
Town Of Carrboro Website Usability Report

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Executive Summary

UNC-Chapel Hill user experience design students conducted a usability study on the website for the Town of Carrboro (<https://www.townofcarrboro.org/>). After studying the site analytics and meeting with the Communication and Engagement Director, it was identified that an average user of the site is a university student within the age range of 18-22 who is living in the area short-term and wants to quickly find out about town amenities and opportunities.

The study sought to assess the general usability of the site for newcomers to Carrboro, specifically university students, who are trying to become more acquainted with the area and things to do. How easily users are able to navigate the site to get involved in the community, find cultural resources, job listings, and information about key events was tested because they were identified as main drivers of traffic to the website. By testing the main navigation bar, we were able to assess how intuitive the site's organization is to the average user.

Moderated usability testing was used to observe six participants via Zoom. Sessions lasted about 45 minutes and included pre-test questions, 10 navigational tasks, and a post-test System Usability Scale (SUS) survey. Based on our findings, users generally rated the site as easy to use and that they would recommend it to other residents of Carrboro. All participants were first-time users and were able to complete an average of eight out of the 10 tasks.

The test identified minor, major, and catastrophic problems that include:

- Organization concerning the “Town Updates,” “Our Community,” and “How Do I...” navigational menu tabs
- Navigation menu hovering feature
- Website load times

Our report summarizes test methodology, participant profiles, both positive features of the site and those that need improvement, and suggestions for how to enhance those aspects. Further information on the study's tasks can be found in the Appendices section on page 17.

Methodology

Purpose:

The purpose of this study was to evaluate the Town of Carrboro website in order to pinpoint strengths and weaknesses in terms of usability. The test specifically addressed the following:

- Assessment of the ability of Carrboro newcomers to find information pertaining to several different aspects of the community, ranging from common topics to specific scenarios.
- Assessment of the overall organization of the Town of Carrboro website.

Method:

Five user-experience design students at the University of North Carolina at Chapel Hill executed a remote usability test for the Town of Carrboro website, which contains a wide range of general and specific information about Carrboro, NC (<https://www.townofcarrboro.org/>).

The test was completed by 6 participants, the profiles of which begin on page 5. All of the tests were conducted over Zoom video calls between September 9, 2021, and September 15, 2021 for approximately 45 minutes each.

For the tests, each participant joined a Zoom call with one researcher. All participants and researchers completed the test utilizing desktop computers. Using Zoom's screen sharing feature, each participant completed a moderated usability test by sharing their screen with a researcher while completing tasks. The Zoom video calls of each participant were recorded so that the participants' screens and facial/verbal reactions could be recounted later.

None of the participants saw the tasks in the test before completing the test, and the test comprised of 4 parts:

- Consent Form
 - Participants filled out a consent form via Google Forms (shown on page 17) and verbally agreed to the given terms for the video

and audio of the moderated test to be recorded and used for research purposes.

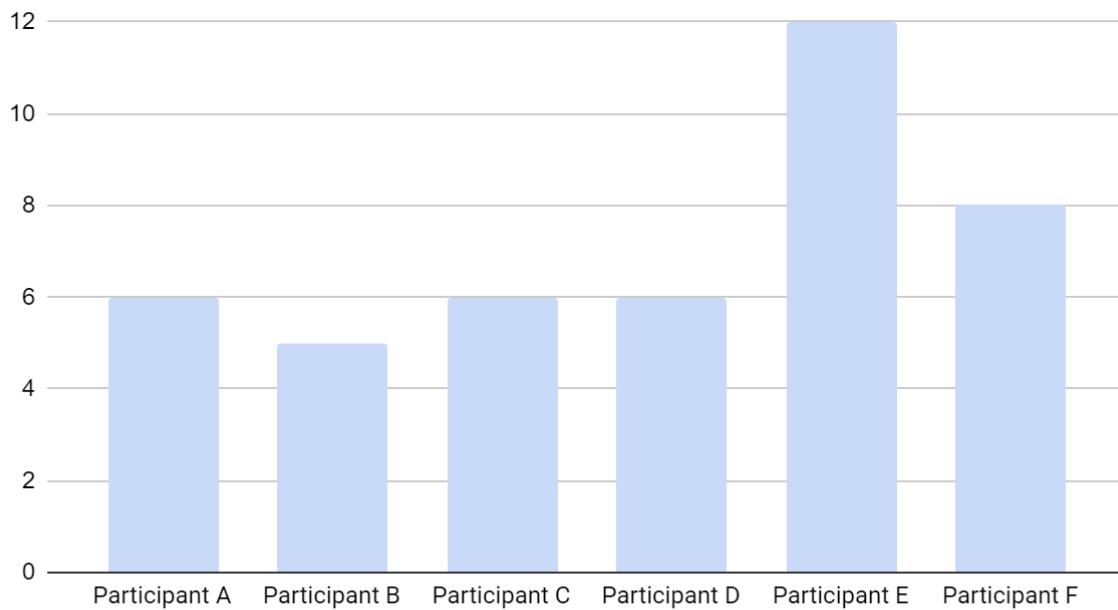
- Getting Started & Pre-Test Questions
 - Researchers explained the purpose and structure of the test clearly to the participants upon starting the test.
 - Researchers asked 7 pre-test questions, which can be found on page 18. 5 of the questions pertained to the lifestyle and internet habits of the participant, and the 2 remaining questions asked the user to generally discuss their first impressions of the Town of Carrboro website based on the homepage.
- Usability Tasks
 - The test included 10 tasks based on different user scenarios that explored finding existing information on the website. The tasks can be found on page 19.
- Conclusion & Post-Test
 - Participants filled out a System Usability Test (SUS) after completing the tasks via Google Forms. This survey can be found on page 20.
 - Researchers asked 3 post-test reflection questions to discuss the user's experience with the website. These questions can be found on page 21.

