*Sports Nutrition Inventory System*

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Abstract

The Sports Nutrition department for the University of Mississippi has several locations all around campus where they provide snacks, beverages, meals, supplements, and everything in between to athletes and students alike. As of now, the inventory system is done on paper and stored statically on an Excel spreadsheet that is updated daily. With multiple locations on campus and the need to be able to check the status of a product at any given time, paper records is just not optimum way for system like this to function. A web application with a database is essential for something like this, giving the capability to check and update the status of items in real time, and also the ability to move product back and forth if certain items are needed elsewhere.

Narrative

Before writing a single line of code, I had a primitive blueprint in my head of how I wanted the final product to look. This vision only became more coherent after meeting with my sponsor for the first time. With this in mind, I chose to begin with getting the login functionality working first. I singled out this task because I knew it was important to keep track of any changes made by an individual user and that sometimes account validation can be a hassle to set up. As I had expected, getting this implemented did take a bit longer than previously determined. The login functionality taking me off-track scheduling wise only pushed me to work twice as hard on implementing the rest of the website. For the landing page, which presents all items in the inventory database, I decided to design it top-down, from left to right, starting with a navigation bar. Next, I knew I wanted some type of sidebar navigation to make maneuvering and filtering through the various types of locations and categories of each items very accessible. With the ability to toggle the view and using JavaScript and PHP arrays to pull the entries from the database, implementing this aspect also set me back in terms of my project timeline. After finishing this, I wanted to get the basic read portion of the CRUD interface working. Following this, I wanted to go ahead and get the create, update and delete also functioning. I used this landing page as the starting template for most of my other pages, changing what I was presenting and how it was being presented depending on what was selected. For example, if the location “Gillom” is selected, I show the user all items that are currently located at Gillom. Once finishing most of the pages I needed, I needed to implement the last couple features that had to be included: the ability to discard some amount of product and as this to a separate table to view, and also the ability to move product between different locations if they have the same product name. The discarding feature was relatively similar to the add feature but with two queries instead of the one. One query would update the new quantity after subtracting off the discarded amount, and the other would insert the discarded amount into a new discarded entry. For the moving of product from one location to another, I first needed a list of all other locations listed in the database. I first checked to make sure another item of the same name existed in the database, and if it did, I printed those locations to a selectable dropdown menu. Lastly, I would use two update queries to adjust the new quantities accordingly.

Most aspects of the design and implementation went according to plan. One of the main focuses of the project for myself was to make sure the design and layout of the webpages was clear, concise, and easily understandable. I was confident in my ability to get all of the back-end elements working correctly, but not as overly familiar with the front-end and webpage designing aspect. Even in the early stages of the design process, I was straightforward in my approach of exactly what I had in mind when meeting with my sponsor, Kate Callaway. She was very perceptive to my ideas, and we always seemed to be on the same page in terms of what she wanted in her final product, and what I was able to deliver to her.

There are a couple aspects of the project I would definitely do differently if I was to repeat the same project again. For one, I would have tried to meet with my sponsor substantially more often than I did this time around. We probably only met in total four or five times, but I would have like to meet at least once every week or every other week. This is mostly caused by my own discrepancies, beginning the bulk of the work on the project later than I had originally intended. I also learned a considerable amount after completing this project. The first and most valuable thing I learned was that however simple you might speculate a problem is to solve, it is almost never that straightforward. There are always unforeseen complications, which is why it is important not to get stuck in the problem and take breaks from working on it. These intermissions can cause you to step back and think about the problem in a different way. I also learned about the importance of frequently updating your sponsor or customer with the progress you are making. This is such an imperative skill because they can keep a developer in check, as to not branch off and misrepresent the customer’s vision.

There are definitely a few extensions I would have liked to add to the project if time had allowed. The first would have been an admin portal, as to have the authentication of users handled by a few of the associate professors in the department, as opposed to just letting anyone create an account an enter the website. The next addition would be some type of usage tracker that can be adjusted based on a daily, weekly, monthly, or even yearly setting. This would be very helpful in knowing just how much inventory is being used, alerting the department just how much product they need to order next time. This type of tool could also be used to show if more funding is needed based on how much product is being used. Lastly, the final enhancement to the project would be the ability to scan the barcode of an item and have it automatically add the item to the inventory. Creating an item entry is already simple enough, but something like this would expedite the process even further.