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| Gluten Free Zone is a smart phone application that allows gluten free individuals to determine if a product contains gluten by scanning the products barcode. This project involved building the website for the product, as well as the web services and database system to integrate with the smart phone application | | Jake Buller Travis Miehm |

# Overview

Gluten Free Zone is a smart phone application that relies heavily on web services and a database to provide full function to the end user. For this project we focused on building the website and the web services associated with the application. The websites main responsibilities include showcasing the products value proposition, allow for account creation, allowing administrators to manage the products database, and providing product analytics to administrators. This document will describe each feature of the website and web services and explain how they are used.

# Project Features

## Account Creation

This service allows users to create accounts for Gluten Free Zone (GFZ). The sign up form is located on the home page of the website and requires the users enter their email address, and a password, with optional data including first name, last name, and their reason for using the service. Accounts can also be created through the application with a very similar form. Both sign up forms work with the GFZ database and create accounts with a user level of 1. User level 1 means that the user has access to the home, how it works, our team, and contact pages. Specific users can be made administrators by manually increasing the user level to 2. Administrators have access to 2 additional pages called products, and analytics. Upon creating an account a random verification code is created for each user and is emailed to them. This unfortunately does not work with hopper since hopper does not support email and so the code does not actually send. The aim of this product is to be released on a dedicated server, which will support mailing and allow for full functionality

## User Login/Sessions

User sessions are stored in cookies so that user do not need to login when navigating to different pages. This information is used to determine what pages to show. The user’s session is valid for 1 hour at which point they will need to log in again. This login process also works on the iPhone application and is needed to gain access to the application. Within the application the user’s usage is tracked based on their account, this is where the real functionality of the accounts is involved.

## Contact Us

Contact us is a contact form used for customers to be able to contact the business with any issues/concerns about the product or any other general inquiries. This service is coded to work with an SMTP server through a PHP interface, however hopper does not support email functionality and so the version on hopper will not actually send the mail. The aim of this project is to move it to a dedicated server for the product release, at which point the mail functionality will be available.

## Products

The products feature of GFZ is a restricted area only accessible to administrators. This page allows administrators to manage the products and their ingredients within the GFZ database. This product information is what is used by the iPhone application to determine a products safety. This page allows users to add new products, delete existing products, and edit products. Using Ajax allows this page to run quickly and fluidly without refreshing to provide a good user experience. Multiple items can be selected from the table by holding control and clicking on the item. Active items are shown with a green highlight colour.

## Analytics

The analytics page provides administrators with valuable analytical data about the products usage. The table is loaded with Ajax and can be refreshed using the refresh button located at the top right. The refresh also uses Ajax and uses a nice jQuery transition to make the table slide back in with the refreshed data. This data allows for administrators to track statistics from the app such as the number of active users or the number of scans with the last week.

## Product Scanning

For the iPhone application to deliver results to the user a web service is used to check the contents of the requested product. The application makes a post request to the scan service; this service takes the users email address, and the products UPC. A query for the products ingredients is made, if the product is found then its ingredients are parsed (comma separated list) and checked against a list of gluten ingredients to determine if the product is safe or not. Once a result is found the scan time, user, upc and result are stored in the scans table for us in the applications history feature and for the analytics.

## Scan History

The scan history feature of the application is used to show the user items they have scanned and the result of those scans. To retrieve this data the application makes a request to the history service, the history service queries the database for the scan entries associated with that user. The results are then used to build a JSON string to send back to the device.