

Usability Investigation Test Plan for the Ditch the Dumpster Website

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1 INTRODUCTION

This document describes a test plan for conducting a usability test on the Ditch the Dumpster website redesign.

In March of 2018, Team Arizona College Students began to conduct research and testing to measure the usability and user experience of Arizona State University's Ditch the Dumpster website interface. It was found based on user input that the Ditch the Dumpster website needed to be redesigned to better meet user needs.

In April of 2018, I designed, mocked up, and prototyped the redesign of the Ditch the Dumpster website. To ensure site user satisfaction, additional usability testing is recommended to evaluate user experience of the new design.

Prototype Link: <https://xd.adobe.com/view/257b6995-d5f9-488e-44c7-77b98724552d-534a/?fullscreen>

2 OBJECTIVES

The usability testing objectives are to measure:

- Website overall user satisfaction
- Website attractiveness
- Usefulness of the website
- Efficiency of the website's navigation
- Ease of learning
- Overall controllability

2.1 SCOPE of Test

The scope of this test is to evaluate the Ditch the Dumpster website. This test will be focusing on the navigation and ease of use with the prototype of the website. Testing of the prototype is planned to begin Monday May 7th, 2018. This project and testing has an open budget.

The test will be constrained to evaluating the navigation within the Ditch the Dumpster site only. We will also be measuring the aesthetics and overall user satisfaction during this testing.

We will not be testing the Arizona State University core site navigation, links, or community partner websites.

The design overall is on stage 6 of the Nielsen's scale of UX maturity, indicating a need to track user experience and quality of the product. The website prototype has been developed through Adobe XD a digital product design platform that is a powerful tool for prototyping, that allows easy user testing through link sharing on the specific platform the website was intended.

3 METHODOLOGY

Based on the accessibility of a possible user group, our team decided it was best to conduct usability testing for this study. This testing method will allow us to gain both quantitative and qualitative data that target our concerns and objectives.

3.1 User Group

Eight Arizona State University students will serve as the primary user group. At least eight different participants will be used, if additional participants are available and time permits then more subjects will participate in the test. Having eight users will ensure we optimize our return on investment and maximize our benefit-cost ratio.

The test participants for this study will be recruited through face to face request on the Arizona State University campuses. Prospective participants will be required to be Arizona State University College students. This will ensure the users are the target audience for this platform.

3.2 Usability Testing

Conducting usability testing will allow us to go a step further than just interviews, enabling us to ask a user to complete specific tasks and give us the opportunity to record observational data. This type of evaluation of the app will help us gain both qualitative and quantitative data at the same time; based on time to complete tasks and difficulty level of a specific task. We will also be able to reliably measure user satisfaction of the new website assets and identify possible additional changes required to further improve the website. Usability testing will help us to analyze the new website's performance and develop a final product design that better meets user needs and expectations. The usability test is comprised of three different aspects:

- Pre-Session Questionnaire (see Appendix 1)
- Scenarios and Tasks (see Appendix 2)
- Post-Session Questionnaire (see Appendix 3)

3.3 Dependent Variables

During the test session, test administrators will record both objective and subjective data. Ensuring we gain data that is both external, based on facts, and internal user data based on emotions during the study.

Objective

Quantitative objective data being collected during this study includes a count of successfully completed tasks and a count of errors, time spent per task, and count of clicks performed during the tasks. Qualitative objective data will be a description of the observation and steps performed by the user.

- Count of tasks completed successfully
- Count of errors – miss clicks and preferred return method
- Time spent per task – total time
- Count of total number of clicks performed during task completion
- Observed sequence of steps performed

Subjective

Quantitative subjective data being collected during the study will be based on Likert scale ratings by the participant of how well they were able to complete tasks, the efficiency at which they felt they completed the tasks, and overall satisfaction. Qualitative subjective data will include the participants comments related to task completion, efficiency of the website, satisfaction, and their observed behavior recorded by the test administrator.

