SuperFresh
Recipe Catalogue System

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1. Introduction

1.1. Project

This purpose of this report is to document the process of developing a system for a fictional company called SuperFresh. The development team will design, implement and test a recipe catalogue system for the company.

The system is used to store a list of of meals on offer and a schedule of meals for each week. There will be a search tool to find the schedule for a given week.

Additionally, the system will be web-based with administration features to allow additions, changes and removals to be made to the catalogue. It will also have a user login facility for both customers and administrators.

1.2. Company Background

"SuperFresh is a UK company that specialises in growing a large range of organic vegetables. The company currently have over 30 farms located around the UK Isles. SuperFresh are always looking to expand their business with the prospect of supplying organic vegetables to supermarket and to reach out to customers directly.

SuperFresh noticed other business competitors offering a service where meals are planned and the fresh ingredients are sourced to cook the meals. Customers purchase through a website the pre-planned meals, the ingredients and cooking instructions for a set of meals which is then delivered to the customer's door. Because of the way that SuperFresh conduct their business, there has never been a business need to have any online presence. The owners of SuperFresh now think it is a good time to start developing an online presence.

The current practice by other business who create recipes, source the ingredients and deliver to customers include sending paper based cooking instructions. From customer feedback gathered by SuperFresh there seems a desire for customers to have the recipe and cooking instructions online to follow when cooking. Customers suggest that the paper gets wet or damaged when cooking, this makes it hard to read or save to try and recreate the meal on another day. SuperFresh could also save a lot of money by not printing and sending the recipe and cooking instructions card." (Stacey, 2018)

2. Design of the New System

2.1. SuperFresh Homepage

The SuperFresh homepage is the first page that a user sees when they visit SuperFresh's website. It features an image carousel and displays all meals available.

The homepage can be seen in Figure 1. Also shown is the navigation bar at the top – every page will have this. The hompage is the first link in the navigation bar.

The navigation bar contains links to other pages and includes a search tool. Additionally, at the top-right are the login and logout options. On the top-left corner is the company brand logo – "SuperFresh".
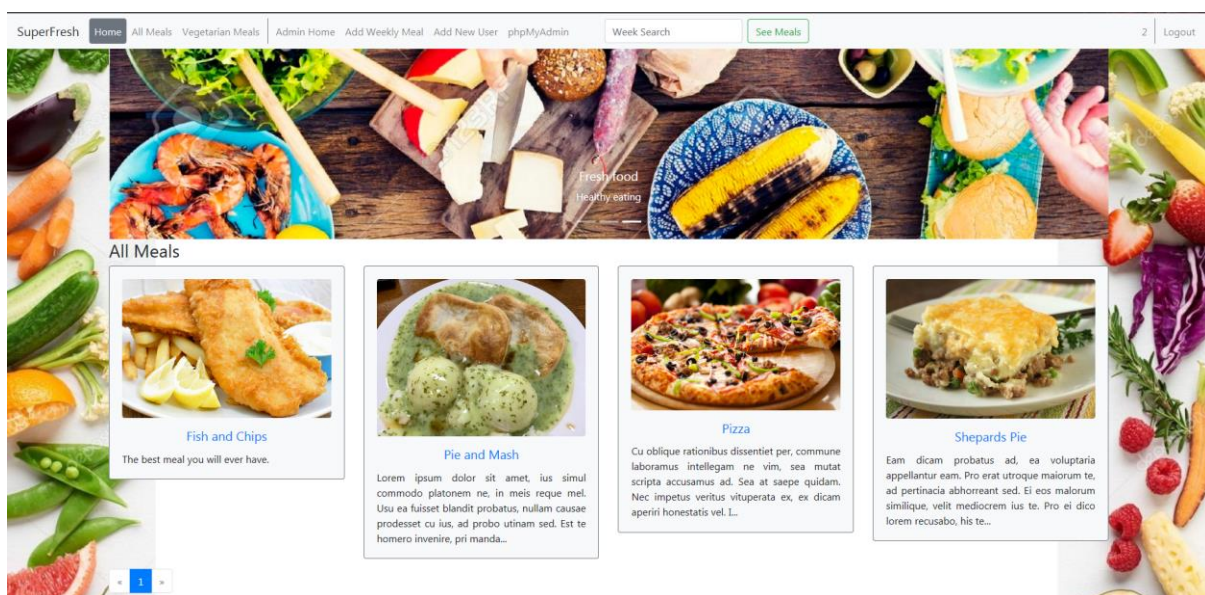
Figure 1 - SuperFresh Homepage

2.2.   List of All Meals Available

The user can view a gallery of all the meals available from the company. This gallery is accessible by clicking on the second link in the navbar as ashown in Figure 2.

