

Final Project Design Team #17

Team Members:

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Project Name

Power of Sports

Project Synopsis

Web application that helps minimize the gaps in sport inequalities that promotes participation, public relations partnerships, creates opportunities, produces activity events, and provides financial aid.

Project Description

This project is being undertaken because 70% of children leave organized sports by the age of 13 ([National Alliance for Sports](#)). Research shows that participation in sports leads to higher grades, lower dropout rate, reduced truancy, lower crime rates, decrease in screen time and it shows to improve social connections, increase confidence, improve listening skills, and overall health benefits. A huge problem is that under-resourced families are less than 50% likely to play sports due to financial need and lack of resources within the communities and 63% of school sports budgets are stagnant or decreasing. The end result of our project is to have developed an interactive website that promotes and brings awareness to how critical sports are to children's lives. We hope to reach under-resourced communities to drive change and bring light to the inequalities that prevent kids from experiencing sports' transformative power. With the pandemic, children's mental health took a massive hit. Many kids missed playing sports and essential physical activity for over a year which led to the gap in sports inequalities to get wider and we intend to help minimize that gap. This will be done by: promoting the benefits of playing sports and advocating for youth sports involvement, providing promotional support to organizations that impact young lives, finding ways to level the playing field for the kids in our city, and providing a financial aid network to give kids the chance to play sports regardless of economic background and build greater access to sports activity.

Project Milestones

First Semester:

Milestone 1: Projects Requirements defined.

9/25/2021

Milestone 2: Front and Back-end use diagrams completed.

10/09/2021

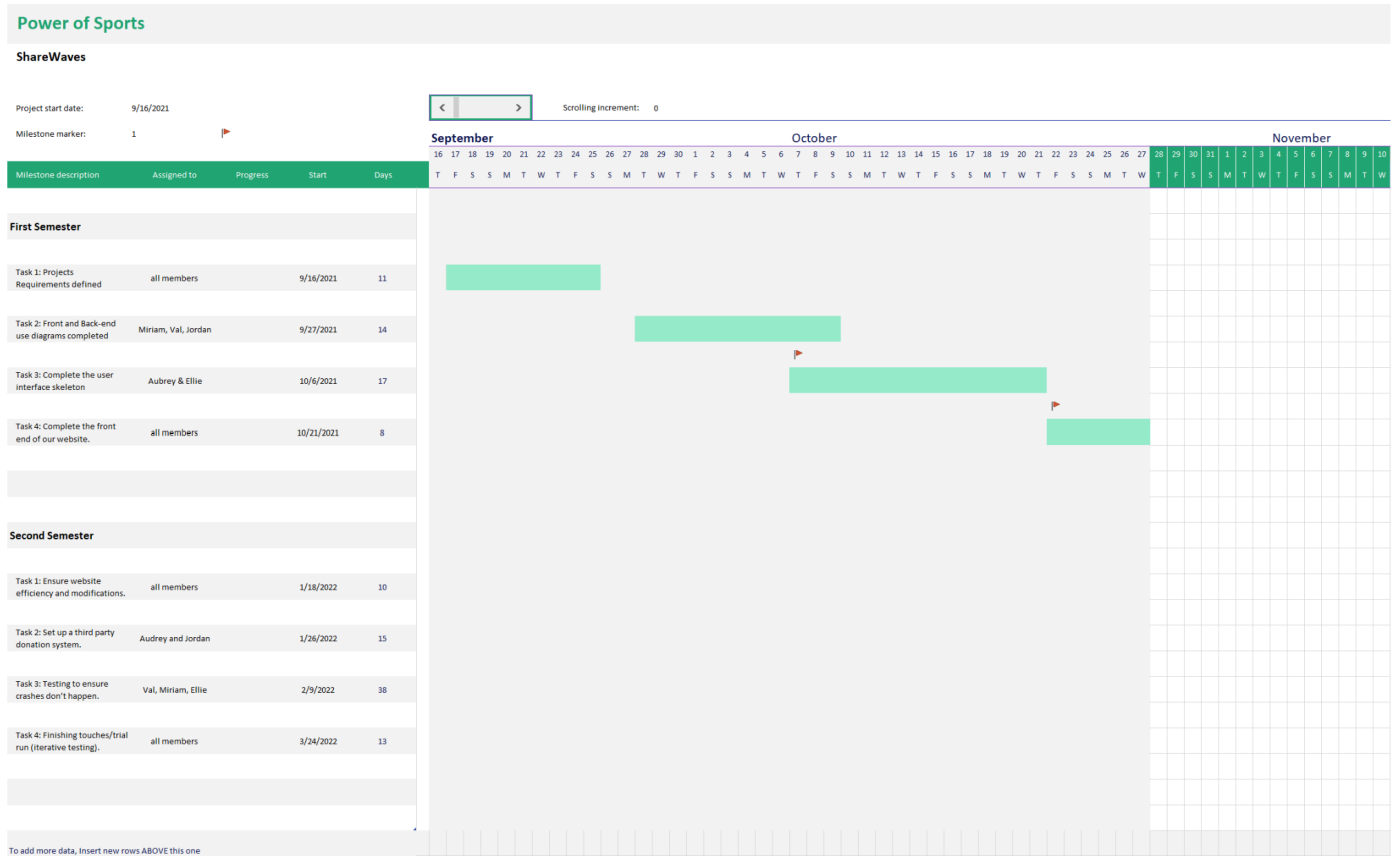
Milestone 3: Complete the user interface skeleton.

