

INFM 603
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Group 4
11/01/2022

Project Detailed Design

In this document, our group will present a clear design of our project for the organization WAG Workshops Inc and outline our intended achievements. WAG Workshops is a young non-profit in Southern Maryland. The external customers, Professor Samantha Kemper from the University of Maryland's iSchool and Principal Officer Elizabeth Ashley are the representatives of the external organization who we are communicating with directly for this project. Both have leadership roles in the WAG Workshops organization. Their work is via contract through Calvert Academy training and a grant through Maddie's fund. The WAG Workshops' mission is, "the prevention of animal cruelty by building a positive training community, offering educational workshops and video library, providing a trade-in program for prong, shock, and e-collars, providing a therapy dog program in partnership with Calvert County Public Schools, and by offering education and training services at low cost or free to the Southern Maryland communities of Calvert, Charles, and St. Mary's Counties" ([Wag Workshops](#)). WAG Workshop trainers are all required to be certified in positive reinforcement methods instead of punishment-based training which we all believe is a far more humane way to treat man's best friend. We hope our efforts on this project make it a significantly easier process for people in Southern Maryland using the WAG Workshop directory site to schedule appointments for their dogs with positive reinforcement service providers and for positive reinforcement service providers to be able to upload their own information to the website.

The external customers envision that our group's work will make it easier for Southern Maryland community members to find force-free trainers that have been accredited by one of the recognized national or international standard bodies. We have been given backend access to an existing WAG Workshops directory site that is hosted on the WordPress, Elementor, and Wilcity software applications that include; veterinary offices to fear-free certified groomers, as well as trainers. (<https://wagworkshopsdirectory.org/>). Our customer's biggest problem has been displaying information about trainers that advertise their services on the directory site. Many of these trainers work in their client's homes with their dogs. The trainer's address doesn't necessarily tell someone whether this person will come to their house, or if there is a training facility near

them. We intend to implement the equivalent of google maps similar to: “restaurants-near-me” for trainers, board, and training locations. This includes a mix of point locations for those with brick-and-mortar locations and service areas listed by zip code.

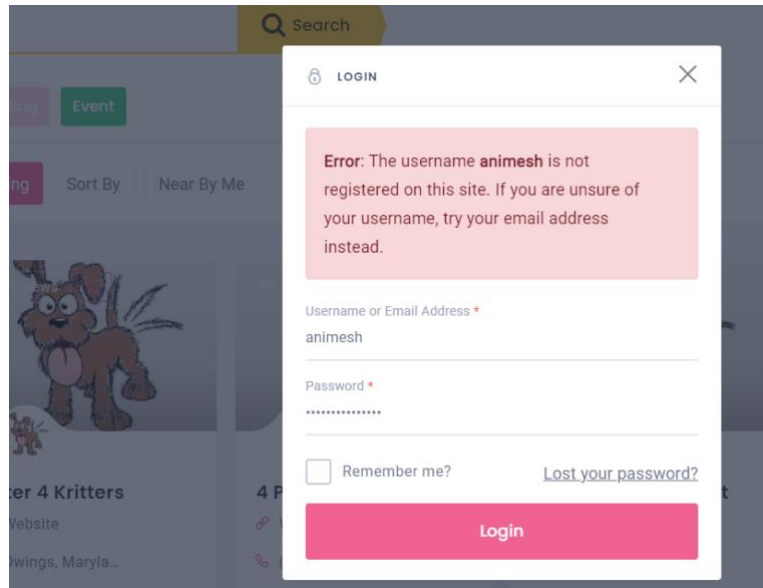
The customers have sent our group a data dump from their existing directory by way of a CSV file. Since they had not had a chance to clean all of the addresses for us we will have to do data cleaning. In addition, they included a handful of trainers that had not yet made it into their directory online at the bottom of the CSV file.

The highest priority that our client has is to design a clean interactive way to display the trainer and board (overnight stay locations), and (only day) trainer locations. Implementing this is crucial in order to accurately provide the site's users with proximity-based service providers that are force-free certified. Another deliverable to be addressed is adding the option to search for other directory businesses and services (Groomers, veterinarians, pet retail stores, calvert dogs academy). Additionally, the clients had expressed the desire for this to become a resource for the force-free (also known as the R+ for positive reinforcement) community, including Fear Free certified veterinarians and groomers.

