FoodTSA Website Interface Report

The University of Texas at San Antonio
CS 4393-001 User Interfaces
Professor John Quarles

Simon Rendon, Richard Gonzalez, Kevin Kguyen, Claudio Ordaz, Melody Buezo

Table of Contents

Purpose

The purpose of this study is to monitor the rate at which users can navigate the primary features of FoodTSA, and to observe the differences in navigation speed using a screen reader in order to better judge the site's accessibility. Given that the objective in designing a grocery shopping website is to provide a streamlined, easy experience, our UI and UX must meet those standards. If the results from this study show that the UI needs improvement, we must look towards modifying the site so as to better appeal to customers and remain competitive in the ecommerce industry.

We expect the results of this study to give us the insight we need for improving our website interface. In its current state, the website is in a barebones state with only the most basic functionalities implemented. Users will be asked to make use of these features and their opinions on the site's UX. We hope that this study can help the team identify which features and adjustments should be added to the FoodTSA site in order to best prioritize the future development of the webpage.

Concerns

- Navigation
- Account management
- Ease of completing an order
- Accessibility for blind users

Goals

- Navigation
  - The user will be able to search for 3 items and add them to their cart in under 20 seconds.
  - The user will be able to search for a product and select the cheapest option in under 20 seconds.
- Account management
  - The user will be able to register for an account in under one minute.
  - The user will be able to know how to remove an item from the shopping cart in under 10 seconds.
  - The user will be able to add more of a particular item to their shopping cart within 10 seconds of navigating the cart page.
  - The user will be able to find their order history from the home page within 10 seconds.
- Ease of completing an order
  - The user will be able to initiate a checkout from the shopping cart in under 10 seconds.
  - The user will add their credentials and complete checkout
- Accessibility for blind users
  - The user should be able to complete all these previous goals while blindfolded using a screen reader in around 5 times the time it takes for someone who can see.

Tasks

a. From the home page, ask the participant to register for an account with any credentials they wish. Make sure to time the length it takes to create an account

b. After registering for an account, ask the participant to search for eggs (whole eggs, not egg whites/product) and add the cheapest option to their cart. Make sure to time how long it takes for the user to add the option to their cart.

c. After adding something to the cart, ask the participant to return to the home page. Make sure to note how the user navigates back to the home page.

d. Once in the homepage, ask the participant to search for cheese and milk and add them to their cart. Make sure to note how long it takes for the participant to complete the task and also how they navigate from one product to the next.

e. Ask the participant to navigate back to the homepage and then try to reach their shopping cart. Note the time it takes to complete this and how they choose to do it.

f. Ask the participant to remove an item from their shopping cart. Note the time it takes for them to figure this out.

g. Ask the participant to add 2 more eggs to their basket from the shopping cart. Note the time it takes for them to do this.

h. Ask the participant to initiate a checkout. Note the time it takes for them to reach the checkout screen.

i. Ask the participant to complete a checkout using PayPal with the following credentials:
   username: foodtsa@example.com
   password: utsa2022
   Make note of the time it takes for them to complete the checkout process.

j. After checking out, ask the participant to view their order history. Make note of the time it takes for them to view it and also how they get there.

k. Ask the participant to log out of their account.

Scenarios

a. It is 2020 and you have tested positive for COVID-19. You need to quarantine for 1 week. You notice you are also low on groceries and need to buy some immediately, but you can't go to the store. When searching for online options, you stumble across a website called FoodTSA and notice that they offer free delivery for groceries for UTSA students. Your goal is to browse the website and get enough groceries to last you the week.

b. George eats out for every meal. He's decided to start budgeting more, and noticed that he needs to start cooking at home. However, George hates going to the grocery store. It always overwhelms him when there are so many options and it disorients him a lot. He wants to consider delivering groceries to his home instead. When Googling stores that deliver groceries, he notices FoodTSA, a food delivery service. George is excited about this because he much rather prefers shopping online than in person. His goal is to get his first real load of groceries so that he can start cooking at home.

Measurements

For both test cases (blind vs not blind), there are both quantitative and qualitative measurements. For each task and in each group, user actions are timed and noted for the paths of navigation taken by each participant. User opinions are also recorded in a survey to determine the intuitiveness of the website and the participants' judgment of the user experience. Our quantitative data–the time it takes for users to complete tasks–will be used to provide an objective view of the usefulness of the site's navigation, account management, and ease of completing orders. Our quantitative data for the 'blind' group will provide insight on the overall accessibility of the site for blind users.

The measurements for each task are:
- **Quantitative**
  - Time in seconds
- **Qualitative**
  - User opinion on intuitiveness
    - How easy was it to find the product you were looking for?
    - How easy was it to navigate through the site? Including navigating and clicking on links.
    - Were most of the links where you expected them to be?
    - If links weren't where they were supposed to be - please explain where you think they would best be
  - User opinion on usefulness
    - Were all the products easy to read and did the product name/image match its description?
    - How easy was the checkout process - including adding items to cart and checking out
    - After signing up, were you able to edit your information?
    - Were you able to track your orders?
  - User opinion on efficiency
    - Did you find the sign up / login easy to use?
    - Was the checkout process convenient/fast?
    - Were you able to find all of your orders easily?
  - Extra opinion
    - What feature/features do you find to be missing from our website?
    - If checkout was slow/ not convenient please describe how to improve
    - Please list the items that weren't available so we can add them to our inventory.