10/23/2021

Milestone 4: Complete the front end of our built in.

10/29/2021

Gantt Chart first semester (including who will do what)



Second Semester:

Milestone 1: Ensure website efficiency and modifications.

01/28/2022

Milestone 2: Set up a third party donation system.

02/09/2022

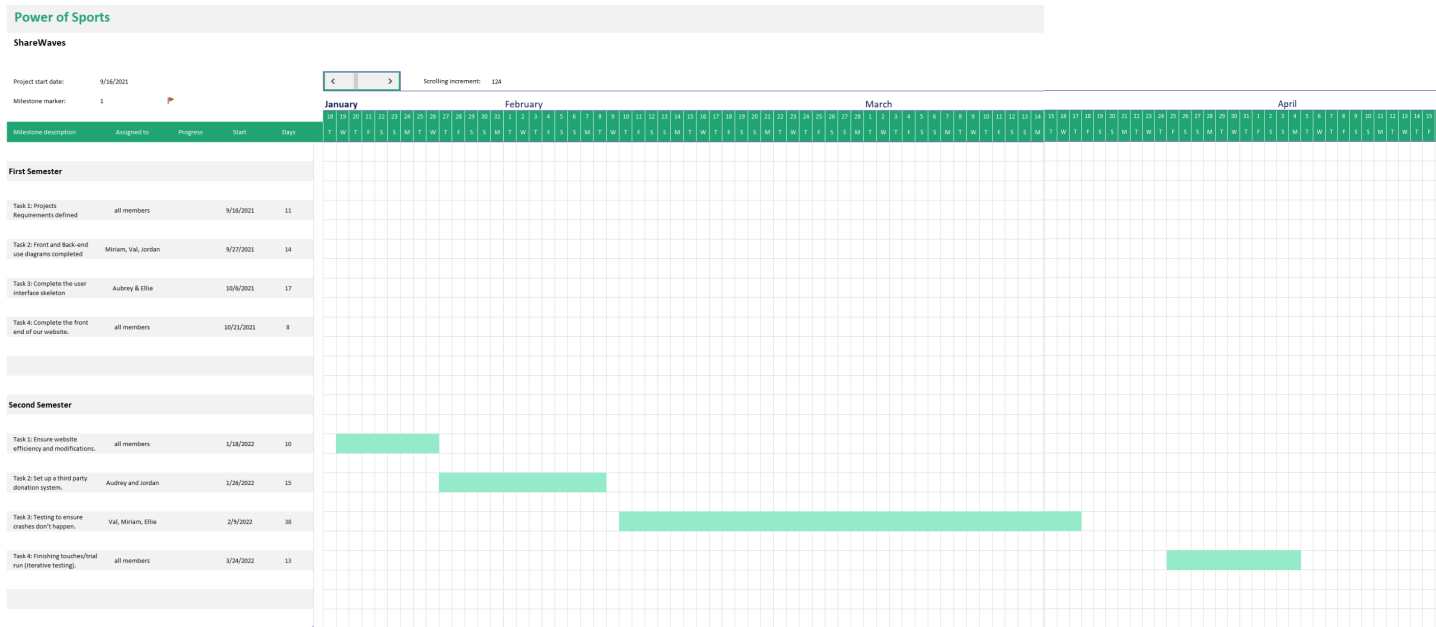
Milestone 3: Testing to ensure crashes don't happen.