Participant Profiles

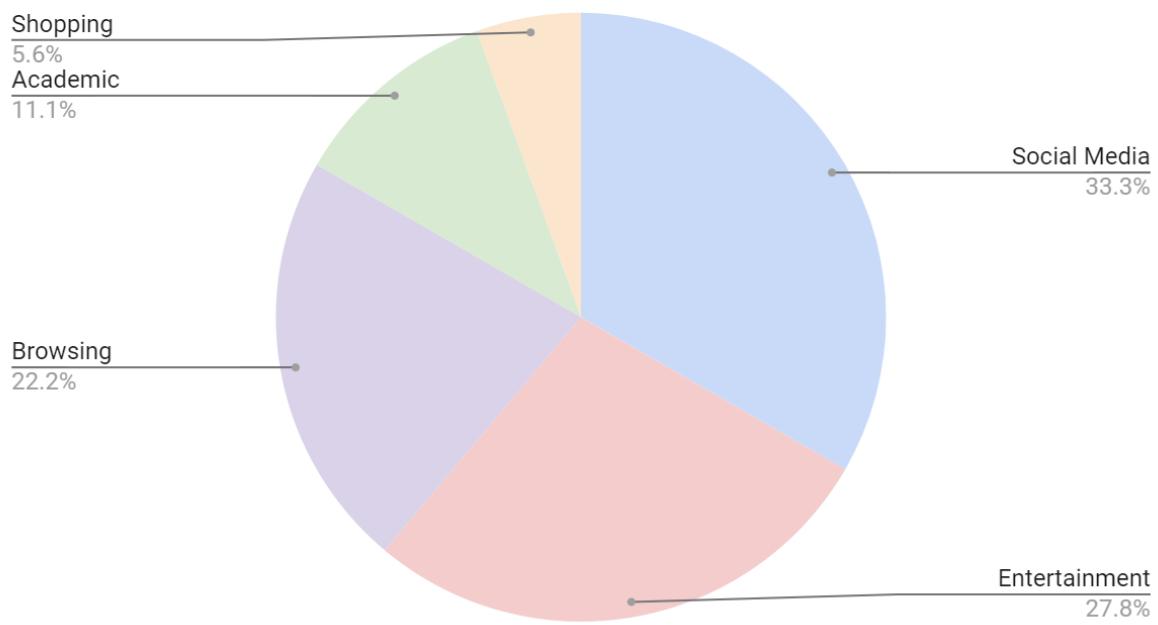
We conducted usability tests with six users. Among the 6 users, 5 of which were students and one was a nurse. We noted that one of the students had specific experience in marketing and social media management through internships and running student organizations. The majors of the students included Chinese, Business, Data Science, Computer Science, Psychology, and Advertising and Public Relations.

The majority of our users' time spent on the internet was used for browsing, averaging 7% spent on emails and 93% on browsing.

Time spent on the Internet (hours/day)



Types of Websites Visited



Limitations

A few factors could have influenced our results and findings compared to the user's regular experience on the website. One of them was asking users not to use the search bar to complete tasks in order to gain better research insights, on the site's navigation bar.

One other factor was that some users were predisposed to noticing issues related to usability. One user, who is a marketing and social media manager and Advertising/Public Relations major, noticed and described problems with the user interface of the website and usability issues.

Another limitation was that because the Carrboro Music Festival was cancelled on the second day of testing, there were inconsistencies between user tests. Some users would immediately complete the task of finding information about the Carrboro Music Festival by clicking on the cancellation update on the home page, while other users would use the navigation menu to find information.

The order and number of tasks also likely influenced the users' ability to navigate and find information. While performing tasks, users would make note of previously seen pages and use that information to complete tasks.

Finally, we were only able to test 6 users. We acknowledge that due to this small sample size, our results and findings are less strong than they could be. However, according to Steve Krug, 5 users is enough to reveal 80% of usability problems, so this is only a small limitation.

Positive Findings

Our researchers took note of the tone of voice that their participants used while narrating their experience. According to this data, 5 out of 6 users spoke in a positive tone when describing their user experience on this website. Additionally, half of the respondents answered in our System Usability Scale post-test survey that they feel confident using the website and would recommend it to someone else who lives in Carrboro. Below are specific instances that our users highlighted as memorable experiences:

1. Realistic and Easy to Find Tasks

For the task of finding information about the Black Lives Matter movement, job listings and recreation/hikes, all 6 users were able to complete the task. Additionally, 4 out of 6 of the users said that the recreation/hikes task was realistic and half of the users said that the Black Lives Matter movement task was realistic. This shows that the information that is likely to be needed by users is accessible on this website.

2. Overall Aesthetics

Some users appreciated the color palette and graphics of the home page and commented positively on the overall aesthetic of the website.

3. Comprehensive Home Page

Two users commented positively that the home page was extremely comprehensive.

“Overall, it was pretty easy to use and there was a lot of information on the site, even if you did have to look for a bit.”

Problems & Suggestions

Minor problems are not detrimental towards the site's usability, however they would improve the site.

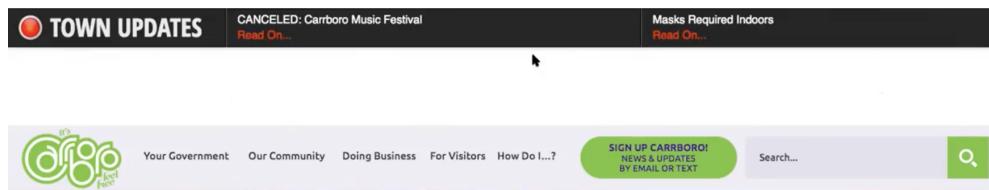
Major problems are smaller inconveniences that wouldn't necessarily make the user leave the site, however they are inconvenient enough that the users' experience feels interrupted.

