



**The Robotics Club at Iowa State<sup>TM</sup>**  
**Website Usability Test Report**  
***Round 2***

Report and Testing by Megan Pezley  
December 9, 2022

## Table of Contents

<b>Introduction</b> .....	3
<b>Executive Summary</b> .....	3
<b>Methodology</b> .....	5
Sessions .....	5
Participants .....	6
Tasks .....	8
Follow-Up Questions .....	9
<b>Results</b> .....	9
Thoughts about the Homepage .....	9
Task Completion Success Rate .....	10
Further Exploration of the Website .....	12
Responses to Questions .....	13
Mobile Testing Results .....	17
<b>Recommendations</b> .....	19
<b>Conclusion</b> .....	22
<b>Appendix</b> .....	23
Calendar Meeting Notice .....	23
Facilitator Script .....	24
Thank You Follow-Up Email .....	28
Release Form .....	29

## Introduction

The Robotics Club at Iowa State™ aims to teach students about robotics as they build robots to compete against other collegiate groups. As a result, their website should promote their club to gain new members and sponsors and inform faculty, students, robotics enthusiasts, and community members about the club. Their website is intended for current or soon-to-be Iowa State students, faculty, local businesses, and other collegiate robotics club members. However, the Robotics Club's officers do not feel their current website meets its goals or is positively seen by its audiences. As a result, a website redesign was required to help the website meet its goals and be seen in a positive light.

To start this redesign, I conducted an initial round of usability tests to gain concrete information about the audiences' thoughts on the current website and specific places where it needs improvement. I found participants thought the current website was unprofessional, left them with numerous questions about the club, and did not persuade them to want to join or sponsor the club. As a result, I designed a website prototype in Figma for a new website that would solve these issues. Now, a second round of usability testing is required to see if the website prototype actually is an improved version of the current website, if it meets the club's goals for a website, and how it can be improved to better meet those goals.

As a result, I conducted this usability test on behalf of the Robotics Club officers to understand how well the users can complete basic tasks on the website prototype and find the information users typically want. Six individuals completed the usability tests. First, participants 1-5 completed the tests in Durham's Usability Lab on a PC desktop computer that runs Windows. Their audio, camera, and screen were recorded using the lab's cameras, microphones, and software. Additionally, participant 6 completed the test in Ross's Studio for New Media on an Android phone. Their audio, camera, and screen were recorded using Camtasia.

For all of these tests, I served as the observer. Sadie Smeenk helped as the facilitator. I wrote a script ahead of time which Sadie read off. During each test on a desktop computer, Sadie first asked the participants a series of questions about their characteristics to understand how those personal characteristics may impact their data. Second, participants explored and provided feedback on just the homepage. Next, participants attempted a series of small tasks on the site to find information that the primary audience members would want to know. Fourth, they were given the option to explore the site on their own. Participants only took advantage of this opportunity when they wanted to see specific website pieces that they noticed while completing the tasks but were not relevant to the given tasks. Only participant 1 did not take advantage of this opportunity as they felt they had seen everything while completing the tasks. Finally, participants answered a series of short questions, providing their thoughts on the website. During the test on a mobile device, participant 6 only explored the homepage and completed the series of small tasks as the test was much more informal.

## Executive Summary

Participants 1-5 completed the test in Durham's Usability Lab. Participants 1 and 2 completed the test on November 14, 2022, and participants 3-5 completed the test on November 15, 2022. Each session lasted, on average, 20 minutes. Participant 6 completed the test on November 17, 2022, in Ross's Studio for New Media. This session lasted about 10 minutes and was not planned in advance, making it much more

formal. However, I am still including it in this report because I believe it provided a lot of insightful information about the website prototype's effectiveness on a mobile device.

For the tests on a desktop computer, the tests consisted of five phases. First, participants answered questions providing insights about their familiarity with the Robotics Club and website technology. The goal was to understand if the participants had any personal biases that may impact their participation in the study and view of the website. Plus, it provided information about the participants' expertise. I did not discover any significant biases in the participants. Second, participants explored only the website's homepage. This phase aimed to see what participants initially thought of the website. I wanted to answer the question, "Did the homepage catch their attention enough to cause them to continue exploring the website?" Third, participants completed four short tasks that I expect website users to commonly need to do on the website. The goal was to see if participants could navigate the website easily and find information. I wanted to answer the question, "Was this website's organization user-friendly?" Fourth, participants were given time to explore the website on their own. This phase was optional. If the participants believed they had seen the entire website while completing the previous phases, they could skip phase four. Only one participant did not take advantage of the fourth phase. The goal of the fourth phase was to prepare the participants for the last phase. Finally, participants answered a series of questions about their opinions of the website. The goal of the fifth phase was to get the participants' general impression of the website. I wanted to see if users would be positively persuaded by the club's website and view it as professional.

For the test on a mobile device, the participant only completed phases 2 and 3.

Overall, the participants responded more positively to the prototype than to the current Robotics Club website. Participants found the prototype engaging and were more likely to want to join or sponsor the club. However, the additional content made the prototype harder to navigate. Plus, some participants still ended the test with questions about the club. As a result, the prototype still needs to be improved as it is turned into a functioning website.

As a result, I recommend the following improvements and updates to the website prototype to improve the website's users' perceptions of the site and the site's professionalism:

- Integrate more pictures and videos.
- Improve the text's proportions.
- Include specific details about club members' requirements and duties.
- Add current club testimonials to explain the advantages of joining the club.
- Ensure all buttons or links going to the same page on the site have the same wording.
- Make sure that all clickable features, specifically the pictures on the "Officers" page, have a hovering effect so it is always obvious that the feature is interactive.
- Include specific contact information for whom to contact if interested in a project.
- Enhance the site navigation on a mobile device so that users can find all pages even if they do not use the navigation bar.

