
- Turn on logging computer
- Connect to Zoom in testing room
- Prepare note-taking materials
- Record the starting time of the test, date, participant name, and task

After each test
- Record the ending time of the test
- Record participant responses to post-test evaluation methods
- Place all material into shared Google Drive

Appendix B - Screener

The screener will be delivered via the following link:
https://forms.gle/jJsMqHxc5vQWNBbY8

1. Email address
2. What is your name?
3. How old are you?
4. Please list dates and times (9am-9pm) from Sunday, February 7th to Thursday, February 11th that you would be available to test.
5. Do you have a webcam/microphone that you are able to use to participate in the test?
6. Do you have access to a quiet place for approximately 30 to 45 minutes to assist us with testing?
7. How often do you use government websites?
8. How did you hear about this study? (e.g. Big 7, NEMA, IAEM, BCEM, Tribal Associations, etc.)
9.

Appendix C - Moderator's Script

This script was adapted from (Barnum, 2011, pp. 193-195).

Introduction

Hello! Thank you for being here with us today.

My name is Jeremy. Sydnei and I are here to evaluate the usability of a government site. For your information, I am reading from a script to ensure I say the exact same thing to each participant and to ensure that nothing is skipped or missed.

Your participation will help us understand what changes should be made to develop an informative, usable website.

Video Recording Permission (Appendix D)

This session will be recorded. The reason for recording the session is so that we can collect additional data after the test. Please complete the legal consent form to give us permission to record your use of the site. If you have any questions, please feel free to ask.

(Start Zoom recording.)

Introduction to Testing

Before we begin, I will explain how this test will work.

I will ask you to view a government site and give you tasks to complete. I really appreciate your feedback about your experience, so I would like you to think aloud as you navigate the site. You may want to say things like, "I'm clicking this because…" or "I don't like this because…".

Additionally, this test is meant to evaluate the website, not your abilities. You do not need to know anything about the website beforehand.

Do you have any questions before we begin?

Tell FEMA: Can you please share your screen of the FEMA webpage?

Tell FEMA: Thank you

Tell Participant: Okay. At the top of your screen, you should see a green box that says "You are now viewing blank's screen." Click the box beside it that says "View Options" and select the option that says "Request Remote Control." Let me know once you have clicked it.

Tell FEMA: We can take the test from here. We will let you know when we're done.

Tell Participant: Now that you have taken control of the screen, please tell me which browser you are using.

Thank you.

Testing

I have several tasks for you to complete as we go through the site. Remember, this is not a test of you; it is a test of the website, and I'm very interested in your reactions about it. Please remember to think out loud.

Scenario: You are an emergency manager working on the recovery efforts for the Oklahoma Winter Storm that started October 25, 2020.
> Task 1: Find out which counties are eligible to receive FEMA assistance for emergency work and replacement of damaged buildings. Let me know when you think you have completed the task.

Scenario: You work in a mayor's office in Clarke county.
> Task 2: Find out if you are eligible to receive money to help support city-wide recovery activities. Let me know when you think you have completed the task, and do not forget to think aloud.

Please return to FEMA.gov.

Scenario: You are a member of a Congressional oversight committee reviewing federal grants for Hurricane Laura in Louisiana.
> Task 3: Find out how much Public Assistance grant money FEMA has spent. Let me know when you think you have completed the task, and do not forget to think aloud.

Please return to FEMA.gov.

Scenario: You're helping get FEMA information to community members affected by Hurricane Laura that speak Spanish as their primary language. Where can you find information about this disaster in Spanish?
> Task 4: Find out where you can find information about this disaster in Spanish. Let me know when you think you have completed the task, and do not forget to think aloud.

Please return to FEMA.gov.
Scenario: You are representing survivors of the Oregon Wildfires in September 2020.
> Task 5: Find out more about that disaster. Let me know when you think you have completed the task, and do not forget to think aloud.

Thank you for your feedback. We have a few extra forms for you to fill out in order to help us gather some more data.

SUS Questionnaire (Appendix E)

Please go to the SUS questionnaire form. This will help us understand your experience with this website. Additionally, please explain why you are choosing each answer.

Posttest (Appendix F)

Please go to the posttest form. For each of the thirteen statements, mark one box that best describes your reaction. In addition, please explain why you are choosing each answer..

