1. What is the application?

This application will be a live interactive website developed for the community of the Information Science Society. This website will contain news, a point of contact, and general information for the society. It will be eventually run on a live web server hosted in Amazon Web Services (AWS) or the Google Cloud platform.

1. Why is the application necessary (or useful)?

The website has been developed so that students can find more information about the Information Science Society. Information that we want to include on the Website are what we do, who we are, and how we can help students get involved on campus.

The Information Science Society website will also become a fundamental aspect of how the club is run as well as providing a new medium for the dissemination of information. Because the Information Science Society plans to use this website as the proprietary virtual location for its members, this website will be crucial for the growth of our society. Another important aspect will be the ability for members to contact us and find out important information about the society without the need to attend the university. Our Facebook requires members to have a facebook page, while our group me chat requires you to be a member at the University. This website will function as a medium for our stakeholders, external to the University, to be involved in the society.

1. Who are the application users?

The web application interface is intended primarily for students, staff, and faculty members in the Information Science major. We are primarily focusing on UMD undergraduate students as this is an undergraduate club. It is open to all students whether or not they are Information Science majors or not.

1. How does the application work?

The web application has navigation bar to help users find the various HTML pages on the website. The home page has a social media link to Facebook and Twitter. The about page has a cascading photo gallery to showcase club photos. The members page has an array of photos of each of the board members and representatives for the club. The contact us page has a form for users to fill out if they desire to receive additional information about future events and email notifications.

**Main.CSS**

All pages will reference main.css which has all of the styling for all of the pages. The css file will contain every class needed to be style, for all different pages. Generally we used it for format text to the center of the page, coloring, and minor animations such as navbar button fade-in and hover-over

**Header**

The header contains the club/student organization logo.

**Navbar**

Navbar runs on bootstrap “font awesome”. We used special classes for navbar in order for it to be sticky (stays on top of the screen when scrolling) and each button will link to all the other HTML/PHP pages. It is located below the header, where the logo resides.

**Home**

On the Home page we included our a social media feed that is linked to our Twitter social media organization page. Tweets from our organization appear on the landing page as users navigate through the system. We also included a link to our Facebook organization page as well.

**About Us**

About Us will have the bulk of text briefly explaining who we are and what our major is. Description will also contain a redirect link to the ISchool Bachelor of Information Science page. Below the text contains a javascript slideshow class in which photos of our club can be viewed. Slideshow runs on 3 length array (which we can extend for more photos), with each element representing its own class containing its photo and attributes. Left and right buttons will traverse the array back and forth, and each class displays text keeping track of current index. Photos will be pulled locally within cloned repo.

**Members**

For the photos, I found a simple table template online that I followed to be able to add each photo. I found that using img src was the best way to easily add the links for each photographs. Once I did this, the real challenge began with figuring out the right spacing. Once I added the positions above the photos and the individual’s name below it, the photos were scattered and not aligned. After a few hours, I was able to figure out the CSS. I realized that for each text box that was above and below the photo, the width and height were too small. This forced the photo to be pushed down further than intended. By increasing the width and the height for each box, the text was able to fit in a single line and this solved those issues.

**FAQs Page**

The Frequently asked questions page contains a list of questions and answers that we thought would be meaningful to our users. This questions will help users find out how to sign up for our exclusive e-mail notifications about upcoming events and notifications. We also included information about how to join the club as well as how to contribute.

**Contact Us**

The Contact Us page in the website is used primarily as a communication medium between visitors and the website administrators. The form allows users to input several fields through textboxes and a radio button. Once the user clicks submit, their input will be validated and sent to the mySQL server. This page contains required information regarding the captcha, first name, last name, and email address. The rest of the form is optional for the user to enter if they wish. Once a form is submitted and passes every validation, it is timestamped and stored on the database for the admin to read.