03/22/2022

Milestone 4: Finishing touches/trial run (iterative testing).

04/04/2022

Gantt Chart Second semester (including who will do what):



Project Budget

Any costs the project comes across will be covered by the ShareWaves foundation.

Preliminary Project Design

How the Software works:

The user will be able to look up ShareWaves: Power of Sports or any related keyword to the ShareWaves Foundation on their web browser which will take them to either the ShareWaves website or a Google page with the ShareWaves website populated as a result. When the user decides to visit the website, on page one (Home Page) they will be met with updates in news related to the ShareWaves Foundation and its outreach. Also, there will be a diversity and inclusion section, a mission statement, and a search bar tool for faster searches. On the home page, there will also be buttons linking to other pages throughout the website. Those clickable buttons will be labeled as: “About”, “Events”, “Resources”, “Content”, “Contact Us”, and “Login.” The About page will be a page that describes the foundation, its origins, goals, and impact on those who engage with the foundation. This section will also have a portal where donations can be made through *Harness*, a nonprofit fundraising company that aids in making donations to nonprofits easier to manage. The Events page will have a calendar that will have information regarding any events where the user can learn more details to attend a future ShareWaves hosted or ShareWaves related event. On the Resources page, the user can expect to find information regarding the ShareWaves: Power of Sports program as well as helpful resources on how to sign up for sports as a kid and how parents can get their kids involved in physical activity. This page will also include a grant request section for the individuals who would like to know more about how they can aid the foundation and keep its message moving forward. Next, the user could click on the button labeled “Content” that would take them to a page involving YouTube videos, Instagram posts, and other social media engagements related to ShareWaves. We would install a search within this page to filter the content to what the user would like to see based on keywords. The Contact Us page would be a short page of a contact/feedback form that would be a way for people to get in contact with William Brandmeyer and the people of ShareWaves. Finally, the Login function would be a feature that allows some users to log into the site with a username and password. By utilizing a front and backend framework, we will be able to successfully implement these features without the worry of having to hard code information handling, such as the user login function. Also, we plan to use a database to retain login information as well as information pertaining to users participating in grants/donations. Furthermore, ShareWaves will be collaborating with Figma, a vector graphics editor and prototyping tool which is primarily web-based, to develop the framework. This tool will effectively progress the UI/UX display.

Design Constraints:

Technical Constraints:

We will be using React in Javascript for our Frontend, Django in Python for the Backend, and PostgreSQL for our database. One of the design constraints is that we must maintain good coding practices and document well to pass on to Brandmeyer for future updates as he sees fit.

Brandmeyer has no coding experience which is an important thing to remember when designing the website and implementing the website. It is also important to bring up how possible Brandmeyer's requests for the site are for our team to execute. Since we are designing and implementing a product for a client, we have to think about how our product will function long term in our clients hands. To do that, we want to build a robust site that can handle the functionality that our client wants and needs in order to fulfill the growth of his foundation.