Catastrophic problems are issues with the site that would cause the user to exit out of the page altogether.

Minor Problem #1: User questions the impact and organization of the Town Updates.

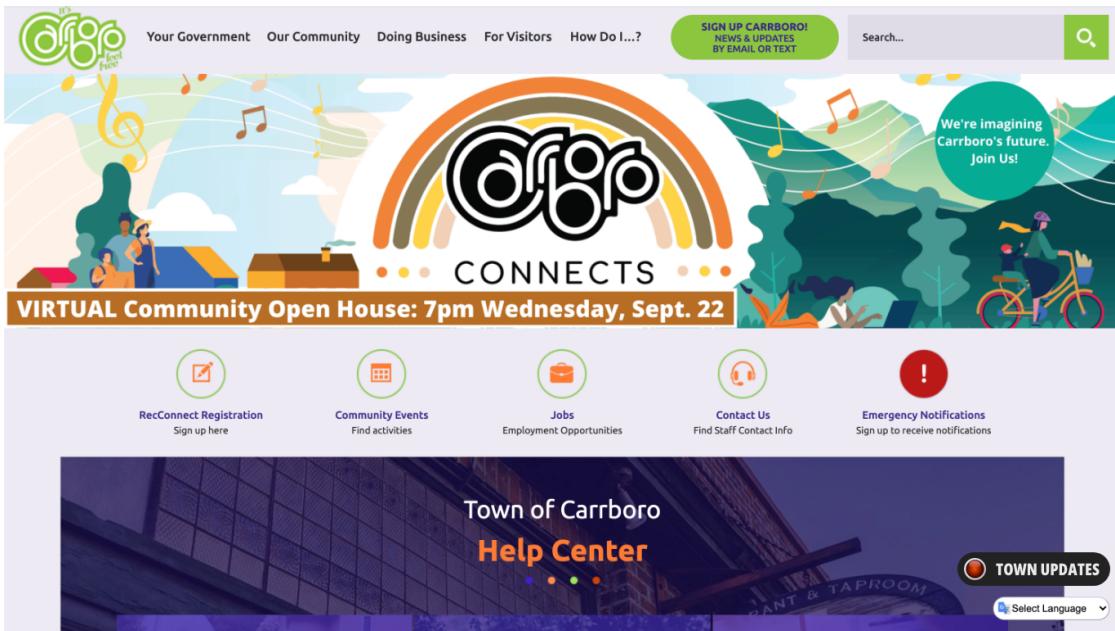
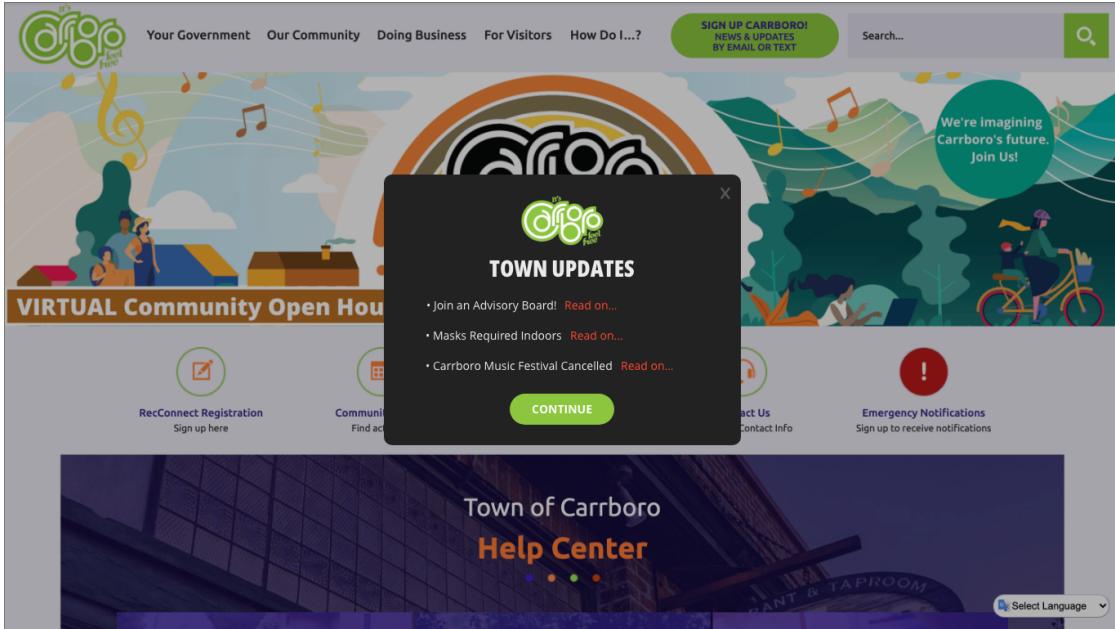
The user noticed that the Town Updates were positioned at the top of the page in a small area. They recognized the importance of having Town Updates available to site visitors, however, voiced concerns over the impact they had based on their font and the spacing below the Town Updates bar.

"I understand the relevance of the town updates, but in a way they dont have as much of an impact as they probably should. They have the stereotypical impact colors of red, black and white, but between the font and the awkward spacing I don't think it has the impact it's supposed to."