- Likert scale rating by participants of how well the website performs
- Likert scale rating by participants of how efficient the website is
- Likert scale rating of participants satisfaction with the website
- Participants comments related to task completion
- Participants comments related to efficiency of website
- Participants comments related to satisfaction of product
- A description of observed behavior by participant

3.4 User Interface

The Ditch the Dumpster website’s home user interface is comprised of navigation leading to three other pages, focusing on three main user objectives: “What to Donate”, “Where to Donate”, and “How to Donate”. After initially accessing the website, the user is greeted with a home page that has a main banner that indicates the sites name and identifying factors. As the user scans through the home page there is also three images linking to the other site pages identified above, along with information describing the program below.

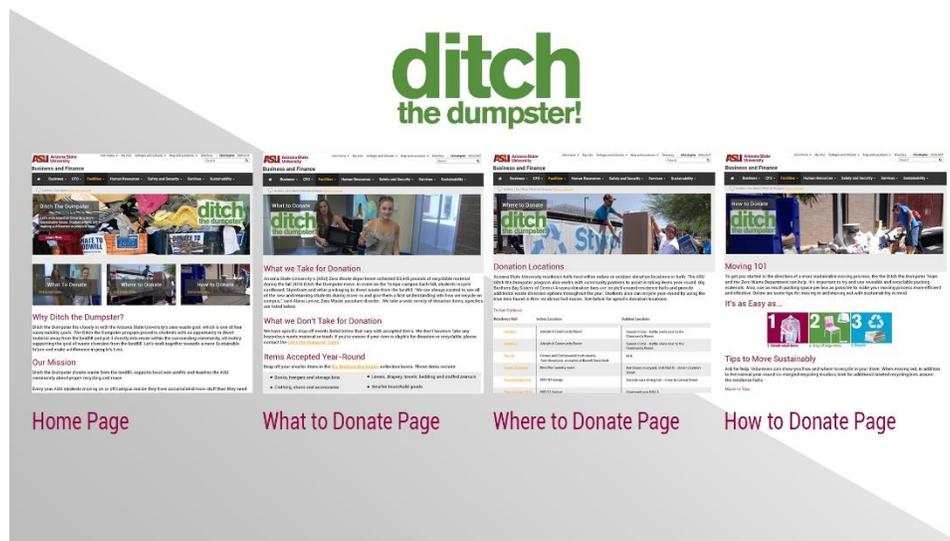


Figure 1. Website UI Examples

3.5 Test Location and Conditions

All testing will occur at the Arizona State University, in an available to be determined classroom. The testing room will be quiet with adequate ambient lighting. The test room/facility shall include a test computer that will host the Ditch the Dumpster website, creating an accurate user experience.



Figure 7. Test facility

3.6 Test Equipment / Instrumentation

The test will be conducted on either a Windows or Apple based computer, final decision between these two platforms will be determined on the day of the test. The test will be performed on the Chrome browser for consistency. Possible interference in testing could be language barriers or unforeseen facility problems.

3.7 Procedure

The usability testing will be conducted with a script for consistency and in three stages; a pre-session questionnaire, a series of scenarios and tasks for the user to work through, and a post-session questionnaire (see Appendix 4). In addition, all participants will sign a consent form if applicable (see Appendix 5).

3.7.1 Test Schedule

The following table describes a notional schedule for completing the usability testing on the Ditch the Dumpster website. This schedule is subject to change prior to the onset of testing.

Test setup	1600-1610	
Orientation/fam	1611-1620	
Elevate pre-test	1621-1630	PT 1
Elevate scenario/task test	1631-1645	ST 2
Elevate post-test	1646-1655	PT 3
Breakdown test	1656-1705	

4 DATA COLLECTION, REDUCTION, AND ANALYSIS

4.1 Collection

Data collection will focus on the three primary attributes that comprise usability: effectiveness, efficiency, and satisfaction (ISO 9241-11). Data collection based on these three attributes will be divided into quantitative and qualitative data. All subjective and objective data recorded during testing will be recorded via electronic document in appropriate spreadsheets for reduction and analysis.

4.2 Reduction

All data will be organized by user results per task, answer, or comment. All data will be scanned for redundancy and organized into a corrected, ordered, and organized form.