By clicking on the meal card, the user is taken to another page which shows detailed information about the given meal. The information includes: ingredients, allergies, vegetarian restrictions and cooking instructions.
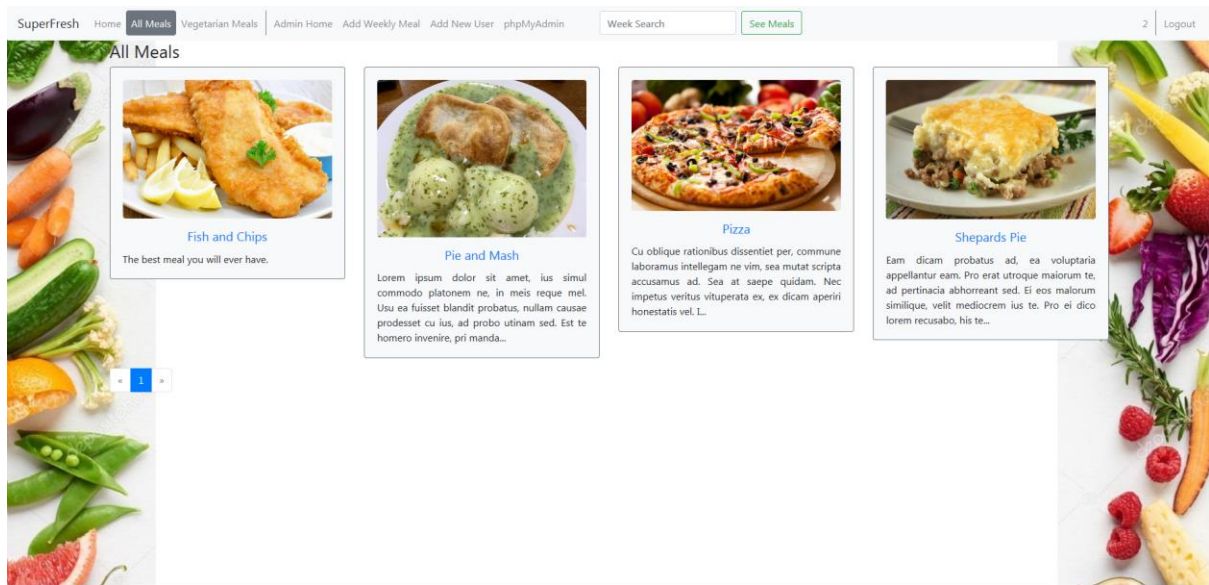
Figure 2 - List of All Meals Available

2.3.   List of Vegetarian Meals Only

For vegetarian customers, they can view a list of all vegetarian meals by clicking the third link in the navbar. The vegetarian only gallery is shown in Figure 3.