Suggestions #1: Implementing a Modal

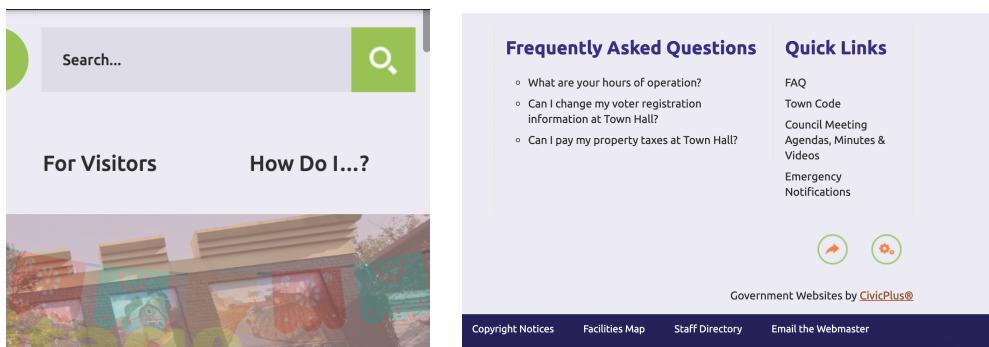
Because the town updates clearly contain pertinent information and users do not seem to currently be strongly impacted by the bar's presence, we suggest implementing a modal containing the most important updates that displays when the user first opens the website. To go along with the modal, we also suggest keeping an exclamation point icon at the bottom right of the page that displays the modal again when clicked on, so if the user wants to read the messages after closing the modal initially, it is still available.



Minor Problem #2 : Confusion on the placement of the FAQ position on the Town of Carrboro Homepage.

Users brought to our attention that having the FAQ section at the bottom of the home page and the “How Do I...” tab at the top of the home page was confusing. Intuitively, the information seems very similar.

“Having the FAQ at the bottom and the “How Do I...” header at the top, I feel like some areas got a bit muffled.”



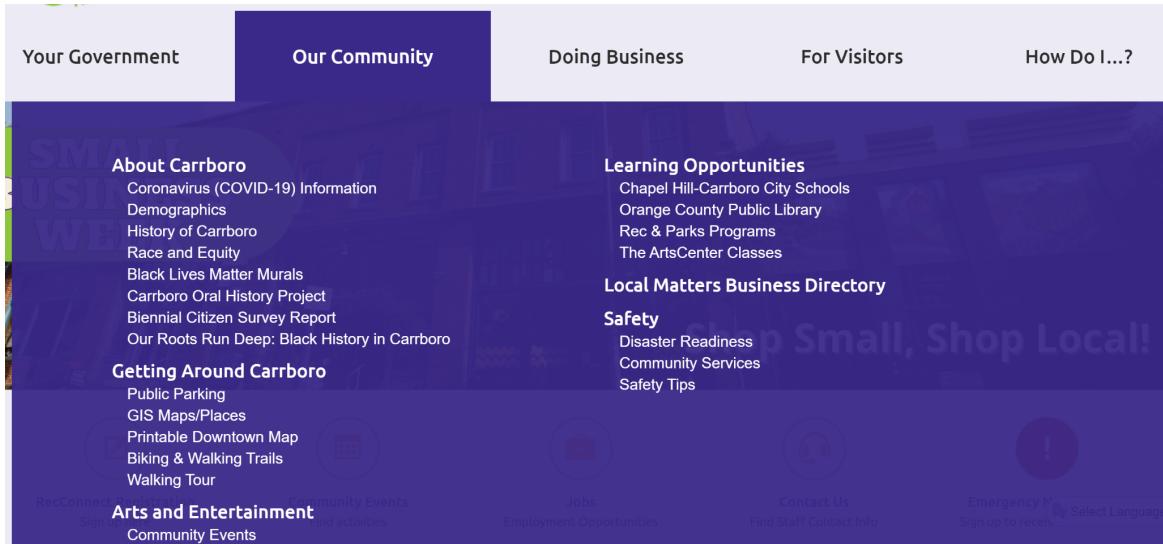
Suggestion #2: Moving the FAQs

Because users seem to be overlooking the FAQ section in the footer, we suggest moving the FAQ section to a more central area of the page, such as in the main navigation of the page.

Major Problem #1: The main navigation bar feels overwhelming to users.

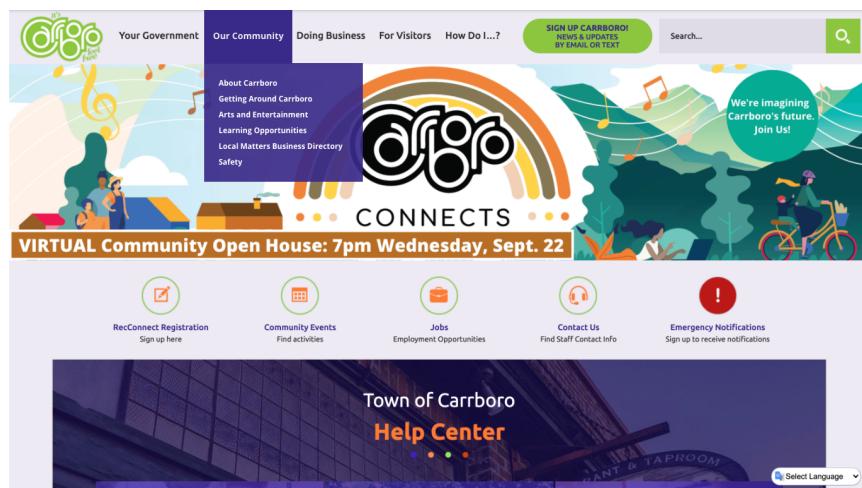
Users were unsure of where to find the information they needed, commenting on how the “Our Community” tab specifically felt crowded and disorganized. Additionally, it threw users off that the “For Visitors” tab had so little information relative to the other tabs.

"I feel like I'm going to the "Our Community" tab for everything... I guess that's because there's so many subsections on there that I just assume I will find everything that I need to know there, and then it's a bit frustrating when I don't find what I need or when the links on there don't seem to fit."