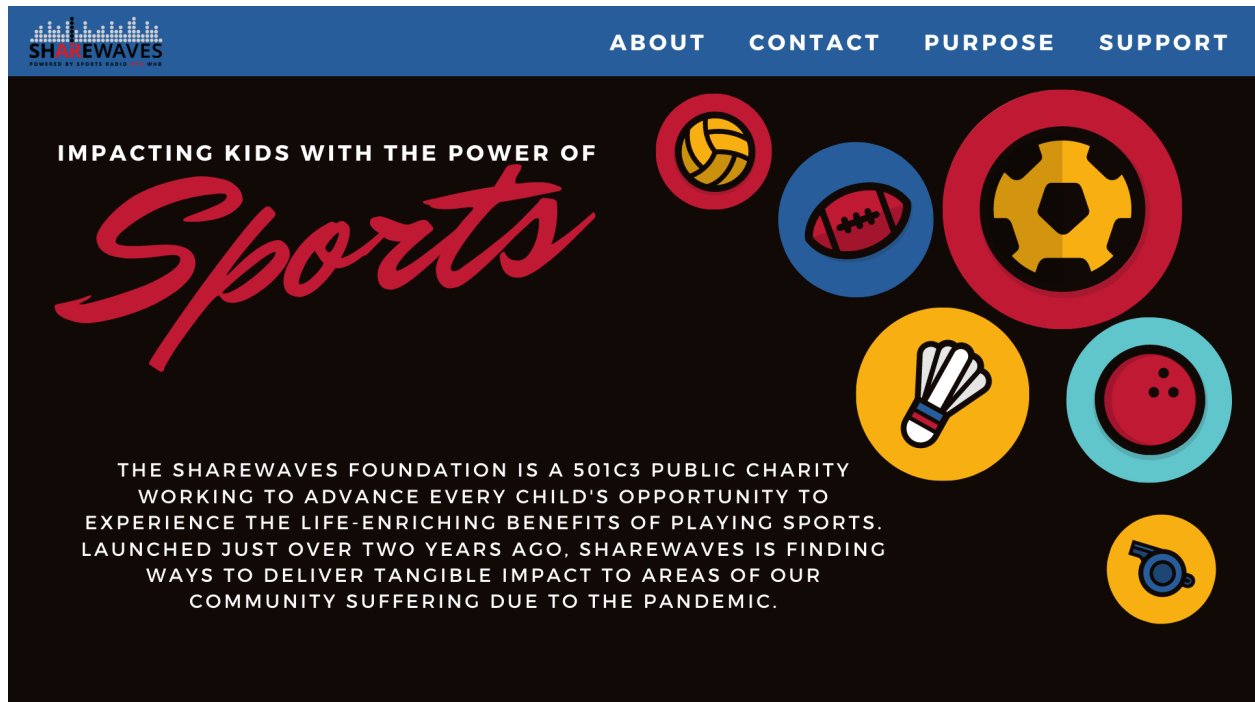
Originally, our client had used Squarespace to design his website, but Squarespace did not work for what we had in mind for two reasons. The first reason is that Squarespace is not code friendly and we want to have the ability to design the website in whichever way we want. Second reason being that Brandmeyer wants a website that is more professional and flexible to his growing movement, so using Squarespace does not fit that image very well. Thus, we have decided that to continue his website we will be using ReactJS, Django, and PostgreSQL. By using said database and frameworks, we have more flexibility with building the website than the restrictions that Squarespace impose on the creativity that Brandmeyer brings to the table. Because of the time and budget constraints, we cannot build a huge project from nothing, so utilizing ReactJS, Django, and PostgreSQL will allow us to access libraries that can further aid us along on our project more efficiently. The constraints that we face with the database and the two frameworks, is the learning curve of the frameworks themselves, as well as brushing up on JavaScript, Python, and SQL. Since we are building a website for a client that we will eventually pass off the code to, we want it to be as functional and readable as possible for other programmers who will look over our code and know what our intentions are. It will be imperative to implement good coding practices, for example including useful and obvious naming of functions, putting document/source code in properly named folders, including lots of documentation, etc. Since Brandmeyer has no coding experience, it is essential that we make functions for him to easily be able to implement or edit. For example, thinking of functions that allow him to place pictures in a specific section to allow for the code to automatically position it where Brandmeyer wants rather than him having to hard code it. These are the types of things that limit our team during the design process. We have to be mindful of writing down most if not all of the possible functions that would help Brandmeyer in the future as he continues to update the site without us. Along with that, this will be the team's first time building a website from little to nothing which