By clicking on the meal card, the user is taken to another page which shows detailed information about the given meal. The information includes: description, ingredients, allergies, vegetarian restrictions and cooking instructions.
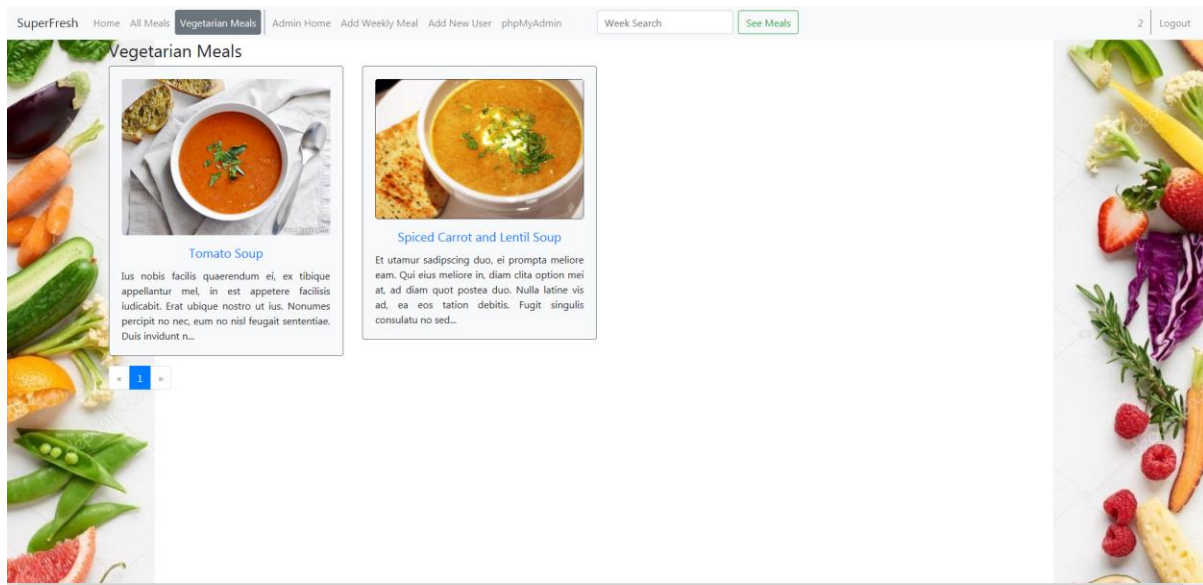
Figure 3 - List of Vegetarian Meals Only

2.4.   Meal Details

Each meal has a page with further information about it. The page can be accessed by clicking on any meal card that is show in the meals galleries: Figure 2, Figure 3. Meal cards are also seen on the schedule of weekly meals page, shown later in Figure 5.

The information provided on the page includes: description, ingredients, allergies, vegetarian restrictions and cooking instructions. An example meal page is shown in Figure 4.
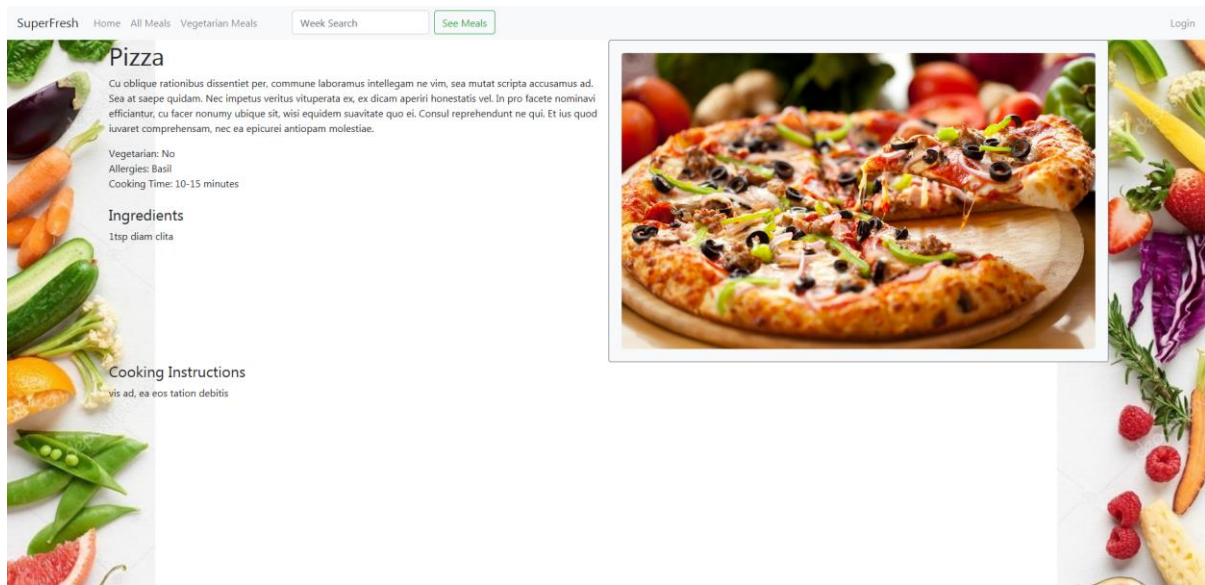
Figure 4 - Meal Details

2.5.   Schedule of Meals for a Given Week

For each week, there is a schedule of meals that can be viewed as a gallery shown in Figure 5.