Suggestion #1: Reorganize the Links and Tabs

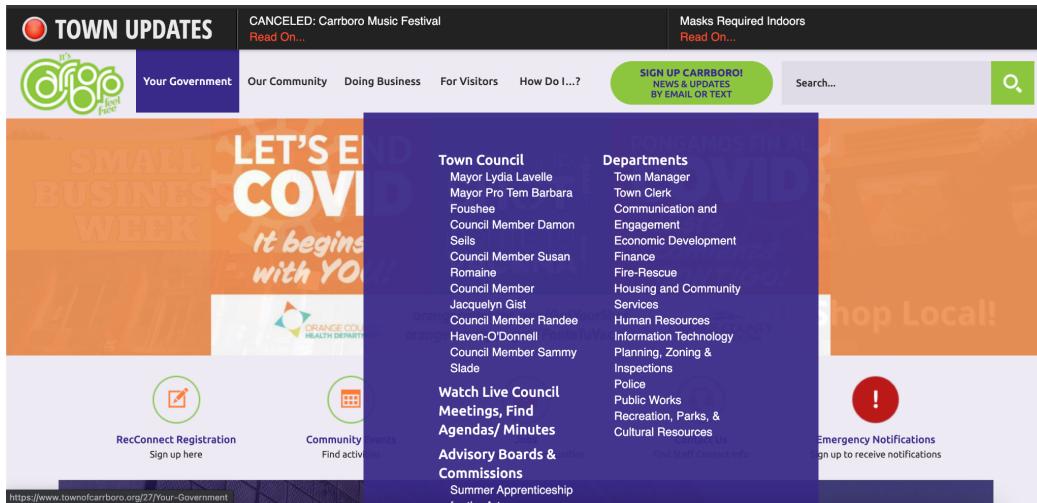
Because users seem to feel overwhelmed by the amount of information in the main navigation dropdowns, we suggest only using the headers (i.e. "About Carrboro", "Getting Around Carrboro", etc.) under the main navigation and making sure all main sections have a side navigation that contains the more specific links like the "Your Government" page.



Major Problem #2: When hovering over a tab on the main navigation, the menu items don't move with the users' mouse.

This isn't true of all computer screens, but for some of the users, the menu options would jump to the other side of the page. When users tried to follow it with their mouse, the menu items would disappear, preventing them from reading so that they could locate the information they needed.

"The bar keeps disappearing on me."



Suggestion #2: Editing the code

Because the menu jumps to the other side of the page for some users and makes it difficult for the user to select an item from the dropdown, we suggest testing the navigation bar code to pinpoint what is causing this and rewriting the code so that the navigation dropdown aligns with the appropriate section.

Major Problem #3: Information about the Carrboro Music Festival is not easily accessible.

As we pointed out in our limitations, on day two of testing, there was an update on the main homepage of the website that informed users that the festival was canceled. In all tests completed before that instance, every user tested was unable to find information on the music festival.

"I think I'm going to have to call it-- I'm really not sure where to find this."

Suggestion #3: Move it to “Our Community” under “Arts and Entertainment”

Since the Carrboro Music Festival is the main driver of traffic for the site, we recommend moving the information for the music festival to a different location that is more easily identifiable, “Our Community” under “Arts and Entertainment.” None of the users thought to go under “Your Government” to eventually find the information they need. Users currently have to go through 6 different steps in order to find information about the music festival. The average amount of actions completed on the site is 3.3, so most users would end up using the search bar rather than the site’s navigation to find it.

Catastrophic Problem #1 : The website overall takes a long time to load

Many users experienced frustration and difficulty with the load time of the website. Along with the mass amounts of text and information being presented on the screen, the lengthy page load time made the overall experience more arduous. Users expressed that this would hinder their experience on the page and would cause them to stop using the page entirely.

'It's so slow, ... It says "page unresponsive"

"I think my computer was just slow, that was frustrating."

Video Recording Link:

https://unc.zoom.us/rec/play/CFMJbOoj2o6LpX2dRNw_WwRxbea086UOb4hwvO9wSLwEtulf_cU_9l4hzGlaO16lsMEYUnrKkYtev8Fl.kXMcfwO3-AGHkWRh?autoplay=true (32s)

Suggestion #1: Minifying & Reducing Image Size

Because the website takes a long time to load overall, we suggest implementing some tactics to the site's code to decrease load time:

- We suggest **minifying the CSS and JavaScript code** everywhere possible. This code is already minified in some cases on the Town of Carrboro site, but minifying all remaining unminified instances of CSS and JavaScript can improve loading time.
- We suggest **reducing image sizes** where possible. Having many large, high quality images on a website can dramatically slow the site down, especially when the site has as much content as the Town of Carrboro's site. We suggest using a tool such as [TinyPNC](#), which compresses the size of images without impacting the quality.
- We suggest **cleaning up the database** of the site to remove any inactive pages or assets. It is normal for a site that has been active for a relatively long time with content that fluctuates frequently to gather blocks of code that are no longer actively affecting anything, and removing any instances of this can improve load time.