Reaction Cards (Appendix G)

Please go to the reaction cards form. This form contains sixteen different words that may be used to describe FEMA.gov. Please choose four words from the list that you would use to describe your experience with the site and please elaborate on why you chose those words.

After Testing

Thank you for participating in this test! We really appreciate your feedback and we hope you have a wonderful day.

Appendix D - Consent Form

The consent form will be delivered via the following link:
https://forms.gle/XxHNs6ySJT9mKRaB9

The following consent form is adapted from (Barnum, 2011, p. 171).

I hereby give my permission to be videotaped as part of my participation in the government website usability study at Mercer University.

I understand and consent to the use and release of the video. I further understand that the video recording and any highlights extracted from it may be used for review. Representative video excerpts may also be used within presentations to the client, at professional meetings, and as part of research.

I give up any rights to the video recording and understand that the recording may be used for purposes described in this release form without further permission.

I understand that if for any reason I do not want to continue I can leave at any time during this recording session. I can also deny consent at any time.

If you agree with these terms, please indicate your acceptance by signing below:

Signature (initials)	
Printed Name	
Date	

Appendix E - System Usability Scale

The SUS evaluation will be delivered via the following link:
https://forms.gle/MEXED1xX2HLdiV4fA

System Usability Scale

Instructions: For each of the following statements, mark <u>one</u> box that best describes your reactions to the website *today*.

		Strongly Disagree				Strongly Agree
1.	I think that I would like to use this website frequently.	☐	☐	☐	☐	☐
2.	I found this website unnecessarily complex.	☐	☐	☐	☐	☐
3.	I thought this website was easy to use.	☐	☐	☐	☐	☐
4.	I think that I would need assistance to be able to use this website.	☐	☐	☐	☐	☐
5.	I found the various functions in this website were well integrated.	☐	☐	☐	☐	☐
6.	I thought there was too much inconsistency in this website.	☐	☐	☐	☐	☐
7.	I would imagine that most people would learn to use this website very quickly.	☐	☐	☐	☐	☐
8.	I found this website very cumbersome/awkward to use.	☐	☐	☐	☐	☐
9.	I felt very confident using this website.	☐	☐	☐	☐	☐
10.	I needed to learn a lot of things before I could get going with this website.	☐	☐	☐	☐	☐

Appendix F - Posttest

The posttest will be delivered via the following link:
https://forms.gle/3f4SXXZeDoecrxA88

Instructions: For each of the following statements, mark <u>one</u> box that best describes your reactions to the website *today*.

		Strongly Disgree	Disagree	Neutral	Agree	Strongly Agree
1	I found the search results to be clear, accurate, and relevant.	☐	☐	☐	☐	☐
2	I thought the purpose of the website's information to be clear.	☐	☐	☐	☐	☐
3	I found the content to be readable and easy to understand.	☐	☐	☐	☐	☐
4	I found the content to be engaging and relevant to the topic given.	☐	☐	☐	☐	☐
5	I feel this website can be trusted.	☐	☐	☐	☐	☐
6	I thought the website loading time was reasonable.	☐	☐	☐	☐	☐
7	I was able to access the major portions of the website from the homepage.	☐	☐	☐	☐	☐
8	I thought the site had appropriate contrast in text size and color.	☐	☐	☐	☐	☐
9	I found the pages to have a consistent layout.	☐	☐	☐	☐	☐
10	I thought the website's features were conventional.	☐	☐	☐	☐	☐
11	I thought the wording was clear and understandable.	☐	☐	☐	☐	☐
12	I found the pages to be easy to navigate.	☐	☐	☐	☐	☐
13	I thought the content aligned with my expectations on each page.	☐	☐	☐	☐	☐

Appendix G - Reaction Cards

The Reaction Cards exercise will be delivered via the following link:
https://forms.gle/DvWuSnNgK7CxKEvN7

Participants will have following positive words to choose from:
- Compelling
- Comprehensive
- Consistent
- Easy to use
- High quality
- Inviting
- Meaningful
- Well organized
- Professional
- Straightforward

These positive words describe an excellent FEMA website that allows users to quickly find what they are looking for and navigate through the website with ease.

Participants will have the following negative words to choose from:
- Complex
- Confusing
- Dull
- Hard to use
- Ineffective
- Overbearing
- Poor quality
- Too technical
- Unattractive
- Unrefined

These negative words describe a subpar FEMA website that may cause its users to stop accessing the site.