The following document explains the usability test methodology and participants, task completion rates, participant comments, and recommendations for site improvements.

## Methodology

### **Sessions:**

Sadie and I worked together to find participants for these tests. I asked friends who major in computer science or other technical fields, while Sadie asked friends who major in technical communication or English to complete our tests. We each asked five people (ten in total) and then divided those participants among each other, so we had an even number of participants with each major. We tried to ask people with different perspectives to gain more insight into how various people would use the website. Participants participated in our tests as a favor for us, and we also gave them cookies and candy as a thank you.

After working with the participant to schedule their test, each participant received a [calendar meeting](#) notice with details about what the session would require of them. The meeting notice also sent them a notification reminder an hour before the session.

Each test lasted, on average, 20 minutes. Sadie served as the facilitator, staying in the room with the participant and leading the session, while I served as the observer. I sat in the back room and watched the session on the other side of the one-way mirror. I ran the recording and took notes throughout the session.

Before each test, Sadie asked the participant for permission to record and use their data and had them sign a [release form](#) documenting that they gave permission. She also explained how the test would work. The first phase asked participants to answer basic questions about themselves. Then, the second phase invited the participants to explore and give feedback on the homepage. Next, the third phase consisted of the participants completing four tasks. Each task was a scenario where the user had to imagine themselves as a specific and common website audience member trying to find a piece of information on the website that the audience member would desire. As the observer, I recorded how long it took the participants to complete each task using a stopwatch on my phone. Sadie read off all of the tasks to the users, ensuring each participant heard the same task wording. Participants were banned from using “Ctrl-F,” but it would not have worked with the website prototype anyways. (To see the tasks that I asked the participants, please see the document section called “[Tasks](#).”) Fourth, the participants were allowed to continue exploring the website if they saw anything on the site that they wanted to explore during phase 3, but it did not pertain to the given task. In the first round of usability testing, most participants did not take advantage of this opportunity because the website was so small, but this prototype included more content, so everyone except participant 1 took advantage of this opportunity. Finally, participants answered questions to provide their opinions and feedback about their experience finding information on the site. (To see the questions that I asked the participants, please see the document section called “[Follow-Up Questions](#).”)

After the session, each participant received a [thank you email](#) thanking them for their participation, help, and insights.

### ***Participants:***

The five participants who completed the usability tests on a desktop device have the following characteristics. The facilitator formally asked the participants all of these questions at the beginning of the session except for the participants' major and school degree. Participants were chosen for this study based on having those characteristics, so they were not formally asked those questions in the session.

#### **Age:**

18-20	1
21-23	2
24+	2

#### **School Degree:**

Ph.D. Candidate	1
Undergraduate	4

#### **Visited Current Robotics Club Website:**

Yes	0
No	5

#### **Experience Sponsoring Organizations:**

Yes	2
No	3

#### **Computer Literacy:**

Low	0
Average	0
High	5

#### **Knowledge about Website Development:**

Low	0
Average	2
High	3

#### **Gender:**

Male	1
Female	4

#### **Major:**

Computer Science	3
Technical Communication	2

#### **Experience with the Robotics Club\*:**

Yes	0
No	5

#### **Experience on a Robotics Team\*\*:**

Yes	0
No	5

#### **Knowledge about Visual Design:**

Low	0
Average	2
High	3

#### **Knowledge about Writing Website Content for an Audience:**

Low	1
Average	2
High	2

*\*Note 1: Having experience with the Robotics Club means that the participant was a current or former member of the club, attended a club meeting or event, or had any sort of association with the club. Basically, this question aimed to see if any participants had any bias or preconceived ideas about the club that would impact their opinions of the website prototype.*

*\*\*Note 2: Having experience on a robotics team means that the participant was either previously or currently on a robotics team or coached a robotics team. This robotics team could be an elementary, middle, or high school team or a collegiate robotics extracurricular that is not the Robotics Club.*

### **Tasks:**

In phase 2 of the tests, the users were asked to explore the website's homepage with the following prompt:

“Now, we can look at the website prototype. First, please look at this homepage and tell me what you think of it. What stands out to you about it? What would you say is the purpose of the site? Please feel free to scroll on the homepage or hover over the buttons, but do not click on anything yet.”

During phase 3 of the tests, the users were asked to complete the following tasks:

#### **Task 1:**

Imagine you are a freshman at Iowa State wanting to find a club to get involved in. You loved being on the robotics team in high school and want to find a similar club to continue participating in college. You are unsure if the Robotics Club is a good fit for you. Using this website, what can you do to get more information to make this decision?

*Correct Answer: There is not one correct answer for this task. Persuading students to join the Robotics Club is a major goal of the website, so I want to see if someone trying to accomplish this task can easily find the information that they want on the website. I was also curious about where someone trying to accomplish this task would look on the website. I predicted that some possible answers to this task could have included:*

- Asking questions using the email contact in the folder.
- Filling out the form on the “Join” page.
- Emailing an officer using the email addresses found on the “Officers” page.

#### **Task 2:**

Imagine you are that same freshman student. You decided to join the Robotics Club! When are the club’s general meetings?

*Correct Answer: Once a month, with the date and time to be determined.*

*Answer Location: On the “About” page under “When do we meet?”*

#### **Task 3:**

Imagine you work at a local Ames business focusing on engineering projects. The owner wants to give back to the community and sponsor student engineering groups and decided to sponsor the Robotics Club by giving \$100. What will the Robotics Club use that \$100 donation for?