Catastrophic Problem #2 : Some pages on the website did not load at all

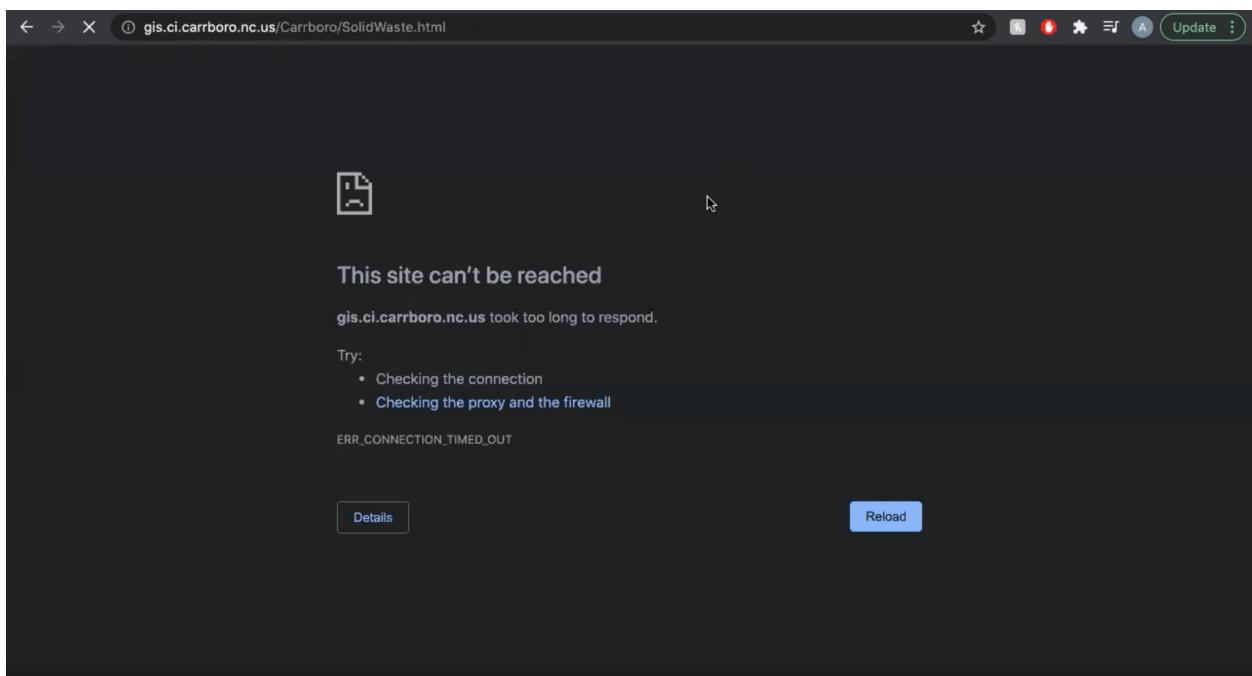
Users had problems completing certain tasks, especially finding trash collection information. When attempting to complete the trash collection task, the load time was frustratingly long, and a user experienced the site crashing and could not complete the task.

"It seems like [the information] related to waste disposal and trash is kind of messed up right now."

"I'm clicking on the trash schedule, but it's not loading and I can't tell if that's on my end or on the website's end."

"It did crash sometimes, which would be frustrating if I were really depending on it."

"The absence of the trash info was probably the most glaring."



Video Recording Link:

https://adminliveunc-my.sharepoint.com/:v/g/personal/katli_ad_unc_edu/EQ51JzV4hJJPuVCdWUwA-LIBAHxGoUSvwJYNcp_VZe4PTA?e=7evJoq

Suggestion #2: Fixing Link Connections

Because some pages on the site appeared to be broken, especially the trash collection page, we suggest combing through the code for references to those specific pages and making sure that they are connected to the rest of the site properly. If not, we suggest fixing this.

Appendices

Usability Test Informed Consent Form:

Informed Consent Form

Purpose of the project:
The researcher is conducting a usability study to evaluate the design of the Town of Carrboro website. The results will be used to help improve the site design.

Procedures:
As a subject you will be asked to:
1.) Fill out a pre-experiment questionnaire.
2.) Be observed as you spend a specified amount of time viewing the presentation.
3.) Complete a series of tasks on the site.
4.) Complete post-experiment questions.

Confidentiality:
Participation in this usability study is voluntary. All information will remain strictly confidential. The descriptions and findings may be used to compile a report about the site's effectiveness. However, at no time will your name or any other identification be used. You are at liberty to withdraw your consent to the experiment and discontinue participation at any time without prejudice. If you have any questions after today, please contact the instructor, Laura Ruel (lruel@unc.edu).

Who is your usability tester?

- Madelein
- Morgan
- Daniella
- Katherine
- Samantha

I have read and understood the information on this form and had all of my questions answered. (Please sign your name.)

Your answer _____

Submit

Introduction to Test Script:

Hi, _____. My name is _____, and I am going to be walking you through this session today.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

You probably already have a good idea of why we asked you here, but let me go over it again briefly. We're asking people to try using a Website that we're working on so we can see whether it works as intended. The session should take about 45 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. In fact, this is probably the one place today where you don't have to worry about making mistakes. And don't worry about how long it takes you to complete a task, take as much time as you need.

As you use the site, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to us.

Also, please don't worry that you're going to hurt our feelings. We're doing this to improve the site, so we need to hear your honest reactions.

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.

With your permission, we're going to record what happens on the screen and our conversation. The recording will only be used to help us figure out how to improve the site, and it won't be seen by anyone except the people working on this project. And it helps me, because I don't have to take as many notes.

If you would, I'm going to ask you to sign a simple permission form for us, which I will send in the chat. It just says that we have your permission to record you, and that the recording will only be seen by the people working on the project.

Do you have any questions so far?

Pre-Test Questions:

1. First, what's your occupation? What do you do all day?
2. Now, roughly how many hours a week altogether—just a ballpark estimate—would you say you spend using the Internet, including Web browsing and email, at work and at home?
3. And what's the split between email and browsing—a rough percentage?
4. What kinds of sites are you looking at when you browse the Web?
5. Do you have any favorite Websites?

Test Script Continued:

OK, great. We're done with the questions, and we can start looking at things.

First, I'm going to ask you to look at this page and tell me what you make of it: what strikes you about it, whose site you think it is, what you can do here, and what it's for. Just look around and do a little narrative. You can scroll if you want to, but don't click on anything yet.

What do you think of the visuals and overall aesthetic of the site? Such as the graphics, videos, photos, colors, etc.?

What do you usually use this site for? Or, if you haven't used it, would you?

Thanks. 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.

I'm also going to ask you to do these tasks without using Search. We'll learn a lot more about how well the site works that way.

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

Usability Tasks (About 2 minutes given per task):**Task #1:*****Athletics***

"You are new to Carrboro, and you're thinking about joining some kind of adult athletics program, but you are not sure exactly what yet. You wonder if there are athletic programs for you in your new Carrboro community. How would you

go about trying to find information about athletic programs in Carrboro?"