The directory website for the WAG Workshops organization requires a significant redesign in order to meet the clients expectations of a website ready to promote to their customers. Requirements for this project are delineated from an understanding that we have developed from testing the useability of the website and talking to our clients about their needs for the website. The requirements we must complete include adding more functionalities, cleaning and importing new data to the website, and fixing bugs. We will use the developer tools in WordPress and MySQL to update records, develop our functionalities and fix bugs.

Functionalities to be developed:

1. Search particularly for force-free trainers and board and training that will service the users in their area (by zip code) by filtering results to only display these types of trainers. The user will get this information from the front end.
2. Ability to Log in and Sign up for new/existing users. Currently there are no accounts registered and users are unable to create a new account.

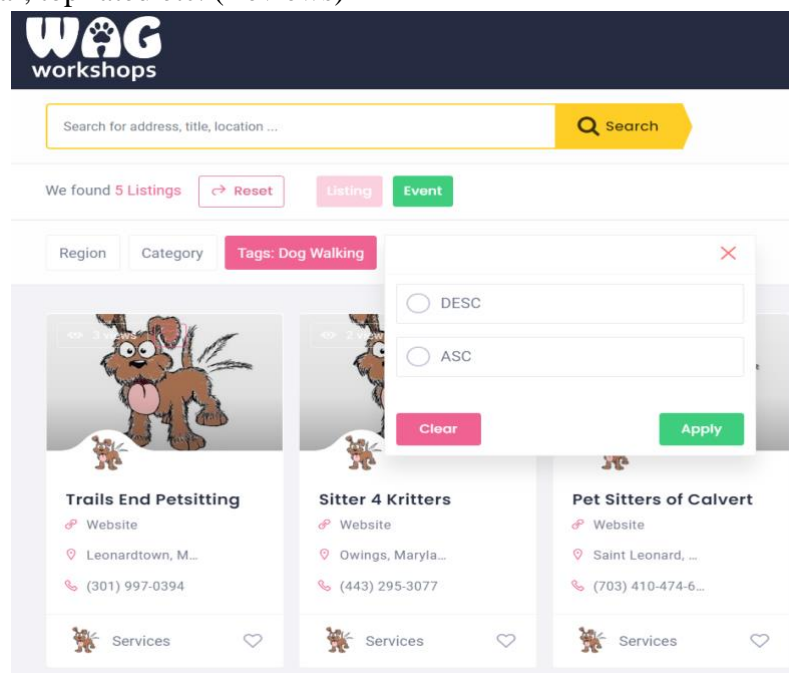


3. Subcategories in the Menu rather than on the Homepage in order to make the website more user friendly/easy to navigate.

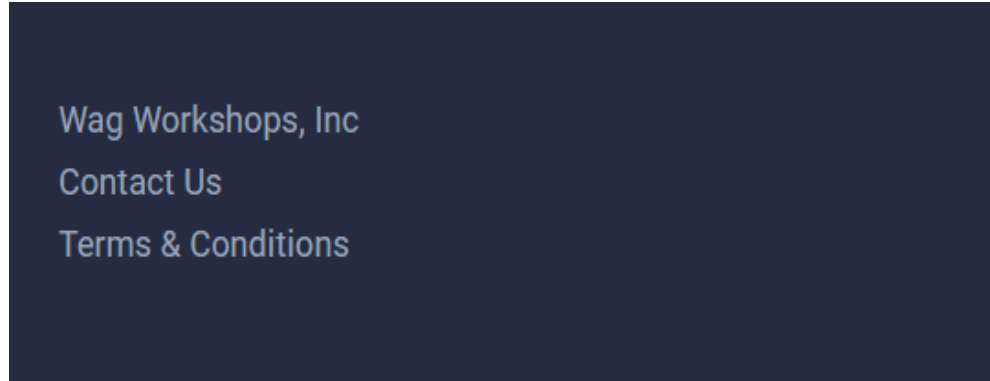
4. The search is implemented incorrectly and a basic search for training is not working. It should display the correct information.

5. Bug fixes

- The sort-by shows only ASC and DESC, we need to add sorting options like nearby, popular, top rated etc. (Reviews)



- Wag Workshops, Inc and Contact Us - these two links at the bottom of the site are not working. The Wag Workshops, Inc link does not redirect to the main site and the Contact Us link does not redirect to a contact page. However, the Terms & Conditions link does work. We intend to get both broken links operational.