Test Methods

The testing will be done through an assessment test. Due to the site's current state, we will be looking more for areas to improve on in the site rather than validation of the interface design. Tests will be conducted by having a team member sit with a test participant in a

one-on-one session. The participant will be asked to complete the series of tasks listed before in the order they were written, and their actions will be recorded. After completing the tasks, the participant will be asked to submit a surveys giving opinion on the site design.

The target population is UTSA students and/or students who are interested in grocery delivery. This closely matches our stakeholder persona and could give us results similar to that of our target population. For the purposes of our test, we will assess 10 users. Testers will be split into 2 groups of 5: one who will go through the tasks normally, and another who will go through the tasks blindfolded, aided only by a screen reader program. This will help assess the differences in accessibility between blind users and able-sighted users.

The testers will be from the FoodTSA development team. Each team member will be expected to find sample users to assess for the usability test. Before completing the tasks, participants will take a survey to determine the participant's familiarity with online shopping/grocery shopping. This will serve to see if our participant matches our stakeholder persona. They will then be asked to complete each task without instruction, with the time for each task monitored. The participants' navigation habits and errors will also be recorded. After completing the tasks, the participant will be asked to fill out a survey judging the site's design. For the blind group, after doing their assessment they will be given some time to browse the site without a blindfold and will be asked how difficult they found navigating with the screen reader.

During the testing of the site, it must be noted that there will be certain variations in the assessment to be expected. Some tasks depend upon the correct completion of previous tasks, and depending on the page the participant is currently on, results could vary between tasks. The team has taken this into account, and testers are expected to be lenient in asking the participant to complete tasks regardless of whether or not the previous task was completed correctly. Testers will be recording all actions and mistakes and will be able to comment on the participants' behavior.

Study Script

The script below is a sample template when evaluating participants. It will ensure that we receive the data needed to further add, remove, or improve features on our website.

1. Greeting

    a. Hello! How are you today?

    b. Would you be willing to provide feedback on a website created by my User Interface's group?

    c. All you need to do is explore the website with a computer or phone and at the end, I will ask you questions about your experience.

    d. I will provide you with instructions.

e.   It should take no more than 10 minutes of your time.

2.   Preliminary Interview

   a.   Thank you for taking time out of your day to help us.

   b.   Before we begin, here is what we will be looking for:

      i.   The quality of the website's interface

      ii.   Is the website easy and efficient?

      iii.   Any questions, comments, or concerns you may have during your experience.

   c.   I would now like to ask you a couple of questions before you begin:

      i.   How experienced are you with using the Internet?

      ii.   How comfortable are you in using the Internet to purchase items?

      iii.   Have you ever shopped for groceries online before?

      iv.   If you've shopped online before, which websites do you most frequently shop?

      v.   If you've shopped for groceries online, what are some reasons why you shopped online as opposed to shopping in person?

      vi.   Do you prefer online grocery shopping or in person?

   d.   Thank you for your honest answers.

   e.   You may begin testing the website.

3.   Providing Instructions

   a.   Open a new browser application and navigate to the following website address: **foodtsa.herokuapp.com**

   b.   I will now provide you tasks to complete on the website

   c.   Please feel free to accomplish these tasks any way you want.

   d.   All I ask is that you think your thoughts out loud so we can observe and document them.

   e.   You may ask me any questions during your experience.

   f.   Do you have any questions for me now before we begin?

4.   Debriefing the participant

   a.   Thank you for completing the test.

   b.   Are there any questions?

c. Now I have a few questions for you regarding your experience with the website:

   i. Use questionnaire form for participants to answer questions

d. Are there any recommendations you have for us regarding the website design?

e. What are your current opinions on the website design?

f. I appreciate your time and feedback.

g. This concludes the survey.

h. Have a wonderful day!

Identify Problems

a. The site is not optimized for screen reading. Images aren't read and the screen reader has some delay.
   i. Omission error, React and html components need to be modified to better accommodate the screen reader. Accessibility is very hindered. (High severity)
b. There is currently no filter tool although users have requested it and looked for it.
   i. Omission error, users cannot filter their searches. (High severity)
c. There are no categories on the page, making sorting by item category difficult.
   i. Omission error, users cannot compare different products in the same category (High severity)
d. Adding an item to the cart takes you immediately to the cart, whereas for most websites there is no redirect.
   i. Commission error, users can be a little confused or disoriented when shopping for many items. (Medium severity)

Prioritize Problems

1. Site is not optimized for screen reading (a)
2. There are no categories on the page (c)
3. There is no filter tool (b)
4. Adding an item redirects to the cart (d)

Identify Successes

The design team made sure to make an interface that was straightforward and easy to understand, the main idea was to make a website that could easily be followed by someone with little online shopping experience. We thought that with more simplicity and less distracting elements the user could easily identify what they needed to do and where they needed to go to complete what they wanted to do. We feel that we succeeded in this sense as the simple layout contained very few complications.

Identify Areas of Uncertainty

There were a few parts of the website that surprised us when conducting our study. Our first noticed point was the fact that the site was not optimized for screen readers at all. When conducting the blind assessments, participants took an extremely long amount of time to orient

themselves on the site, far more than we had anticipated. Many blind assessments had to be paused midway and restarted at a later time just because of the time taken. It was not rare for a blind assessment to reach ~90 minutes total. Users found using the screen reader very frustrating as it had a slight delay and would only output the voice if the cursor was exactly on a piece of text. This proved difficult for buttons, just hovering over the button wouldn't activate the screen reader but actually hovering over the text itself. Especially when the main behavior of blind users was constantly moving the mouse in circles in hopes of activating the screen reader, having even a slight delay only further contributed to the problem. The main area of improvement for the site is accessibility, as blind people find it incredibly difficult to navigate.