Report

[LINK TO HOSTED WEBSITE](https://faseeha13120.netlify.com/index.html)

Libraries used

The library we used most extensively when developing our webpages is bootstrap. Bootstrap was immense help in this assignment as It drastically reduced the time needed to style our websites using CSS. It also helped provide our webpages with an aesthetically pleasing uniform look that create an engaging user experience. Using bootstrap components such as their jumbotron and navbar classes, minimal CSS was required, and it made our website have a professional presentation with minimal time consumption. This allowed us to allocate more of our time towards the functionality and purpose of each webpage to create an overall effective user experience. We used a jumbotron at the top of every webpage with a high-quality graphic background and relatively large text (display-4) so the user can determine the purpose of the webpage with ease while receiving a clean and uniform look and feel. We also used bootstrap’s navbar classes such as navbar, navbar-dark and bg-primary to easily style the navbar. The class navbar-expand-lg allowed us to easily create a responsive navbar that condenses our links into an icon once it reaches 1200px. For the admin pages we used bootstrap pre-made forms components to easily style our forms with the correct spacing (using form-group), length, size and user-friendly design. One case where this was especially beneficial was on our publications and etching pages in which we used <select> and <option> to create an interactive list where the user can conveniently select their appropriate options. We though this was a much better alternative to using radio buttons which are not as aesthetically pleasing on a webpage and can lead to information overload on the user. Bootstrap also helped a lot in styling our front-end pages. From centering headings and text to formatting tables and adding unique bootstrap components (such as cards and accordions), our CSS was kept clean and at a minimum. An example of this is on our research projects page. Instead of overloading the user with information on all the projects at once, the pre-built accordion component in bootstrap gives clean look that allows the user to select the project they want to find more information about. This helped our web development as it allows us to focus more of our efforts in designing a high-quality webpage instead of styling and formatting in CSS.

All our admin pages rely extensively on jQuery’s validation library. jQuery was especially beneficial in its intuitive syntax for validating user inputs on our forms. For example, when entering phone numbers, student numbers and dates (such as graduation year), jQuery allowed us to easily validate user input to ensure that they were entering numerical digits instead of text using the (digits: true) property. We also used jQuery to set the minimum length, maximum length and setting certain inputs as required for our admin forms. This library also enhances the user experience as instead of submitting errors or finding them after submission, jQuery notifies the user of an error in real time and allows them to correct it before submitting the form. This also helps our web development team as it causes less errors to be incorrectly entered into our backend internal database.

Although we did not use AngularJS often, it helped us write our code efficiently and removed the need to keep re-entering the same information on each page. We used this library to create variables of data that was common to every page. An example of this is the information in the navbar and footer. This information is the exact same for every single webpage and it can become tedious to keeping copying and pasting the same code for each page. It also not only increases the load time for each page but becomes a hassle if we need to alter this information. For example, if we wanted to change the text in our navbar header, we would have to go into every single webpage and change it. However, with the use of this library, we create a variable for the navbar header text, link every page to this JavaScript file and can easily change the text from within the JavaScript file. This will allow us to change the text in ALL our webpages by just simply editing one file as opposed to every single webpage.

The last library we used was FontAwesome which was simply to add a nice graphical icon in our header to create a unique and pleasing user experience.