- The distance shown of the addresses currently on the website are not the same values as when compared to google maps

The current working directory site does not have the functionality for new force free certified trainers to register an account and once they are logged in for the to add their own information. Data entry by new trainers themselves should be added to the database to help ensure the website stays up to date. The current system requires every time a new trainer joins the organization they must be added manually to the website by our clients. It is not a requirement of our client but our goal to implement a long term solution that helps with the maintainability later on by automating this data entry process. We plan to create a secure forum as part of the website which could be used for new trainers, or to edit the existing trainer details and this would be directly added to the database without intervention of our clients. In this case the accuracy and truthfulness of the trainers' information being advertised will be their responsibility. The clients have the ability to verify trainers so this can be a reasonable solution.

While implementing our new functionalities we have found the need for a new design change to the project. Our group believes that redesigning the clients tables in PHPMyAdmin will benefit the useability of their database. It is a goal of our group to include this in our design but not a requirement.

Implementation

Technologies used:

WordPress

WordPress is an open-source content management tool which is easily manageable by anyone, without getting into the technical details, while the option is available.

There are a couple of advantages of using WordPress:

- WordPress is quite flexible, easy to change with ever-changing needs of the business.
- It is beginner-friendly. While technical know-how helps, WordPress is very easy to use even for non-technical people.
- It offers extensibility in the form of themes and plugins which are customizable based on the requirements of the user.
- WordPress is mobile responsive with its availability of responsive theme designs.
- WordPress also comes with SEO inbuilt, which helps the ranking in the search results.

MySQL:

MySQL is one of the popular open-source relational database management systems. A relational database stores data in separate tables rather than putting all the data in one big storeroom. MySQL uses SQL (Structured Query Language). SQL is the most common standardized language used to manage and access relational databases. A relational database stores data in separate tables rather than storing all the data in one big file.

Benefits of using MySQL are

- **Ease of use:** MySQL can be installed in minutes, and the database is easy to manage.
- **Reliability:** MySQL is one of the most widely used databases. It has been tested in various scenarios and is being used by many of the world's largest companies because of its reliability.
- **Scalability:** MySQL scales to meet the demands of the most accessed applications. MySQL's native replication architecture enables organizations such as Facebook and Netflix to scale applications to support billions of users.
- **Performance:** MySQL Heatwave is faster and less expensive than other database services.
- **High availability:** MySQL delivers high availability, disaster recovery and meet service-level agreement commitment.

Plugins used:

LambdaTest is a WordPress Plugin utilized for testing. It is used for cross browser testing of the Wordpress website posts and pages. We can use it to test real time interactive testing on different combinations of mobile and browser combinations.

The client used Wilcity app and Elementor for the initial development but we don't intend on using these plugins for our development.

Implementation of Front End:

We opted to use WordPress for the front-end development and all the functionalities will be developed in the same. The end goal is for the website to work seamlessly and allow users to find things they are looking for easily without much hindrance.

The website will contain all the information related to the services available, search functionality for navigation, and trainers who are close by and it doesn't have to be updated by the client often. We will also have a forum for new trainers to enter their information. It is also important for the client to be able to maintain the website easily once it goes live, so all the changes that are being made are one-time events.

Implementation of Back End:

We are using MySQL Database to collect data about the pet trainer like name, phone number, location and certifications. It allows the database to store information and provide us the access to it.

Databases in WordPress can be managed using phpMyAdmin which is an open-source web application with a great GUI to manage MySQL databases. It is easy to run commands and enables you to edit, delete, update or create tables, fields and rows. There are not many plugins that enhance MySQL functionalities in WordPress. We use the WP phpMyAdmin plugin to access the phpMyAdmin panel directly in WordPress.

Unit Testing:

In the project, we intend to use LambdaTest plugin for our unit testing purposes. Since it is an operational website, we will need to check the compatibility of pages developed with different available browsers and we are testing for the same. The compatibility of plugins and themes used in Wordpress might not work similarly for different OS and browsers, so we are following Test Driven Development, so we can check if the development is inline with the release as we progress through the project.

The client is currently using Bluehost to host the website and we are implementing it on the same platform.

Coding Standards for WordPress:

1. Indentation for every block of code is mandatory.
2. Documentation in the form of comments for better understanding of the written code.
3. Code should be readable and each line should not exceed 80 chars.
4. Code should be formatted in every file.
5. Follow naming conventions for variable names and function names.
6. Statement terminators should be used at the end of the line, when necessary.
7. All the code must be thoroughly tested before publishing.

Information Sources:

We have existing tables for Login Details. We intend to add tables which will contain the trainer information which includes their personal details, their certifications and their zipcode for the users to figure out who is close to them. We get this trainer information from the form we will be adding to the website.