The schedule is accessed by entering the week number in the search field followed by pressing the "See Meals" button.
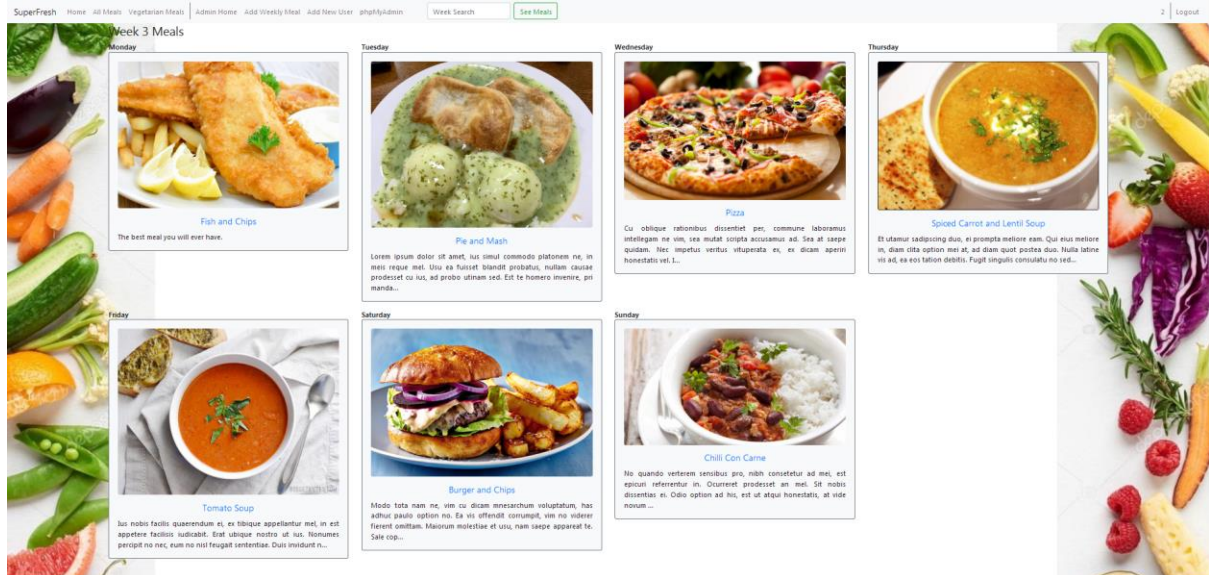
Figure 5 - Schedule of Meals for a Given Week

2.6. Login

Customers and Administrators can login to the website by pressing the "Login" link on the top-right of the screen. At the login screen on Figure 6, the user enters their username and password, then press the "Sign In" button to login.

After logging in, customers are redirected to the SuperFresh homepage shown previously in Figure 1. However, admins get redirected to the admin homepage, shown later in Figure 8.
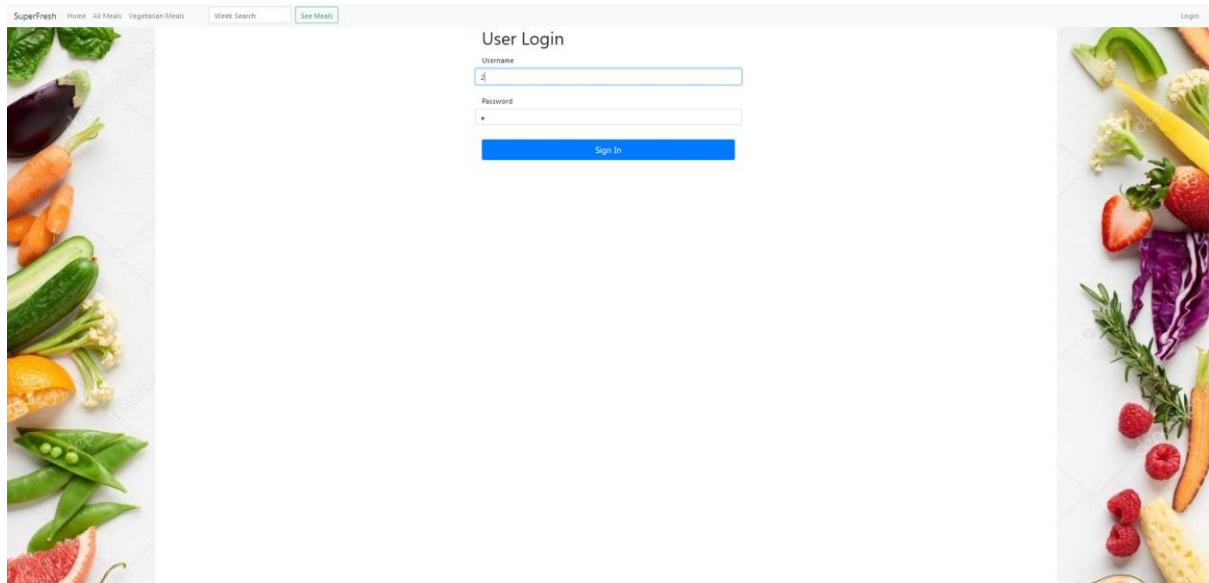
Figure 6 - Login