*Correct Answer: Purchase control system electronics and bulk materials.*

*Answer Location: On the “Support Page” under “Steel” in the “Where does my donation go?” section.*

#### **Task 4:**

Imagine you are a freshman at Iowa State. You attended ClubFest and talked to the Robotics Club’s president. You want to contact the president specifically to ask follow-up questions. Where is their contact information located on the website?

*Correct Answer: On the “Officers” Page in a pop-up screen that shows up when you click on President Shelby’s picture, name, or title.*

## ***Follow-Up Questions:***

During phase 5 of the tests, the users were asked the following questions:

- On a scale of 1 to 10, with 1 being the lowest and 10 being the highest, how would you rate the website's professionalism? Why?
- Again, on that same scale of 1 to 10, how would you rate the website's visual design? Why?
- Finally, again, on that same scale of 1 to 10, how would you rate the website's content? Why?
- Would you join the club based on viewing this website, solely based on your interactions with this website and not based on your interests in robotics or opinions of robotics-related clubs? Why or why not?
- Would you sponsor the club? Again, answer this question solely based on your interactions with this website and not based on your interests in robotics or opinions of robotics-related clubs. Why or why not?
- What questions would you have after viewing this website or completing any of the tasks I gave earlier?
- Do you have any other comments?

## **Results**

### ***Thoughts about the Homepage:***

	<b><i>Comments</i></b>
Participant 1	<ul style="list-style-type: none"> <li>● Found the header navigation to be too big and shouting at the audience</li> <li>● Thought important pieces of the page's content do not stand out enough</li> <li>● Wished page elements had some animation as the static webpage did not look that nice</li> <li>● Believed the “Sponsor” section is fine but could be a little smaller and have better font proportions</li> <li>● Wanted the “Projects” section to be moved up on the page because there already are “Join” and “Support” buttons at the top and the projects should be something that people can easily find the first time they come to the website</li> <li>● Felt the elements of the page are big; make them smaller so that people do not have to scroll as much</li> </ul>
Participant 2	<ul style="list-style-type: none"> <li>● Thought the homempage was very nicely done</li> <li>● Believed the little animations were cute</li> <li>● Liked that there were pictures of people</li> </ul>
Participant 3	<ul style="list-style-type: none"> <li>● Appreciated that hover animations cause buttons to be emphasized and menu labels to change colors</li> <li>● Believed it was good that site follows Iowa State branding colors</li> <li>● Liked the footer design</li> </ul>
Participant 4	<ul style="list-style-type: none"> <li>● Clearly communicates that the site is for an Iowa State club based on the</li> </ul>

	<p>colors and about the Robotics Club based on headings</p> <ul style="list-style-type: none"> <li>● Liked the picture with the children</li> <li>● Easy to find buttons and contact information</li> <li>● Cool that there are multiple projects to learn about</li> </ul>
Participant 5	<ul style="list-style-type: none"> <li>● Found the pictures featuring people appealing</li> <li>● Appreciated that the faded picture at the top of the homepage because it draws the user's attention to where they should look at</li> <li>● Thought the homepage is overall appealing and makes someone want to know what is happening</li> <li>● Liked that the footer follows the format of a conventional footer</li> </ul>

### ***Task Completion Success Rate:***

#### **Task 1:**

	<i>Locations Looked at for Information (in order that they looked at them)</i>	<i>Comments</i>
Participant 1	<ul style="list-style-type: none"> <li>● “Projects” page</li> <li>● “About” page</li> <li>● “Officers” page</li> </ul>	<ul style="list-style-type: none"> <li>● Thought it was weird that clicking on one project button on the homepage leads to information about all of the projects</li> <li>● Believed it was good that the “Projects” and “About” pages were different</li> <li>● Found it strange that the meeting information was on the “About” page</li> <li>● Would use the “Officers” page to find someone to contact</li> </ul>
Participant 2	<ul style="list-style-type: none"> <li>● “About” page</li> <li>● “Projects” page</li> <li>● “Join” page</li> </ul>	<ul style="list-style-type: none"> <li>● Wished the “Projects” page had videos of the projects</li> </ul>
Participant 3	<ul style="list-style-type: none"> <li>● “About” page</li> <li>● “Projects” page</li> <li>● “Outreach” page</li> <li>● “Join” page</li> <li>● “Officers” page</li> </ul>	<ul style="list-style-type: none"> <li>● Appreciated pictures</li> <li>● Liked that users can look at the “Projects” page and see if the club is a good fit</li> <li>● Found the “Outreach” page unhelpful for this task</li> <li>● Wanted details for high school students</li> <li>● Would contact someone on the “Officers” page to learn more information about the personal impacts of the club; otherwise would fill out the form on the “Join” page</li> </ul>
Participant 4	<ul style="list-style-type: none"> <li>● “About” page</li> </ul>	<ul style="list-style-type: none"> <li>● Would use social media to learn about meeting</li> </ul>

	<ul style="list-style-type: none"> <li>• “Projects” page</li> <li>• Social Media</li> </ul>	times and changes
Participant 5	<ul style="list-style-type: none"> <li>• “About” page</li> <li>• “Join” page</li> </ul>	<ul style="list-style-type: none"> <li>• Liked that the “About” page gives a brief overview of the club projects and goals</li> <li>• Would use the meeting time information to see if the time worked in their schedule</li> <li>• Noticed the WebEx meeting photo and wondered if the club is remote or in-person</li> </ul>

**Task 2\*:**

	<b><i>Final Answer Accuracy</i></b>
Participant 1	Correct
Participant 2	Correct
Participant 3	Correct
Participant 4	Correct
Participant 5	Correct
Overall	5/5 = 100% correct

\*Note: All participants admitted that they had already found the answer to this question in the first task so the time taken to complete the task was irrelevant.