Limitations:

We will be working on the clients directory site itself and can reload to backup versions if we encounter difficulties. If needed we can take the directory offline to make our changes without the chance of causing any confusion to users of the site. Creating a forum as part of the website for new trainers to add and edit information directly to the database must be done in such a way that it does not make the website prone to getting hacked. If we cannot ensure the website's security when adding the forum then we will not include it.

Testing

Every new feature incorporated in a website must be tested extensively to ensure that it works as desired.

Unit testing is done by the programmers who develop the code and should test the code snippets to match the requirements.

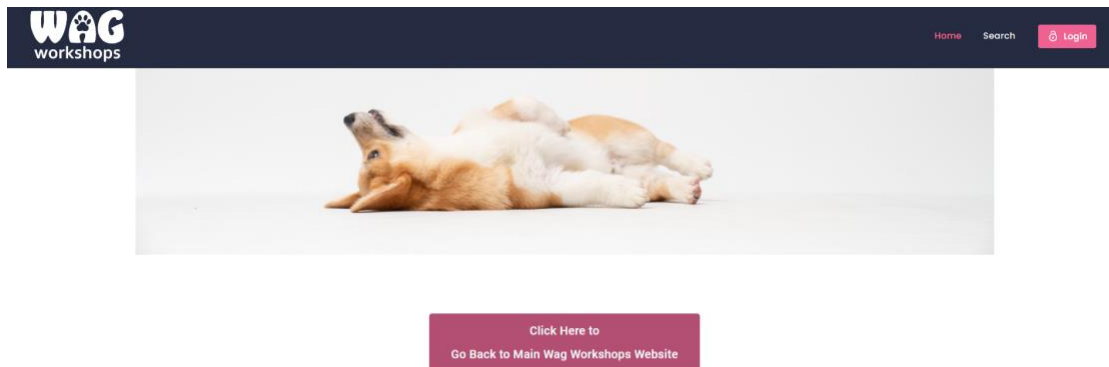
A functional test cases should be tested by a tester and the test cases should have the following features:

1. Name of feature, its description
2. Conditions are to be met before testing
3. Steps of testing
4. Expected result

Scope of testing:

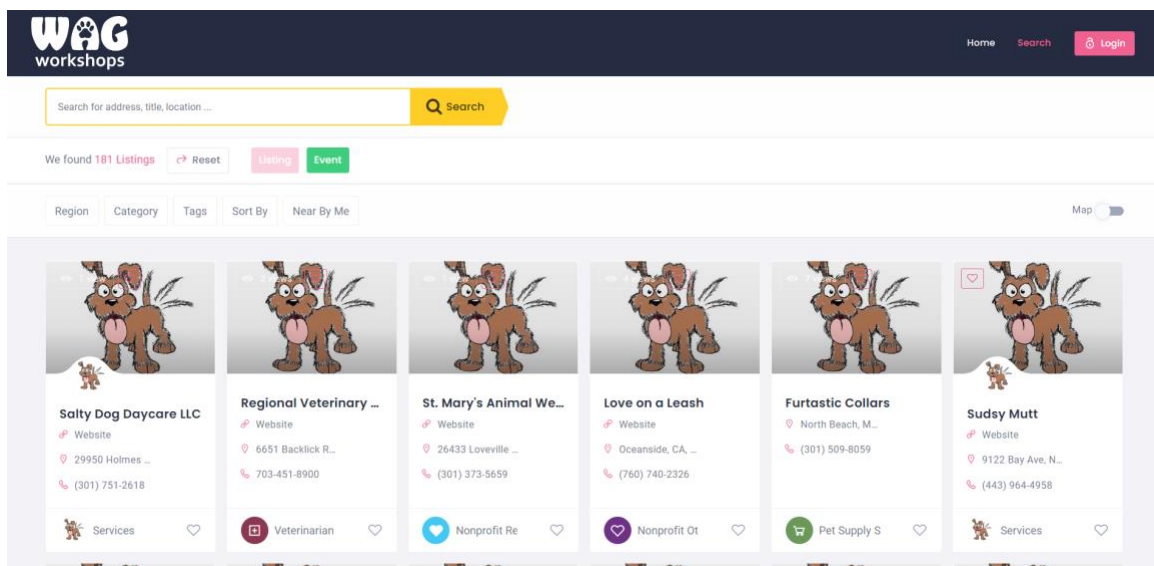
We aim to extensively test all the features and functionalities of the website to ensure that our requirements are fulfilled and the implementation techniques which we applied are effective enough to clear the following test cases:

1. “Click Here to Go Back to Main Wag Workshops Website” button should direct you to the main website.

