## ARKANSAS



# NWA Hunter Jumper Association Dynamic Website

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## Introduction

Websites are most likely the most common thing that you can find on the internet. Everywhere you go is a website, Google, Amazon, Walmart, etc.

What we have taken for granted however, is the amount of work that goes into the creation of these sites. Different aspects such as the site layout are not always as simple as just dragging and dropping a box into place. There are times where hard code is needed to do something as simple as display text in a box. It is far more complex than people nowadays give it credit for.

So for our Capstone Project, we were reached out to by the Northwest Arkansas Hunter Jumper Association, in order to upgrade their website to a more dynamic database format, to make it easier to update in the future with new sponsors or events.

## **Results**

Website: Our new implementation of the website uses Laravel and an up-to-date version of PHP to make it display the required content dynamically.

Dynamic Content: An association has several pages whose content is loaded from databases that are updated from fillable forms by admins without needing to know how to code. This content includes the names of the barn/sponsor/event, a dynamic map of its location, contact info, etc. Sponsors also have a date associated with them so they can automatically stop showing up when their sponsorship ends.

User Levels and Authentication: Users are authenticated with a login system and have a level of access so that only authorized users can make changes to the dynamic content of the website and a user can only sign up for events for themself.

Admin Panel: Administrators have access to a special panel that allows the correct users to create entries into the correct tables and have them show up as content on the association website.

### **Purpose**

The Northwest Arkansas Hunter Jumper Association is the Northwest Arkansas area chapter of the United States Hunter Jumper Association, a competition-based equestrian sport organization focused on providing educational programs as well as awards and recognition for its members.

## **Methods**

#### **Identify NWAHJA Dynamic Website Needs**

This project required us to evaluate the existing static website and visit the NWAHJA board members to identify the data and functionality they would like the website to contain. We used wireframes to identify the layout of the webpages.

#### **Normalize Data For Tables**

We used MS Access to organize the data into a database that could easily be used to identify the data attributes. This database

As part of a national association, the Northwest Arkansas chapter requires a robust website to handle all its needs including communication with members about important dates and information, competitive event creation, participant sign-up, and management, as well as the various bookkeeping operations required by the national organization.

Above all else, the website must be as user-friendly as possible; due to the structure of the board of the association, new members come and go on a yearly basis, which means new board members must be brought up to speed with the functionality of the website and be trained to fully utilize and manage of its various features in a timely manner.

was only used to collect and group the attributes. We normalized the data so it is grouped in classes allowing a logical organization of the data and applying controls for which users can add, edit, view, or delete the information.

#### Identify the Language, Framework, and Database Best Suited For Task

We chose our language to be PHP because it gives a robust set of tools to creating a dynamic website that generates all pages from data stored and maintained in a database.

We needed a PHP framework that allowed us to follow a model, view, control application making the website more robust and secure. After some trial and errors we ended up using Laravel 6.x as our PHP framework.

The hosting service NWAHJA uses required us to utilize MySQL database .

#### **Website Construction**

Using Laravel 6.x for our PHP platform required us to utilize the following tools:

Migrations: Is class that design to create schema in the database.

Factories: Allows to build fake data into database and see the action of the code before any real user data come in.

Seeder Files: Is class that stored in the database directory and contains run methods by default and it only contains one method by default: run.

Models : Model is central component of the design and utilized to associated with the table and permits to inquiry for the information interior the table.

Controllers: will accepts the request and then it will return the response to the view.

Views: is representation of the information

CRUD Forms : The CRUD Forms are used to add , edit and delete information in the database.



### **Conclusion**

Our foundational goal was met, however we did not achieve all the expected results within the timeframe. The current website is capable of displaying the equivalent content as the original Northwest Humper Jumper Association website with dynamic data. Manipulation of this data is fairly intuitive and is role restricted to prevent unauthorized access.

The website is not at full usability however it is now much easier to manipulate the content. This will provide easier handoff of maintenance to the future moderators of the website. So the goal of user-friendliness has been met, just not to the degree we previously hoped. However, there will be continued work to resolve this issue in the future.

The bookkeeping and automated form generation

process was not finished in time. This will also be resolved in the future outside of the original timeline.

We feel that while it was not impossible to have met these goals within the deadline, there were too many unexpected roadblocks during this time. The cancellation of in-person meetings and online classes lead to a lack of communication and a lack of proper time management.

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# **Computer Science & Computer Engineering**