**Task 3:**

	<b><i>Final Answer Accuracy</i></b>	<b><i>Time Taken to Complete Task</i></b>
Participant 1	Correct	30 seconds
Participant 2	Correct	30 seconds
Participant 3*	Correct	20 seconds
Participant 4	Correct	10 seconds
Participant 5	Correct	30 seconds
Overall	5/5 = 100% correct	24 seconds average

\*Note: The participant originally thought the answer to this question was “Steel” because that is the sponsorship level.

**Task 4:**

	<i>Final Answer Accuracy</i>	<i>Time Taken to Complete Task</i>
Participant 1*	Correct	18 seconds
Participant 2	Correct	15 seconds
Participant 3**	Correct	1 second
Participant 4	Correct	7 seconds
Participant 5	Correct	10 seconds
Overall	5/5 = 100% correct	10.2 seconds average

\*Note: The participant admitted that, at first, they did not realize that they needed to click on the image to get a pop-up with the president's contact information.

\*\*Note: The participant admitted that they had already found the answer to this question in an earlier task.

**Takeaways and Additional Notes from the Participants Completing the Tasks:**

In general, participants easily navigated throughout the website, as shown by all participants correctly completing all tasks. However, based on the participants' comments, I do not think they would have all successfully completed the second task had they not found the answer in the first task. I did not expect participants to find the answer to the second task in the first task; otherwise, I would have changed the order of the tasks. Many participants complained that the meeting time location was not located where they would naturally look, meaning that the location of that information needs to be clearer. Additionally, participants' comments show they value media and engaging or interactive features such as pictures, videos, and hovering effects. As a result, the website needs more pictures and videos, especially on the "Projects" page. Also, anything that allows for user interaction, such as buttons or the pictures on the "Officers" page, needs hovering effects to make the interaction possibility clear. Finally, task 1 showed that participants find information about joining the club through various pages, meaning the directions for how to join the club must be easy to find throughout almost the entire website. Overall, these tasks show that there is still room for improvement related to the organization and navigation of the website.

**Further Exploration of the Website:**

	<i>Comments</i>
Participant 1	<ul style="list-style-type: none"> <li>• Did not continue exploring the website</li> </ul>
Participant 2	<ul style="list-style-type: none"> <li>• Felt the "Outreach" page was nicely done, but fonts were not proportional</li> <li>• Liked the hovering animations</li> <li>• Wished there were more pictures or videos</li> <li>• Noticed that there were not any girls in the club pictures on the homepage and admitted that they would be intimidated if they were the only girl in the club</li> </ul>

	<ul style="list-style-type: none"> <li>• Wanted to see “big name” and “well-known” sponsors on the home page sponsor section</li> <li>• Did not initially realize that the logo in the navigation bar tasks the user to the home page and thought a label would be helpful</li> </ul>
Participant 3	<ul style="list-style-type: none"> <li>• Explored the site more but had no comments</li> </ul>
Participant 4	<ul style="list-style-type: none"> <li>• Explored the site more but had no comments</li> </ul>
Participant 5	<ul style="list-style-type: none"> <li>• Felt confused by the “Support” and “Sponsor” buttons having different names but leading to the same place</li> </ul>

### ***Responses to Questions:***

#### **Rating of the Website’s Professionalism:**

	<b>Rating</b>	<b>Reasoning</b>
Participant 1	8	<ul style="list-style-type: none"> <li>• Felt content was shouting at the reader</li> <li>• Wanted more information about what the club does and this information should be the first thing someone sees on the site</li> <li>• Desired more pictures</li> <li>• Wisehd officer contact information was more obvious on the “Officers” page</li> <li>• Saw website as a more casual website than a professional website; it has the professional feel of a club website, not one made by a professional website company</li> </ul>
Participant 2	9	<ul style="list-style-type: none"> <li>• Saw the site as clickable, nice, and straight to the point</li> </ul>
Participant 3	10	<ul style="list-style-type: none"> <li>• Believed the site feels way more professional than most club websites because it has a lot more information than what one would find on the Student Organization’s website</li> </ul>
Participant 4	7.5	<ul style="list-style-type: none"> <li>• Liked the colors and background</li> <li>• Found it easy to find everything because the site is clearly laid out and does not include a lot of extra information</li> </ul>
Participant 5	8.5	<ul style="list-style-type: none"> <li>• Did not expect a super professional website since it is a student-focused site</li> </ul>

		<ul style="list-style-type: none"> <li>Noticed many professional elements, especially on the “Sponsors” page, that would be expected when trying to persuade sponsors</li> </ul>
Overall	8.6 average	

#### Rating of the Website’s Visual Design:

	<i>Rating</i>	<i>Reasoning</i>
Participant 1	7	<ul style="list-style-type: none"> <li>Saw font sizes and proportions as jarring; there was too much big font, so titles and headings do not stand out as they should</li> </ul>
Participant 2	8	<ul style="list-style-type: none"> <li>Believed the site was laid out nicely</li> <li>Said some fonts “hurt my eyes”</li> <li>Wanted headings and titles to stand out more</li> </ul>
Participant 3	10	<ul style="list-style-type: none"> <li>Liked that there were a lot of pictures</li> <li>Thought the site had good a use of Iowa State’s color scheme, making it look like an Iowa State website and adding to its professionalism</li> </ul>
Participant 4	7	<ul style="list-style-type: none"> <li>Appreciated that there were a lot of pictures</li> <li>Like that the site follows Iowa State branding</li> <li>Wished text was smaller as it is a little intense</li> </ul>
Participant 5	10	<ul style="list-style-type: none"> <li>Really liked the appealing design, use of Iowa State colors, layout, tile design, and symbols</li> <li>Thought design makes someone want to explore the website more</li> <li>Appreciated use of white space</li> </ul>
Overall	8.4 average	