Task #2:

Music Festivals

"You've been hearing people in your community talking about how the Carrboro Music Festival is coming up soon. You're really excited to attend the event because you've never been before, and you know it's one of Carborro's biggest events of the year. You want to make sure you're able to fit the event into your schedule, so how would you navigate the site to find the date and time of the event?"

Task #3:

Recreation / Hikes

"You are interested in exploring the nature surrounding your neighborhood and love going on hikes. You start to plan a day of activities for a nice day coming up. How would you find some outdoor activities and trails that you would be interested in going with your friends?"

Task #4:

Do You Live in Carrboro?

"You have been talking to your friends who live in Chapel Hill about some of the town laws they've been adjusting to since moving in town. You have started to be unsure of the difference between the Chapel Hill and Carrboro municipal lines and would like to check where your house is. How would you figure out whether or not your house is in Carrboro?"

Task #5:

Trash Collection

"Imagine you are new to the Town of Carrboro and you do not have a dumpster near your home. You would like to know what you are able to dispose of, what the guidelines are, and what day your trash will be collected. How would

you go about finding information about trash collection in Carrboro?"

Task #6:

Employment

"You just moved to the Town of Carrboro and you are trying to find a new job, how would you find the page on the Town of Carrboro site where job listings are available for the area?"

Task #7:

Volunteering

"You are new to the Town of Carrboro and are looking to get more involved in community outreach opportunities. You want specifically to find volunteer opportunities. How would you go about finding volunteer opportunities within the Town of Carrboro?"

Task #8:

Birthday Surprise

"You just moved to the Town of Carrboro with your young child whose birthday is soon. You want to plan a birthday party for them in your new community, and you want to make it extra special since they have been missing their friends from your previous home. Your child is really into fire trucks, so you would like to reach out to Carrboro Fire Department and see if they can bring a firetruck to your child's party. How would you go about finding information about this on the Town of Carrboro website?"

Task #9:

Activism

"You're interested in what Carrboro has to say about activist movements such as the Black Lives Matter movement. How would you try to find that information on this website?"

Task #10:

COVID-19

“You’re a resident in Carrboro and want to make sure you’re abiding by the COVID-19 protocols in your town. How would you go about finding information about Carrboro’s COVID-19 protocols?”

End of Test Script:

Thanks, that was very helpful. So now that you have completed the tasks, we have a post-test survey and a few post-test questions for you to answer. Feel free to continue sharing your screen or to stop the screen share if you would like while you complete the survey.

Post Test Survey:



Usability Scale

Town of Carrboro Website Feedback

First Name

Short answer text

I would like to use this site frequently. *

1	2	3	4	5	
strongly disagree	<input type="radio"/> strongly agree				

I found the site unnecessarily complex. * :::

1	2	3	4	5	
strongly disagree	<input type="radio"/> strongly agree				

I felt confident using this site.

1	2	3	4	5	
strongly disagree	<input type="radio"/> strongly agree				

I would recommend this site to someone else who lives in Carrboro.

1	2	3	4	5
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Post Test Questions:

Now that you've completed the survey, we'd like to finish off by asking you a few questions.

- Was there any point during using the website that you found it too frustrating to continue? Where and why?
- Did you feel that any of the scenarios we asked you were realistic scenarios that you yourself have been in? If so, which ones and why?
- Do you have any questions for me now that we're done? It could be about the website, the study we're conducting or any of the tasks we asked you to complete today.

We're going to end the screen recording now, thank you so much for your time, _____, this will be very helpful towards improving the Town of Carrboro website. Have a good rest of your day!

Results

Out of the 10 tasks we asked users to complete:

1. It was observed that **3 out of 6** subjects had trouble finding the Town of Carrboro music Festival information.
2. It was observed that **2 out of 6** subjects had a hard time finding the trash collection schedule.
3. It was observed that **6 out of 6** subjects were able to find job listings.

It was observed that **6 out of 6** subjects were able to find information about BLM.

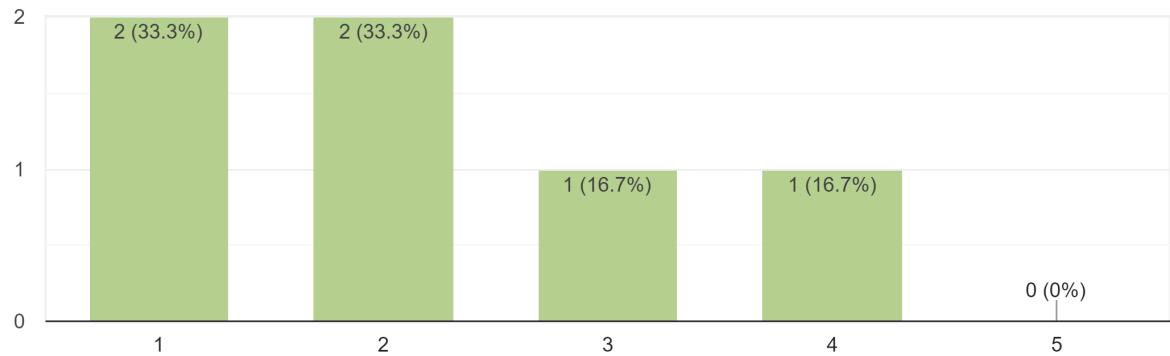
Tasks	Participant A	Participant B	Participant C	Participant D	Participant E	Participant F
Athletics						
Music Festival						
Recreation/Hikes						
Neighborhood						
Trash Collection						
Job Listings						
Volunteering						
Birthday (Firefighting)						
Activism						
COVID-19						

Highlighted tasks were not completed, blank tasks were completed

Additionally, these were the results of our 6 System Usability Scale questions:

