JÖNKÖPING UNIVERSITY
School of Engineering

WordPress Project

Group Noundy

Course name and Code:
Applied Web Architecture - TAWK17 - A18

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Design part

Logo

Our website name is Plaid which means chequered or tartan twilled cloth originally, the grid is a kind of like our homepage layout, so our website is named Plaid. Initially, the logo we designed is consist of some simple lines from ADELE font, and the letters are in dark blue. Because the three letters of 'P' 'a' 'd' own vacant portion, so we filled them with three colors of yellow, pink and red. The overall effect and color of the logo are more in line with the meaning of plaid.

Pages

The theme of our website is to show audiences all great project works of New Media Design program. After our research, we thought the main functions of our website are pictures displaying and searching. Based on these two main functions, we added some extra features, such as like button, share button, filter and so on in order to make our website more functional and professional. In that case, we determined that our website is made up of 5 pages in total, they are image gallery page, image displaying page, searching page, searching result page and 404 page.

Colors

The overall style of the site is a fresh style. Some sort of light cool colors is applied, which considered that the project images uploaded are colorful. Simple but fresh colors will be more harmonious so that the overall layout is young-friendly. The following is the colors of our website.

- #C4D4E0 Header
- #193446 Footer
- #193446 Text Title
- #193446   Button icon
- #AAAAAA Hover
- #193446   Display background color(opacity 80%)
- #E8E8E8 Background color

Basic layout

- **Home page** the main function is to present users all our excellent works in different courses and the role of the menu's 'Best of New Media Design' is same with it. While 'course gallery' is aiming to view the courses category with descriptions.

    - **Header** has our own logo on the left side which link to the homepage.   And two menu items of "New Media Design" and "Courses gallery" appear on it. In the right side, the search bar is responsible for jumping to the searching page. Menu items are added hover effects for the good experience.

    - **Content** with image displaying.   We only set the width of images in masonry. (inspiration by Unsplash https://unsplash.com/). The arrangement of photos which have different freely heights makes the hole page looks more interesting. When the website is at its maximum width, the images will be divided by 3 columns. If the site size is below 700px, the page will automatically display 2 columns. We also made a mobile version for users to scroll the screen from top to bottom to view the all pictures, which means the width of each image is the same as the width of the phone.

        Furthermore, when the cursor is on the specific image, the project name, author name and the enrollment year of the author will be showed up. Otherwise, all the information will be hidden below the images, aiming for a neat layout

    - **Load More button** at the end of image displaying page is designed for displaying more images. The newly loaded image will be arranged on the behind of old images. We also added the user interactive animation to the load more button, this is filling the button smoothly with a blue square from the center.

    - **Footer** displayed with our black and white logo, social media share icons and copyright. These icons are linked to the homepage of our account in different social media platforms so that users can follow us convenient if they are interested in us.

- **Image displaying page** (image displaying page's style of inspiration by Behance https://www.behance.net/). The main function of the image display page is to present larger and clearer project images to users by lightbox

form on the homepage. What's more, the project's all information will appear on the top. If a user likes the project very much after viewing it, he can scroll down and click the like button at the bottom to express favorable expression. At the same time, sharing this special project to different social media platforms is supported as well.

- **Descriptions** contain the project title, the author name, the enrollment year of the author, and project abstract descriptions. The whole box is on the top of the page and the first three elements are emphasized, which would make more sense for users can to perceive the specific project.

- **Images** are displayed in the center of the page; users can view pictures more clearly. And the close button is sticking at the top right corner so that users can easily quiet the display page. In addition, users can also arbitrarily click outside space of the display page to exit the display pages.

- **Like button and share button** are shown at the end of images. Before active, the icon shows a red background color and a white heart. If clicked, the red heart would pop up and turns to gray to be disabled. In addition to that, the share button contains Twitter's, Facebook's and Google plus's icons. As long as clicking share button, three social media icons would swipe from the share button position.

- **Searching page** provides a searching function for users. Users can use this page to search what they want or filter projects by taxonomies. The reason we put the search function together with all course's category is that we considered that the majority users prefer to search for something when they choose to view the different courses.

  - **search bar and filter** (sorted by courses and styles). Users can enter keywords in the search box. Then click submit button page will jump to searching result page. Alternatively, they can select different options of courses and styles by filler to search their wants.

  - **The main content**. There are five courses boxes with courses' name and courses' descriptions. It introduces the expert of the course and the outcomes that students can get through learning. There are "View All" button to see more project works of the course, which makes it easy for users to directly view all the excellent works in the specific course.

- **Search page2** has search bar too. And the main content is to show a user's search results. If there are posts that match the keyword which will be rendered in the content, while it is not fortunately to print some posts each time. In order to provide a good interactive experience, 'no result' will be on the center instead of posts details. And now audiences can search it again or return the homepage by clicking our logo or menu item alternatively.

- **404 page** animation. When a user input the wrong URL then the page will jump to 404 page, telling the user what happened.   Behind animation, 'back to home page' button has the capability to take the user to the homepage directly.