#### Rating of the Website’s Content:

	<i>Rating</i>	<i>Reasoning</i>
Participant 1	8	<ul style="list-style-type: none"> <li>Thought site lacked content leaving them with many questions about the club</li> </ul>
Participant 2	9	<ul style="list-style-type: none"> <li>Thought site included good content, especially for freshmen</li> <li>Liked that it includes information about projects, community aspects, and club activities</li> </ul>

Participant 3	10	<ul style="list-style-type: none"> <li>Liked the present content and did not know what to add</li> </ul>
Participant 4	8.5	<ul style="list-style-type: none"> <li>Believed the content was good, informative and provides a clear ideas about the Robotics Club</li> <li>Wished the meeting times and locations were more specific</li> <li>Did not like that the officer's emails came up as a pop up</li> </ul>
Participant 5	9	<ul style="list-style-type: none"> <li>Felt that they would need to read more to give a better rating, but liked the pictures and descriptions because of their clarity</li> </ul>
Overall	8.9 average	

#### **Likelihood of Joining the Club:**

	<i>Answer</i>	<i>Reasoning</i>
Participant 1	No	<ul style="list-style-type: none"> <li>Wanted to know more about the club's projects and member duties</li> <li>Admitted that they would not use the website to decide to join a club in the first place</li> </ul>
Participant 2	Yes	<ul style="list-style-type: none"> <li>Like the project description and visuals</li> <li>Believed the club looks like a "popping" club</li> </ul>
Participant 3	Yes	<ul style="list-style-type: none"> <li>Liked the underlying persuasion throughout the website</li> <li>Found content to be informative and convincing</li> <li>Felt nervous about the pictures being mostly of boys so would be scared of being the only girl in the club but recognized that the president is a girl</li> </ul>
Participant 4	Yes	<ul style="list-style-type: none"> <li>Felt more interested in the club and projects</li> <li>Liked ability to see current club members</li> </ul>
Participant 5	Yes	<ul style="list-style-type: none"> <li>Would attend a meeting to learn more about the club activities</li> <li>Wanted to learn more about the snowplow project as very intrigued by it</li> </ul>
Overall	80% Yes, 0% Maybe, 20% No	

**Likelihood of Sponsoring the Club:**

	<i>Answer</i>	<i>Reasoning</i>
Participant 1	Maybe	<ul style="list-style-type: none"> <li>• Found “Sponsors” page easy to look at and find information on</li> <li>• Wanted more information about the projects</li> </ul>
Participant 2	Maybe	<ul style="list-style-type: none"> <li>• Would contact the president or an outreach officer first</li> <li>• Thought the “Projects” page has enough content for a potential student but needs more content for a perspective sponsor, such as process or machining videos</li> </ul>
Participant 3	Yes	<ul style="list-style-type: none"> <li>• Liked the sponsorship level breakdown on the “Sponsor” page</li> <li>• Appreciated how a business would know where their money goes and how they would benefit from sponsoring the club</li> </ul>
Participant 4	Yes	<ul style="list-style-type: none"> <li>• Liked the sponsorship level breakdown on the “Sponsor” page</li> <li>• Knew that the money would go to a good place, which would motivate to sponsor</li> <li>• Wished someone did not have to donate specific level dollar amounts</li> </ul>
Participant 5	Yes	<ul style="list-style-type: none"> <li>• Liked the set up of the “Sponsor” page</li> <li>• Thought the site shows the club works on some cool projects</li> </ul>
Overall	60% Yes, 40% Maybe, 0% No	

**Participant Questions about the Website:**

	<i>Questions</i>
Participant 1	<ul style="list-style-type: none"> <li>• Who are specific people I can contact about the projects?</li> <li>• What department or major do people in the club belong to?</li> <li>• As a freshman or potential club member, what is in it for me if I join?</li> <li>• What competitions do they go to?</li> <li>• What are the requirements to join the club?</li> </ul>
Participant 2	<ul style="list-style-type: none"> <li>• None</li> </ul>
Participant 3*	<ul style="list-style-type: none"> <li>• How important are sponsors as an audience to this website?</li> </ul>

Participant 4	<ul style="list-style-type: none"> <li>● If I joined the club, what would my role be in the club?</li> <li>● Are there roles for people who are not interested in the technical side of the team and have majors such as marketing or business? Could the “About” page include more information about that?</li> </ul>
Participant 5	<ul style="list-style-type: none"> <li>● None</li> </ul>

*\*Note: The participant did not feel sponsors were an important audience because the “Sponsors” page is not on the navigation bar. However, the participant realized that the “Support” button led to the “Sponsors” page. As a result, they wished that the button said “Sponsor” and that any button that goes to the same page on the website had the same label.*

#### **Other Comments:**

Participants either did not give any comments or were repetitive of comments from other questions.