**Security**

Security on this website is especially difficult as it is run on a small server with several system vulnerabilities along with open port web vulnerabilities. The most prominent vulnerability accessible by the any user using the website is SQL injections on the form. The form that was created uses html and php in order to function and send information to the database. Any person with SQL experience will be able to send queries to the database unless proper securities are set in place. I was able to avert this vulnerability by using prepared statements in the PHP code. This means that when a user enters data in a form, the PHP will automatically check and prepare the input and turn it into a string. This is useful as any input including SQL commands will automatically be turned into strings so when they reach the database, the database will see it as a string and not run the command. The library SQLMAP was then utilized in order to inspect and locate specific SQL injection vulnerabilities. Although SQLMAP did find several vulnerabilities, They were beyond the scope of what can be done using solely prepared statements. There were several issues in implementing bound parameters and input sanitation so that code was not implemented in the final website.

Even though some validation requirements and prepared statements are utilized, a decent bot that is able to coordinate and follow validation criteria would be able to DDOS the server through the form. This means that a person with a more powerful computer than the web server will be able to take down the website with ease through repeatedly sending the web server database requests. We were able to solve this issue by including the Securimage phpcaptcha library. In order to validate the form, a user must enter in the captcha correctly. If they enter the captcha wrong, the system will ask them to reset the page and re-enter the captcha. This will be able to limit how quickly users can submit into the database, ultimately protecting against a ddos attack on the database.

**Footer**

The footer contains links to our Twitter and Facebook social media pages. We included these links in the footer so that our users can access live updates from the club as well as discussions, articles, posts, news feeds, and events.

**FAQ**

**Website overview**

There is a total of 5 pages. A global navbar will be on top of the webpage which will allow the user to traverse the website by clicking on the buttons. Each page will provide information to the user interested in the club. The About Us page will be a php input page for users to input information which we can keep contact with. There is also a persistent footer which allows the user to redirect to our social media pages. Users must be logged in the respective social media site to view our pages.

**How to get the website running locally**

In order for all pages and database to function within a local environment, you will need a LAMP/WAMP/MAMP etc. The github website repo must be copied to the htdocs folder within the server folder, and the server (Both apache and SQL) must be functional and on.

To access the website links, the address goes by localhost/Final-Nganyone/html/file.html. The “localhost” part of your address depends on the port you use. For example, one may use localhost:8888 the series of digits preceding the localhost is called the Apache serial port number and will want to access the website from their local computer. In this case, the address is localhost:8888/Final-Nganyone/html/members.html if the directory is cloned from Github.

If you renamed the website folder within htdocs, then replace “Final-Nganyone” with the folder name. All of this will not be an issue once the website is hosted on a cloud service.

**How do I sign up to the listserv?**

You sign up for the liserver by going to the Contact Us page. Once you are there, there will be boxes where you will fill out your information. Once that is finished, click the submit button and you will now be added to the Info Sci Society listserv!

**How do I join the club?**

First step you do is join listserv so you get updates for all of our events! After that, go to the contact page to find the president’s email and ask to join club. Once you do this, the president will add you to the Info Sci Society groupme and invite you to their Facebook page.

**How do I run for an executive position?**

At the beginning of every Fall Semester, we hold elections for every position. The way you run is by staying updated with the listserv and the groupMe to find the specific dates!

**Where do I get updates for Info Sci Society events?**

By joining our listserv, you will receive emails when we are hosting an event. Not only that, you can also follow us on Twitter and Facebook to receive live updates!

**Can I be on the listserv and not be a member of the Info Sci Society?**

Yes. We encourage everyone to be a contributing member to Info Sci Society but you are not required!

**What is the name of Info Sci Society’s Twitter and Facebook handle?**

Twitter: twitter.com/infoscisociety

Facebook: UMD Information Science Society

https://www.facebook.com/groups/1179030312226438/

**How do I access the Twitter and Facebook page?**

At the button of every footer, there is a Twitter and Facebook icon you can click that will redirect you to those pages!

**Responsibilities**

**Brandon Drummond - Front End - Members Page**

**Shishiri - Front End - Home Page/ Navigation Bar / Header & Footer**

**Marco - Back End - Contact Us Page / PHP / SQL /Slideshow/ Cyber Security.**

**Alex - Front End - About us Page / Home Page**