4.3 Analysis

Data analysis will be measured by issue indication, cause identification or investigation, and triangulation on variance, patterns, consistencies, and outliers within the data. Prioritization and type will organize this data. Types of issues include technical and navigational issues along with aesthetic and visual design issues.

- Additional post-test statistical analyses can be performed.

5 RESULTS

The results depicted below reflect the average of the data collected across all testing. We will report:

- Number and percent of participants who complete each scenario, and all scenarios.
- Average time taken to complete each scenario for those who completed the scenario.
- Satisfaction results.
- Participant comments and Likert scale results.
- Observation results if they are illustrative.

5.1 Objective Measures

- Count of tasks completed successfully
- Count of errors
- Time spent per task
- Count of number of clicks performed during task completion
- Observed sequence of steps performed

5.2 Subjective Measures

- Likert scale rating by participants of how well the website performs
- Likert scale rating by participants of how efficient the website is

- Likert scale rating of participants satisfaction with the website
- Participants comments related to task completion
- Participants comments related to efficiency of website
- Participants comments related to satisfaction of product
- A description of observed behavior by participant

6 COMMENTS

Test subjects made the following comments about the Ditch the Dumpster website.

6.1 Comments

TBD

7 CONCLUSIONS

Based on our usability testing of the Ditch the Dumpster website, we will be able to determine:

- Website overall user satisfaction
- Website attractiveness
- Usefulness of the website
- Efficiency of the website's navigation
- Ease of learning
- Overall controllability

8 RECOMMENDATIONS

Based on our user testing, we are making the following recommendations to improve the overall usability of the Ditch the Dumpster website.

TBD

APPENDIX 1 PRE-SESSION QUESTIONNAIRE

The test subjects will complete the following pre-test questionnaire. This list is subject to change prior to the onset of testing.

1. What is your gender?

- Female
- Male
- Prefer not to say
- Other: _____

2. What is your age?

- Under 20 years
- 20 - 30 years
- 30 - 40 years
- 40 - 50 years
- Over 50 years

3. What is your highest level of completed education?

- High School
- Associate Degree
- Bachelor's degree
- Master's degree
- None

4. Work experience? What do you do for a living?

5. What is your computer ability level?

- Basic
- Advanced
- Expert

6. What is your frequency of internet usage?

- Low (1 - 15 hrs. Per Week)
- Moderate (16 - 30 hrs. Per Week)
- High (31+ hrs. Per Week)
- None

7. What are your favorite websites?

8. What do you know Ditch the Dumpster for?

9. Have you ever used the Ditch the Dumpster website before?

- Yes
- No
- Maybe

10. Have you heard of Ditch the Dumpster before?

- Yes
- No
- Maybe

APPENDIX 2 SCENARIOS & TASKS

The test subjects will complete the following tasks during the usability test. These tasks are subject to change prior to the onset of testing.

Scenario 1

“You're a student moving out of the dorms and you need to figure out what you can donate to the Ditch the Dumpster program”

- **Task 1:** Find the page that tells you what you can donate.

Time	Miss#	Comments

- **Task 2:** Find the list of accepted items.

Time	Miss#	Comments

- **Task 3:** Find out when the next “Move-out” event is.

Time	Miss#	Comments

Scenario 2

“You already know what you can donate to the Ditch the Dumpster program and now you need to know where the nearest donation sites are on the Polytechnic campus additionally, you want information on how to donate as well”.

- **Task 1:** From the main page, find the page that will give you information on where to donate.

Time	Miss#	Comments

- **Task 2:** Find the list donation sites on your campus.

Time	Miss#	Comments

- **Task 3:** Find the page that tells you information on how to donate.

Time	Miss#	Comments

APPENDIX 3 POST-SESSION QUESTIONNAIRE

The test subjects will complete the following post-test questionnaire. This list is subject to change prior to the onset of testing.

Post-Session Questions: Please answer the following questions to the best of your ability.