#### **Mobile Testing Results:**

While learning how to conduct a mobile usability test in the Studio for New Media, I completed a test with another participant where they completed the same four tasks on a mobile device. Again, Sadie served as the facilitator, and I served as the observer. Originally, I did not plan on reporting on this test, but I had a lot of great insights from that one test. As a result, I believe that those insights need to be considered in this round of recommendations. However, since this test was not planned, it was informally run and only included two phases (phases 2 and 3). Below are the results from this mobile test:

#### **Comments on the Homepage:**

- Thought the photos were cool, but small on mobile devices
- Found the logo hard to see on mobile devices
- Liked the Iowa State branding
- Felt the projects would look interesting and intriguing to someone interested in robotics

#### **Tasks:**

- *Task 1:* The participant looked at the “Projects” page and the homepage.
- *Task 2:* The participant successfully completed the task in 10 seconds.
- *Task 3:*
  - The participant took 50 seconds but did not successfully complete the task.
  - They found the “Sponsor” page, but they did not scroll down enough to find the complete answer.
- *Task 4:*
  - The participant took 65 seconds but did not successfully complete the task.
  - First, they looked at the footer.
  - Second, the participant clicked on the “Meet the Club” button on the homepage and went to the “About” page because they expected to find information about club members.
  - As a result, their answer was the contact information found in the footer.

**Takeaways and Additional Notes from the Mobile Tests:**

The participant interacted with the website very differently using the mobile device compared to the participants who used a desktop computer. Participants who used a desktop relied heavily on the navigation bar to explore the website, while the participant on the mobile device relied on the buttons on the homepage to navigate the website. I predict these actions happened because on a mobile device, the navigation bar became a hamburger menu, requiring more clicks to use than a traditional navigation bar or the buttons on the homepage. Because the participant rarely used the menu, they could not find the “Officers” page since the “Officers” page is only accessible via the menu. This action stopping them from successfully accomplishing task 3.

Plus, it took the participant much longer to attempt tasks on a mobile device than on a desktop computer because the screen is smaller. As a result, they have to scroll much more to find the same content that would immediately show on a desktop. Also, they have to click more to use the navigation menu, further making tasks take longer. Since the users have to scroll more, they miss out on more content if they do not scroll enough, as shown by the participant not successfully completing task 4 since they did not scroll enough on the page.

Finally, it was sometimes harder for the participant to tell which features were interactive, such as the buttons, because they did not have the hovering effects that exist on a desktop computer. As a result, they had a harder time knowing what was clickable, proving that anything interactive on a mobile device must be extremely obvious to the users.

## Recommendations

Obviously, this website prototype is significantly improved compared to the current Robotics Club website. Participants had much more positive comments about this prototype than the current site. In the first round of testing, no participant said they would join or sponsor the club based on the website, and in this round, 80% of participants said they would join the club and 60% said they would sponsor it. The participants' ratings of the website's professionalism, visual design, and content all increased, with the content rating almost doubling. However, based on participant comments and the percentages and ratings not being 100% or 10/10, the prototype needs improvement as it is turned into a functioning website.

Unlike the current website, this prototype needs navigation and organizational improvements. Navigation and organizational issues can stop the users from finding the information that they need to decide to sponsor or join the club, making it important that these improvements are made. Plus, while the prototype's content is stronger, it requires further improvements since participants still had questions about the club during phase 5. These questions stopped the participants from being able to fully commit to joining or sponsoring the club, meaning improving the content is also important in ensuring the website meets its goals.

Based on that analysis of the participant's feedback and struggles, I recommend that the following changes are made to the website:

<b>Change</b>	<b>Justification</b>	<b>Severity</b>
Integrate more pictures and videos.	All participants commented on pictures and media at some point in their session. Five of the six participants complimented the pictures. Two participants wished for more pictures or videos. Overall, these comments prove it is important to include many pictures and videos on the website. In general, there are few photos or pictures of the club's projects. Two participants wished there was more information about the projects, which was their reason for saying they would maybe sponsor the team. As a result, adding pictures and videos to the "Projects" page can help users learn more about the projects, causing the user viewing the website to be more likely to join or sponsor the club. This change would help the website to meet its goals.	Medium
Improve the text's proportions.	Three of the five participants who completed the tests on a desktop computer complained about the visual proportions. They thought that font was too big, jarring, or "in their face" because of its size. As a result, the font text proportions need to be reconsidered so it does not communicate an angry or uninviting tone to the user, which would make them not want to join or sponsor the club. Additionally, improving the text's proportions can improve the	High

	site's navigation and organization by clarifying what information is most important for the audience.	
Include specific details about club members' requirements and duties.	Three participants wanted more information about the specific tasks club members work on and the requirements for joining the club. Basically, they wanted to know that they were eligible to join the club and that if they joined the club, they would enjoy the tasks they worked on. This information is important for someone considering joining the club to know, and since persuading people to join the club is a major goal of the site, this information is important to add to the site. The one participant who said they would not join the club based on the website explained their reasoning for saying no was because of the lack of information about the club projects. Specifically, participants recommended that this information be incorporated into the "About" or "Projects" pages.	<b>High</b>
Add current club testimonials to explain the advantages of joining the club.	Overall, participants liked the personal aspects of the site. For example, participants 2 and 4 both commented on the impact of seeing members' photos on the site, specifically the homepage. Participant 1 asked several questions about what is in it for someone to join the club. Adding testimonials from current club members will add more personal aspects to the site while providing more information about the benefits of joining the club. These testimonials will help persuade website users to join the club, aligning with one of the main goals of the site.	<b>Medium</b>
Ensure all buttons or links going to the same page on the site have the same wording.	While multiple participants did not realize that the navigation bar button "Support" and the homepage button "Sponsor Us," participant 3 had the biggest response to these buttons being different. Before realizing the buttons were the same, the participant commented multiple times that potential sponsors did not seem to be a primary audience group because the sponsor page was not included in the navigation bar. As a result, discovering that the "Support" button led to the "Sponsor" page was a major realization for them. This instance shows that all of the buttons leading to the same page must have the same title for simple user navigation. A potential sponsor's struggle to find the sponsorship information may prevent them from deciding to sponsor the club, which is a major issue. To stop this from happening, all of the buttons need the same wording and that wording should reflect the title of the page that the	<b>High</b>