poses a time constraint to learn what we need to successfully build something professional and functional while also being full-time students. While this project acts as a great experience for each individual team member, we have to be mindful of our skills and how they impact the speed at which we meet certain milestones, especially the final outcome of our labor.

Business Constraints:

Our first business constraint is that we must have a fully working website by the end of May 2022. Not only does this deadline affect our class grade, but this should be a working product or at least something notable and sturdy to work from for future programmers to understand and edit. Our second constraint is that we must be operating within the budget as far as software, domain, etc. In total, the budget consists of \$350. Since this is primarily coming from Brandmeyer and the ShareWaves Foundation and not through the University of Kansas, we want to remain within the proposed budget to complete the website. The budget will be allocated to the Domain, Licensing, and Maintenance hereafter. By keeping the budget low for software, it is easier to transition the website over to another team who can also access the same libraries and continue improving upon our contributions. Which leads to our third constraint: migrating existing information from Brandmeyer's previous website. At the beginning of implementation of the website, we will encounter transferring the existing information and data from the previous website to the new one we'll be creating. We want to preserve the data from the current website and add it into the new website for safekeeping and to keep a complete timeline of the released information. This data may be sensitive information to ShareWaves or the people who have already interacted financially with the foundation, so it is important that we handle it appropriately. The main purpose of this website is to provide ShareWaves with a platform to share and interact with those who support the ShareWaves: Power of Sports movement and its message for our youth. This website is a counterpart to the ShareWaves: Power of Sports App that will also be made available at a later time. We wanted to provide a web based platform that has interactive functionality that is user navigable and not just information to read. Brandmeyer's goal for ShareWaves: Power of sports is to have a fully functioning website by the end of May 2022. Since this coincides with our deadline for the project, this constraint is the most prominent as it determines whether or not a finished and usable product will be delivered to a client. All of these business constraints provide us with a timeline, budget, and expectations which gives us a better indication of what we can achieve within those limits.