Technique part

Layout

- **SCSS**
  Compared with vanilla CSS, SCSS have a strong ability of nesting, which means we do not need to rewrite many styles repeatedly. And @import and @content own the same advantages for us to use. So, we decided to use this method to set our styles for the web pages. Actually, browsers can't support SCSS extension file directly, so we need to install Ruby firstly and then install sass, so that we can translate SCSS extension file into CSS extension file on the terminal, and then link into our PHP file. At last browsers can render the result of SCSS styling.

- **Icon**
  There is an online tool called IcoMoon which can import our SVG format icon and export them as font format automatically. Then downloading the whole zip file and importing into our SCSS file, which

means we can use these icons as fonts, by using relative font size units to change the size of icons. It is much easier for us to make icons adapt to the page width. And another hand, avoiding distorting icon images. All in all, it is very convenient for us to resize them.

- **Masonry**
  The home page is aimed at displaying the pictures freely according to the original ratio and preventing from misrepresenting them. Initially, we tried to use the masonry plugin of jQuery and call the masonry function at the JS file to achieve this effect. But when we attempted to append new things for "load more" button we found the problem of this plugin. The masonry function is triggered by loading page, however, there is no loading page for applying the load more button which is executed by AJAX, which leads that the new things overlay on the old things and forces us to strive other methods to achieve this effect.

  Afterwards, we found that pure CSS also can realize this performance by using the CSS attribution of "column-count". Nevertheless, there is a disadvantage that this method just can shrink the image in compliance with the original ratio rather than both for magnifying and shrinking automatically, which results in that we must upload the images with high enough solution ratio. And this has a negative influence on the speed of loading page. But compared with the previous solution, this is works for "load more" button no matter the minor defects are existing.

Theme

- **Custom post type**
  We registered the custom post type called "project" to reveal the detailed content because the requirement of our client is aiming at displaying the good portfolios of the new media design program.

- **Custom taxonomy**
  Instead of using the categories and tags for our custom post type, we prefer to register the custom taxonomies called "courses" and "styles" for "project".

  Moreover "courses" is a hierarchical taxonomy to sort "project" by specific courses, while "styles" is a nonhierarchical one which can be added on "project" more than one style.

Function

- **Load more button**
There is a <a> div for "load more" button containing the page data, URL data and special class name for triggering the jQuery function at index.php. When the "load more" is clicked, the data would be sent to this load more function at JavaScript file and run the codes in this function bracket.　In this curly bracket, the page number sent from <a> tag would be added one and then AJAX function would be called. In the AJAX function, the URL parameter is a string containing the URL I want to reach with the AJAX call.

  For this function, the URL is admin-ajax.php, and the configurations of "data" object literal are page: page number and "action": "load_more" function registered at the functions.php previously would be called will be sent as a request to the URL. At the functions.php, "load_more" function is to print the content by using WP_query built-in function and while loop to get a new query with the new page number. Lastly, the response from the URL would be sent to AJAX function, if it is successfully, the container of the main gallery would inject new content by appending function.

- **Like button**
At the bottom of the single page for displaying the specific post, there is a "like" button for the audience to express the emotion of the post. Actually, the process is very similar with the load more button by calling the AJAX function, but the difference is the URL parameter of "like" button which is an API route. So, at the functions.php, we need to register the API route firstly, this route includes methods, arguments and callback function. So, every time, the AJAX request is sent to this API route, the callback function would be called and the specific post's like numbers would be updated. At the same time, the front-end page number would be increased as well and disabled.

  Because this URL or API route is dynamically, so we need to use the wp_localize_script to transfer the php things into js object at functions.php so that we can get the dynamically url easily.

- **Share button**
Instead of using API route to share the specific post, I directly use the different common share links according to the different social media platform and add the post name and permalink as the share link insert into the <a> tag.

Plugins

- **Advanced Custom Fields**
  By using the Advanced Custom Fields, we could take full control of WordPress admin page editing and filling data by setting the data type, range, requirement and so on, which can prevent users from filling out invalid information. In addition, we can give a name or label to every field so that the content of field can be returned smoothly.

- **All in one SEO pack**
  This plugin of Search Engine Optimization includes a bigger range than other SEO plugins. It not only can optimize the search engine of the website title and description, but also can add dependent keywords, meta, description of the custom post type posts and social meta function can be related to the social media. Another beneficial thing is that supporting XML sitemap which can submit our sitemap to Google and Bing and improve our SEO.

- **FancyBox for WordPress**
  For the display page, we want to make the lightbox for the entire page floating on the home page. Then we found this plugin can help us achieve this pop-up effect. There are many media types in different situations. We used the iframe type and href the post permalink to insert the whole page to the index page so that it can be popped up by clicking.

- **Google Analytics Dashboard for WP (GADWP)**
  This Google Analytics for WordPress plugin enables us to track our site using the latest Google Analytics tracking code. It not only can track real-time number of visitors, real-time acquisition channels, real-time traffic sources, details, but also can track events like downloads and custom event categories, actions and labels using annotated HTML elements.

- **Search & Filter**
  Literally, it is not difficult for us to set the search form at the theme, but this plugin can print the filter of custom taxonomies and all options of the specific taxonomy by drop-down list, which would improve significantly the user interactive experience, so we decided to use it.