	button leads to so that the user knows exactly what page the button directs them to. Plus, changing the word “Support” to “Sponsor” in the navigation bar will show potential sponsors that sponsors are a primary audience group for this website, showing the Robotics Club values potential sponsors.	
Make sure that all clickable features, specifically the pictures on the “Officers” page, have a hovering effect, so it is always obvious that the feature is interactive.	A common comment throughout this and the first usability testing was that the participants would contact the officers if they wanted more information to help them decide to join the club. However, when completing task 4 in this round of usability tests which required finding the club president's contact information, participant 3 commented that it was not intuitive that they needed to click on the officer's picture to get their contact information. Clicking on other buttons was intuitive to participants because of the hovering effect. As a result, any clickable item on the site, specifically the officer's pictures, should have a hovering effect to demonstrate they are clickable. This change will help ensure the site is easy to navigate, helping users find the information they need to decide to join or sponsor the club.	Medium
Include specific contact information for who to contact if interested in a project.	Again, throughout both usability tests, participants emphasized that they would contact an officer if they had more questions about the club. Specifically in this round of tests, participant 1 said they would contact someone who works on the project to learn more information about the project they were interested in. As a result, adding the project lead's contact information to the "Projects" page would add an option for finding out more information about the projects, helping users get the information they want to decide to join or sponsor the club.	Low
Enhance the site navigation on a mobile device so that users can find all pages even if they do not use the navigation bar.	Participant 6's experience using the website on a mobile device proved that the user experience is very different on a desktop computer versus a phone. Since using the hamburger menu on a phone requires more effort than clicking on buttons on the pages to navigate the site, users are less likely to use the navigation menu on a phone compared to a desktop computer. As a result, every page needs to be accessible in a way besides the navigation menu. For example, adding a button to the "Officers" page with the button for the "About" page on the homepage would make the "Officers" page accessible in another way besides the navigation bar. This change would improve users' navigation of the site.	High

## Conclusion

In summary, this website prototype is an improvement compared to The Robotics Club at Iowa State<sup>TM</sup>'s current website. Participants were more likely to join or sponsor the club and see the website in a positive light. However, participant feedback and experiences prove the prototype still needs to be improved as it is built into a functioning website. Fine-tuning the website's navigation and organization will ensure users find the content they need to decide whether to sponsor or join the club. Incorporating additional information, pictures, and media will help users understand the club to decide whether to sponsor or join the club. Overall, making these enhancements will further improve the website's professionalism and the users' impressions of the site, causing more people to consider joining and sponsoring the club while keeping the site user-centered.

## Appendix

### ***Calendar Meeting Notice:***

Hello [INSERT PARTICIPANT'S NAME HERE],

Thank you for being willing to complete our usability testing! As mentioned previously, you will be asked to try out a website created by an English 505 student and give your thoughts about your experience. You do not need to prepare anything before the session.

You are scheduled to participate as follows:

**Date:** [INSERT DATE HERE]

**Time:** [INSERT 30 MINUTE TIME HERE]

**Place:** Durham Hall Room 143

When you arrive, please wait in the seating area outside of the lab. We will come and get you and let you in since the door is locked.

A few key reminders:

- You will be given cookies in exchange for your participation.
- During the study, you will be asked to complete some tasks using the website and to talk aloud as you work so that the facilitator can follow along.
- With your permission, we will record your session. Only the English 505 student whose website you complete the test for will have access to the recording. The recording will only be used to decide how to improve the website. Your name will not be used for any purpose beyond this session.
- We only have one person scheduled at a time for these sessions, meaning only the facilitators will see you complete the test in real-time.

If you have any questions, please contact Sadie (xxx@iastate.edu) or Megan (xxx@iastate.edu). If you are no longer able to complete the usability tests, please let us know immediately.

Thank you again for your help!!

Sadie and Megan

***Facilitator Script:*****Welcome**

Hi, *[INSERT PARTICIPANT NAME]*! My name is *[INSERT YOUR NAME]*. I am going to walk you through today's session.

Before we start, I need to go over some information with you. I will read it to you to ensure I cover everything. Please let me know if you have any questions as we go.

We are asking people today to try websites that English 505 students are working on to see if they are working as intended. Specifically, you will look at a website prototype for the Robotics Club at Iowa State™, a student organization that inspires students within the field of robotics through competition and creative projects. This session should take about 30 minutes.

First, please understand that we are testing the site, not you. There are no correct or incorrect answers for this test, and you do not have to worry about making mistakes. As you use the site, please try to think aloud. Say what you are looking at, trying to do, and thinking. This will be a huge help to us.

Also, please do not worry that you will hurt anyone's comments during this session. We are conducting these tests to improve the site, so we need to hear your honest reactions. Please be brutally honest.

As you complete the test, please feel free to ask questions, but recognize that I may not be able to answer them immediately. We are interested in seeing how people do when they do not have someone sitting next to them to help them. Also, if you need a break at any point, please let me know.

You will notice that there is a microphone and cameras throughout the room. With your permission, we will record what happens on the screen and our conversation. The recordings will only be seen by people working on this project to help us determine how to improve the site.

Additionally, this window here is actually a one-way mirror. There is another person on the other side. She is serving as the observer for this session and ensuring that the recordings are working properly.

Finally, I will ask you to sign this permission form for us. Basically, it covers what I have discussed with you so far and gives permission to record you.