Prototype Illustrations



Sharewaves Mock Website Homepage Design

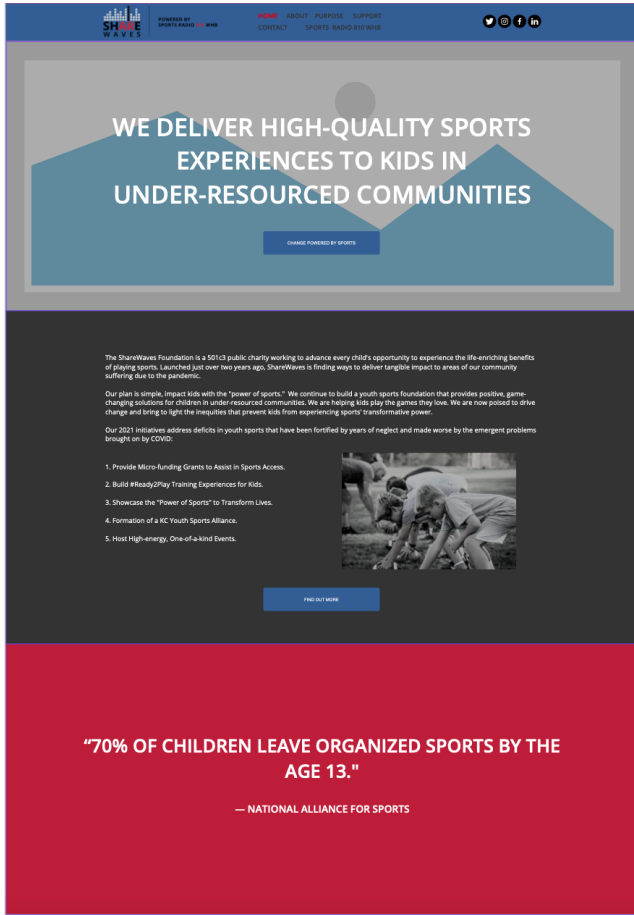


Figure 1: Home Page (Top)

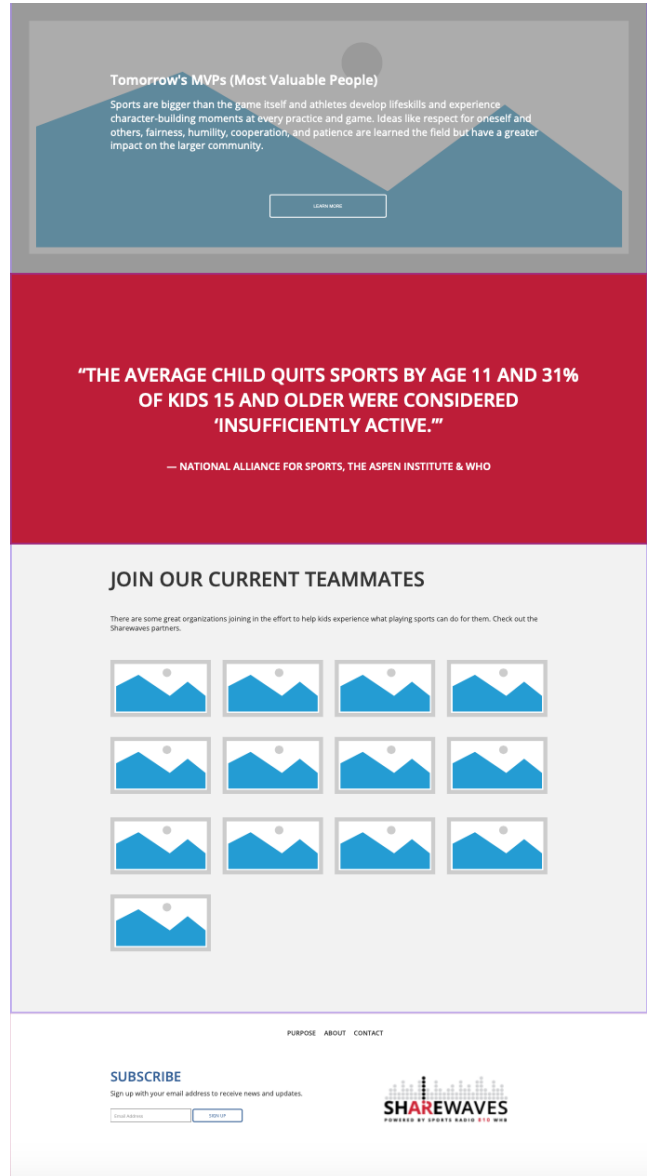


Figure 2: Home Page (Bottom)

Prototype Illustrations (Cont.)