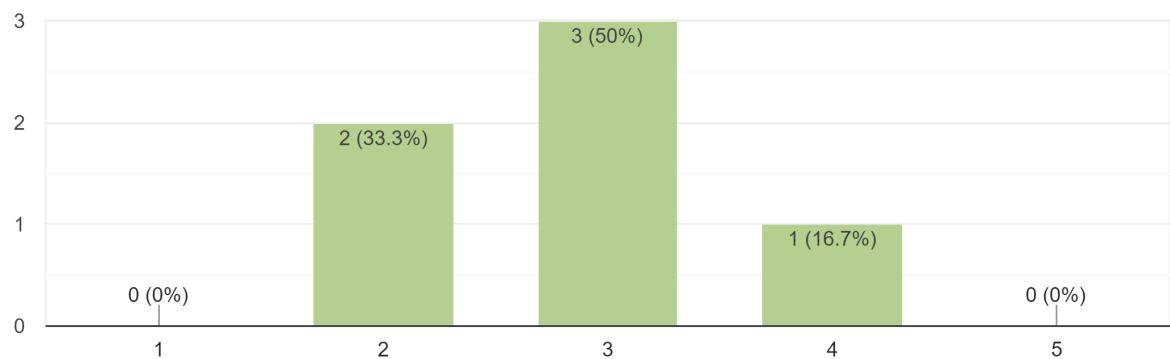
I would like to use this site frequently.

6 responses



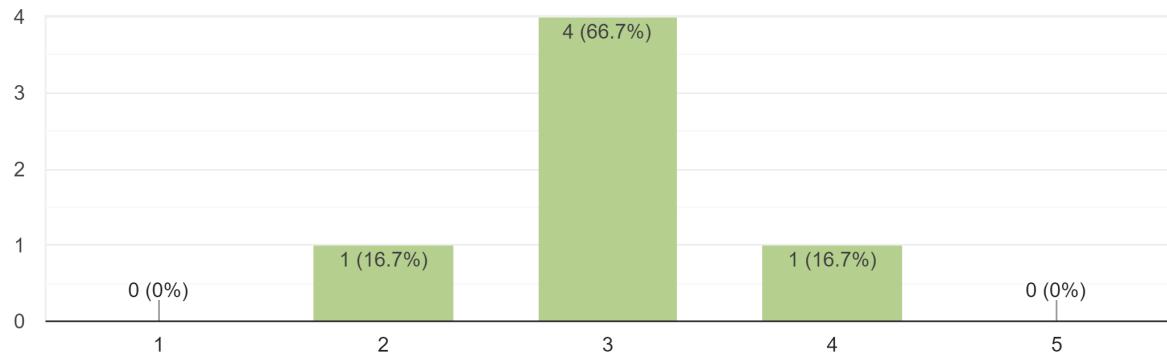
I found the site unnecessarily complex.

6 responses



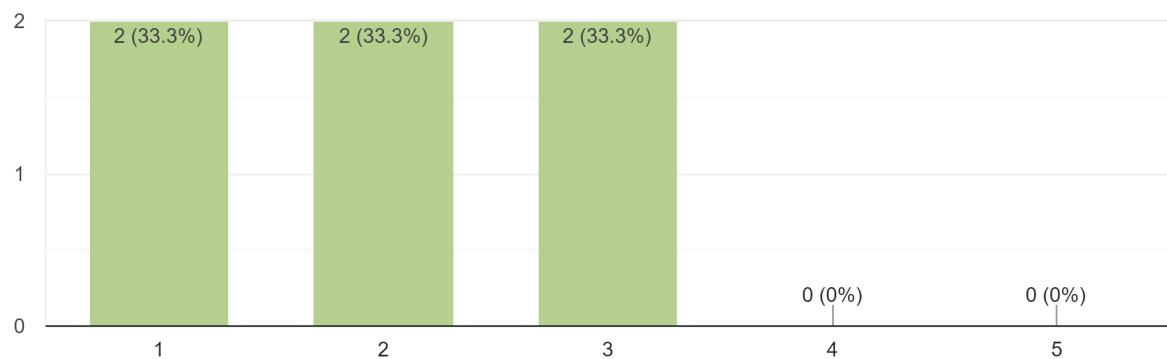
I thought the site was easy to use.

6 responses



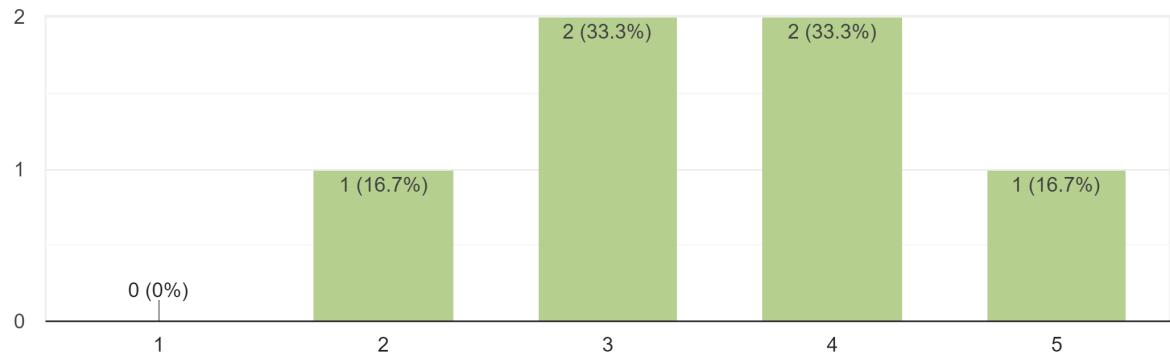
I would need guidance navigating the site.

6 responses



I felt confident using this site.

6 responses



I would recommend this site to someone else who lives in Carrboro.

6 responses