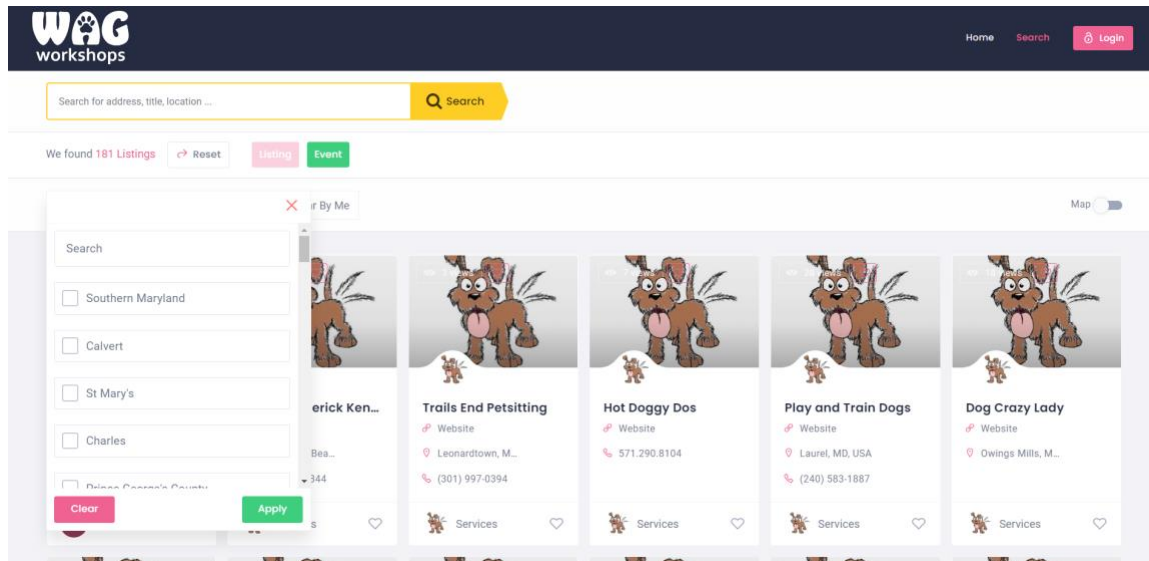


Services for your Dog

2. Search button on the top right corner of the website should direct to the search page where different options to filter the results are available. E.g.: Region, Category, Tags, Sort By, Nearby Me.



3. Further clicking on the filter options given above should open a pop-up at that place, with options to choose from.



4. Multiple filter options can be applied at the same time to reduce the search results to a very specific listing on the website.
5. The events tab on the search page should not show the listings in case of no on-going events around.
6. The webpage for a listing should have a proper well spread background picture
7. Under the “business info” block on a listing’s webpage, the inbox button asks for login information, instead it should open a mail app with the listing’s email address in place.
8. The share button on a listing’s page should also pop an option to copy the link of the webpage along with sharing options for Twitter, Facebook, Email.
9. The Login and Register button on the top right corner should enable users to perform either of the two functions via Google sign-in options.

Roles and Responsibilities for Testing:

Scott: To ensure that the test cases designed are full proof.

Srikanth/ Sravya: To ensure that the requirements are met, and test cases are passed and do unit testing at every stage of development before deploying the changes.

Animesh: To perform the testing and check the test cases mentioned are covered and provide sign-off for the same to programmers.

Schedule:

Stage: 1 - 11/01/2022 to 11/15/2022

Task	Point of Contact	Deadline
Test case review	Scott	11/01/2022
Unit testing	Srikanth/ Sravya	11/08/2022
Functional testing	Animesh	11/11/2022

Stage: 2 11/16/2022 to 11/27/2022

Task	Point of Contact	Deadline
Test case review	Scott	11/16/2022
Unit testing	Srikanth/ Sravya	11/22/2022
Functional testing	Animesh	11/23/2022

References:

LambdaTest. (n.d.). *Building Test orchestration platform for growing businesses* ✨ /

LambdaTest [Video]. LambdaTest. <https://www.lambdatest.com/>

What is MySQL? (n.d.). Oracle. <https://www.oracle.com/mysql/what-is-mysql/>

WordPress.com. (2024, February 3). *Documentation — WordPress.com developer resources*.

WordPress.com Developer Resources. <https://developer.wordpress.com/docs/>