Please rate (i.e. check the box to show) agreement or disagreement with the following statements:

1. You were able navigate the website easily.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

2. The website had an effective layout.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

3. You feel the website was a positive experience overall.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

4. It was easy for you to complete your tasks.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

5. You enjoyed navigating the website.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

6. The links on the main page are well placed.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

7. The language used with the links and navigation is clear and easy to understand.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

8. This website has information that is useful to me.

<input type="checkbox"/>						
strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

9. Information in the website is easy to find.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

10. I enjoyed the colors used in the website.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

11. The website pages are confusing and difficult to read.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

12. The information presented is aesthetically pleasing.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

13. The purpose of the website is apparent from the main page.

strongly agree	agree	slightly agree	neutral	slightly disagree	disagree	strongly disagree

14. Please list 3 adjectives you feel best represent your experience with the website.

15. What aspects did you like about the website? Please explain.

Please add any additional comments you may have regarding the design and navigation of the website at the bottom of this paper and on the back.

Thank you for your participation in this study.

APPENDIX 4 SESSION SCRIPT

The test will be conducted based on the following script. This script is subject to change prior to the onset of testing.

The Instructions

Hi, _____. My name is _____, and I'll be guiding you through our session today.

Before we start our session, I have some information I want to go over with you. I'm going to be reading from a script to ensure I cover everything and our sessions are consistent.

I'm sure you understand why I have asked you to participate in this session but, allow me to cover the basis again briefly. We are asking people to try using this website to evaluate its design, navigation, and content. The session should take about a half hour.

I want to make it clear to you that this session is intended to test the website's performance and not your own. You are not personally being evaluated in any way and you can't do anything wrong during this session.

During the session and as you use the site I would like you to be as vocal as possible about the navigational decisions you make and why you made them. Additionally, please try to explain what you are viewing and what you are trying to do. This will help me to better understanding how you are perceiving the site.

Also, please be as critical as possible and don't worry about any negative feedback you give me. Our goal is to improve the site, so your honest reactions will be appreciated.

If you have any questions along the way, feel free to just ask them. I cannot help you complete the tasks but, I will answer your questions to the best of my ability. Also, if you need a break at any time just let me know.

This session will consist of some pre-session questions, some tasks based on scenarios for you to attempt, and a post-session questionnaire.

Do you have any questions so far?

The Pre-Session Questionnaire

Before we look at the site, I would like to ask you some questions.

****Ask the pre-session questions****
****Record the information from the participant on the pre-session sheet****

Thank you for taking the time to answer those questions, let's take a look at the website.

Website Main Page Tour

****Open the website but, do not let the participant navigate****

So, this is the site we will be focusing for this session. I would like you to tell me what your initial feelings are about the site and tell me what stands out to you about it. Just look around and tell me how you feel about the homepage in general.

You can scroll the site but, please don't click on anything yet.

****Record participant's feelings in the notes section on pre-session sheet****

The Scenarios and Tasks

Great, I appreciate your feedback. Now I'm going to be asking you to complete a few tasks based on specific scenarios. I will read them to you then give you the sheet, so you can easily reference the tasks.

As we did before, please think aloud voicing your thoughts and feelings as much as possible.

****Read the scenario aloud and the tasks, one at a time****
****Hand the scenario paper to the participant as they attempt the scenario and task****
****Record feedback and completion times in the notes on the pre-questions sheet****

Post-Session Questionnaire

Great job! Thank you so much for working through those tasks.

The final aspect to this session is a quick questionnaire I have for you, focusing on your experience with the website.

Take as much time as you would like.

****Hand the participant the Post-Session Questionnaire****

Wrap Up

Do you have any questions for me now that we have completed the session?

Thank you for participating in this session, your feedback is greatly appreciated.

APPENDIX 5 CONSENT FORM

I agree to participate in the study conducted by Team Arizona College Students.

I understand that participation in this usability study is voluntary and I agree to immediately raise any concerns or areas of discomfort during the session with the study administrator.

Please sign below to indicate that you have read, and you understand the information on this form and that any questions you might have about the session have been answered.

Date: _____

Please print your name:

Please sign your name:

Thank you!

We appreciate your participation.