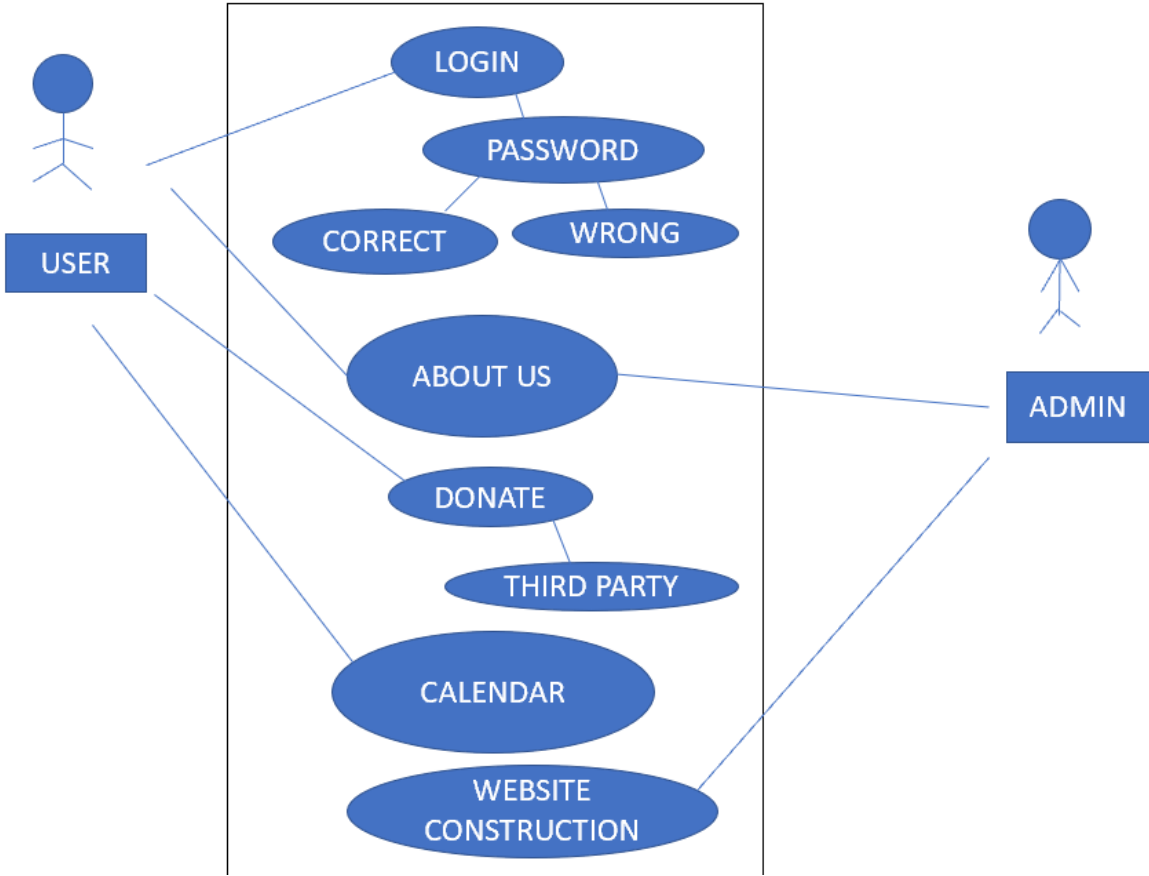


Figure 3: About Page (Top)



Figure 4: About Page (Bottom)

Use Case Diagram



Ethical Issues

Privacy:

The essential issue with this project emerges with conducting the user's security. When the user comes into the website they will be prompted to sign in with a username and password. It is crucial to keep all that data safe. To not break ACM ethical principles: 1.2 avoiding harm examples of harm include unjustified physical or mental injury, unjustified destruction or disclosure of information, and unjustified damage to property, reputation, and trustworthiness, 1.6 respect privacy, 1.7 honor confidentiality, 2.9 design and implement systems that are robustly and useably secure, and 4.1 uphold, promote, and respect the principles of the code. Adhere to the principles of the code and contribute to improving them. Take actions to resolve breaches of the code including, when reasonable, expressing concern to the persons thought to be violating the code. While we work on this venture it is important to ensure that the user's information is confidential. We also need to ensure that the users cannot see each other's information, and everything is kept separate. Doing so would require different layers on the website and a tracker mechanism to bring the user to their own page. We will also need to encrypt the user's information to ensure that it is not easily accessible or hackable to create safety for their information.