Do you have any questions so far?

## The Questions

Before we begin looking at the website, I have some questions for you to answer about yourself so we can get to know your background better.

- What gender do you identify as?
- How old are you?
- Have you ever visited the current Robotics Club website?
- Do you have any experience with the Robotics Club at Iowa State?
- Do you have any experience as a member or mentor of a robotics team? (*Example: being a member or mentor of a LEGO League team.*)
- Do you have any experience deciding whether to sponsor an organization?
- How would you rate your ability to use a computer? (*high, average, low*)
- How would you rate your knowledge of website development? (*high, average, low*)
- How would you rate your knowledge of visual design? (*high, average, low*)
- How would you rate your knowledge about writing website content for an audience? (*high, average, low*)

## The Homepage Tour

Ok, perfect. Thank you for answering those questions. Now, we can look at the website prototype. First, please look at this homepage and tell me what you think of it. What stands out to you about it? What would you say is the purpose of the site?

Please feel free to scroll on the homepage or hover over the buttons, but do not click on anything yet.

## The Tasks

Thank you for the feedback. Now, I will ask you to complete some specific tasks. Since this is a prototype, please be aware that some issues with the site may be because it is not fully functioning as a website yet. I will read each task aloud and give you a printed copy. Please complete each task without using the Control-F function and wait until I have fully read the task to begin completing it. And again, please think aloud as you go since that will greatly help us understand your thought process.

*(Note: Have the participants start each task from the homepage.)*

### Task 1:

Imagine you are a freshman at Iowa State wanting to find a club to get involved in. You loved being on the robotics team in high school and want to find a similar club to continue participating in college. You are unsure if the Robotics Club is a good fit for you. Using this website, what can you do to get more information to make this decision?

- *My Guess on Possible Answers:*
  - *Asking questions using the email contact in the footer*
  - *Filling out the form on the “Join” page*
  - *Emailing an officer using the email addresses found on the “Officers” page*

**Task 2:**

Imagine you are that same freshman student. You decided to join the Robotics Club! When are the club's general meetings?

- *Expected Answer: Once a month, with the date and time to be determined.*
- *Expected Answer Location: On the “About” page under “When do we meet?”*

**Task 3:**

Imagine you work at a local Ames business focusing on engineering projects. The owner wants to give back to the community and sponsor student engineering groups and decided to sponsor the Robotics Club by giving \$100. What will the Robotics Club use that \$100 donation for?

- *Expected Answer: Purchase control system electronics and bulk materials.*
- *Expected Answer Location: On the “Support” Page under “Steel” in the “Where does my donation go?” section*

**Task 4:**

Imagine you are a freshman at Iowa State. You attended ClubFest and talked to the Robotics Club's president. You want to contact the president specifically to ask follow-up questions. Where is their contact information located on the website?

- *Expected Answer: On the Officers Page In a pop-up screen that shows up when you click on Shelby's picture, name, or title*

**Follow-Up Questions**

Thank you for completing those tasks. We will end this session with some questions to get your opinion of the website. Do you feel that you have seen enough of the website to give an opinion of it? If not, please feel free to explore the various parts of the website. When you feel ready, please let me know.

- On a scale of 1 to 10, with 1 being the lowest and 10 being the highest, how would you rate the website's professionalism? Why?
- Again, on that same scale of 1 to 10, how would you rate the website's visual design? Why?
- Finally, again, on that same scale of 1 to 10, how would you rate the website's content? Why?
- Would you join the club based on viewing this website, solely based on your interactions with this website and not based on your interests in robotics or opinions of robotics-related clubs? Why or why not?
- Would you sponsor the club? Again, answer this question solely based on your interactions with this website and not based on your interests in robotics or opinions of robotics-related clubs. Why or why not?
- What questions would you have after viewing this website or completing any of the tasks I gave earlier?
- Do you have any other comments?

**Probing**

Ok. Thank you for your feedback so far. If you will excuse me, I need to go check that our observer does not have any follow-up questions for you.

**Wrapping Up**

Thank you again for your help on this session. This test was helpful and what we needed. Do you have any questions for me now that the session is over? *[Allow for questions.]*

Again, thank you for your help. We have cookies in the reception area if you would like some. This is the end of the session, and the recording will now be turned off. Have a great rest of your day :)

***Thank You Follow-Up Email:***

Hello [INSERT PARTICIPANT'S NAME],

Thank you for completing a usability test on the Robotics Club at Iowa State website! Overall, your feedback and comments were very useful and much appreciated. By participating in this study, you have really helped us know how we should make improvements to this site. Thank you again for your time and participation!

Hope you have a great Thanksgiving break!

Sincerely,

Sadie and Megan

***Release Form:*****Consent & Recording Release Form - Adult**

I agree to participate in the study conducted and recorded by Sadie Smeenk and Megan Pezley for the purposes of a project for the class ENGL 505 at Iowa State University.

I understand and consent to the use and release of the recording by Sadie Smeenk, Megan Pezley, and the Iowa State Durham Usability Lab. I understand that the recording will capture audio and video and that the lab may also track my eye movement using Tobii. I understand that the information and recording is for research purposes only and that my name and image will not be used for any other purpose. I relinquish any rights to the recording and understand the recording may be copied and used by Sadie Smeenk and Megan Pezley without further permission.

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. I understand that I can stop the test at any time if I wish to do so.

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.

Adapted from [Consent & Recording Release Form \(Adult\)](#) by [Usability.gov](#)

**\*Note: Sadie Smeenk and I divided the prep work for our usability tests. As a result, I wrote the emails and she wrote this release form.**