Senior Project Documentation

Sports Nutrition Inventory System

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* *The Problem*

The main objective of this project was to provide a more streamlined way of keeping inventory for the Sports Nutrition department for the University of Mississippi. As of now, the current setup of the inventory system is completely done on paper. While this way of doing things could work for a short amount of time, in the long run, it seems like a messy approach. With several locations all over campus to keep track of, this inventory system will be easy to update from separate locations and stored in a central database, making it easier to just login and check the amount of products, move product between locations with ease, or edit the amounts at the end of the day.

* *Database Schema*

Since the focus of this project is essentially a database, I wanted to make sure the database schema was designed well. In terms of normalization, the database is in third normal form. With no partial or transitive dependencies, each entry depends solely on the primary key of the corresponding table.



There are 6 tables: User, Login, Location, Category, Inventory and Discarded. The User table holds the basic information of a user, including username, email, and first and last name. The Login table is just to separate the stored hashed password from the basic information of the user. The Location and Category tables are to store the different locations across campus and categorize each specific type of inventory, respectively. The Inventory table pulls these Category and Location IDs from their respective tables and uses them to create individual items, along with quantities, timestamps of the last update to the item, the username who made the previous update, and an optional description of the item. Lastly, the Discarded table is essentially the same as the Inventory table, but separated, as to keep any product that is thrown out separate from the active inventory items.

* *Implementation*

For the back-end implementation, I decided to use PHP, MySQL, and JavaScript. I chose these because I wanted to use something I was already familiar with, as to not waste time having to familiarize myself with a new language. Also, MySQL seemed like the go to for a project of this type, using the queries to present and manipulate the data. With PHP and MySQL doing a bulk of the work, I really only used JavaScript for some of the object toggling and iterating through my database for some of the dropdown selections in the sidebar. For front-end, I used HTML and CSS for the pages and formatting and decided to use the Bootstrap library because Bootstrap has an extensive list of prebuilt components that are created using JQuery, which makes the presenting of data pulled from databases especially simple. I have used the University of Mississippi’s own Turing server to host the web application up until this point. I have spoken with the network administrators of computer science and applied sciences about how to proceed moving the website to a permanent location after my departure. There are no concrete plans as of now, but they did confirm that some room could be made on a permanent server at some point in the near future.