Donations:

Our second concern with this project is handling donations. After the user is logged in to the website and they are in their own web page layer there will be a prompt that allows them to donate to the organization. It is important to ensure that this transaction gets encrypted and there is no way that someone can hack into the donations page and steal the user's information. Therefore, we do not break ACM ethical principles: 1.2 avoiding harm examples of harm include unjustified physical or mental injury, unjustified destruction or disclosure of information, and unjustified damage to property, reputation, and trustworthiness, 1.6 respect privacy, 1.7 honor confidentiality, 2.9 design and implement systems that are robustly and useably secure, and 4.1 uphold, promote, and respect the principles of the code. To uphold these principles, we will be implementing a third-party system that holds the responsibility of receiving and handling donations. Thus, allowing us to remove ourselves as liable and ensure the safest route for the users. When dealing with encryption in a traditional sense and handling everything manually we can face many problems like deciding how difficult the encryption should be, making sure there are no leaks, or weak points, and ensuring that every part of the transaction is encrypted. Which is why for this project it makes most sense to use a third party to handle transactions thus ensuring that the third party updates and handles all security purposes concerning money. We do not want to be liable or cause harm to the organization's reputation or cause harm to donations. Since donations are critical for the organization to uphold the purpose of the mission and help children in need.

Grant Requests:

One last concern with this project is the request for the website to have a page to request a grant. This page would consist of a form that users would fill out, and then an email would be sent to an employee to evaluate said form and approve or deny the request. However, a condition of this page is that it can only be accessed to certain users. This means that we would have to incorporate security permissions in the user accounts to make sure that only the users with the proper access can reach the grant request page. In order to not break ACM ethical principles 1.2 avoiding harm, 1.6 respect privacy, 1.7 honor confidentiality, and 2.9 design and implement systems that are robustly and usably secure, we will have to make sure the user accounts created are secure. By having secure user accounts we can then make sure that their account information is secure and private. While also making sure that no one but the proper user can access the form. We want to make sure we properly implement these securities to ensure that the proper users are getting safe and secure access to this vital feature.

Intellectual Property Issues

News sharing from other sources/writers:

Bill Brandmeyer, founder of the ShareWaves Foundation, expressed interest in having a portion of the website he asked our team to help him create. In order to safely and legally share articles that pertain to his foundation, him, or other topics that he might find relevant to his foundation, Brandmeyer, or another person under him that handles this matter would have to get permission from the publisher or the author in order to showcase any article on his website. This poses a small set back on our team to await his approval of permission so include any article initially. He would also have to keep up with his permissions as he updates this “News” page he would like on his launched website.

Our contributions being handed off to Bill Brandmeyer:

At the beginning of the semester, it was brought to every student’s attention that, “To a first approximation, students are the owners of the IP they create.” However, our team is in an interesting situation. Because Bill Brandmeyer has a budget for each aspect of growing his foundation and marketing, it is likely that we will suggest that Brandmeyer use his budget for any website software that we agree on using for him in order to eliminate a need to transfer the rights of our creation over to him. However, as a team, we would like to be credited for any work that we produced for his website.

Change Log

Milestones: In our initial proposal we had vague tasks that did not help organize or track our progress. Thus, these tasks were rewritten with different dates in mind and were made concise to track progress.

Gantt Chart: The Gantt chart was updated to showcase these changes. This will help us track milestones carefully and keep us organized.

Project Budget: In the initial proposal the project budget was a lot more than needed. After extensive research we have come up with an updated project budget to reflect our project in a better light.

Dates: As the project progressed there were many dates that were changed for deadlines to ensure that the work done was up to the highest standards. This was done by keeping in mind our end goals and by doing so we were able to see a pattern in our work to come up with deadlines for next semester.

Project Budget: Was changed again since our team lead will cover the costs.

Project design: Added figma to our framework collaboration.

Prototype Illustrations: Added figures