2.7.   Logout

The user can logout at anytime by clicking the "Logout" link at the top-right corner of the screen. The link is only visible to users if they are logged in.

After clicking the link, a message is displayed to the user to confirm that they are now signed-out as can be seen in Figure 7.
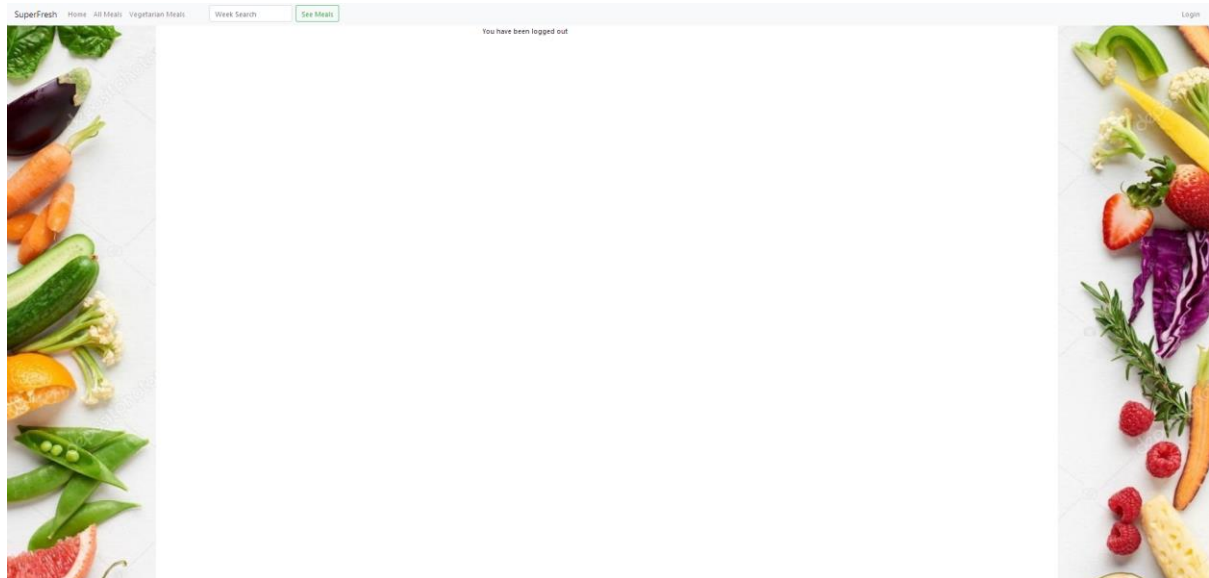
Figure 7 - Logout

2.8.   Admin Homepage

The Admin homepage is the first page the admin sees after logging in.

The page provides quick links to the other admin pages: "Admin User Management", "Admin Weekly Meal Schedule Management" and "PhpMyAdmin Database Administration".

Additionally, the administrator has extra links added to the navigation menu. A screenshot of the admin homepage is shown in Figure 8.
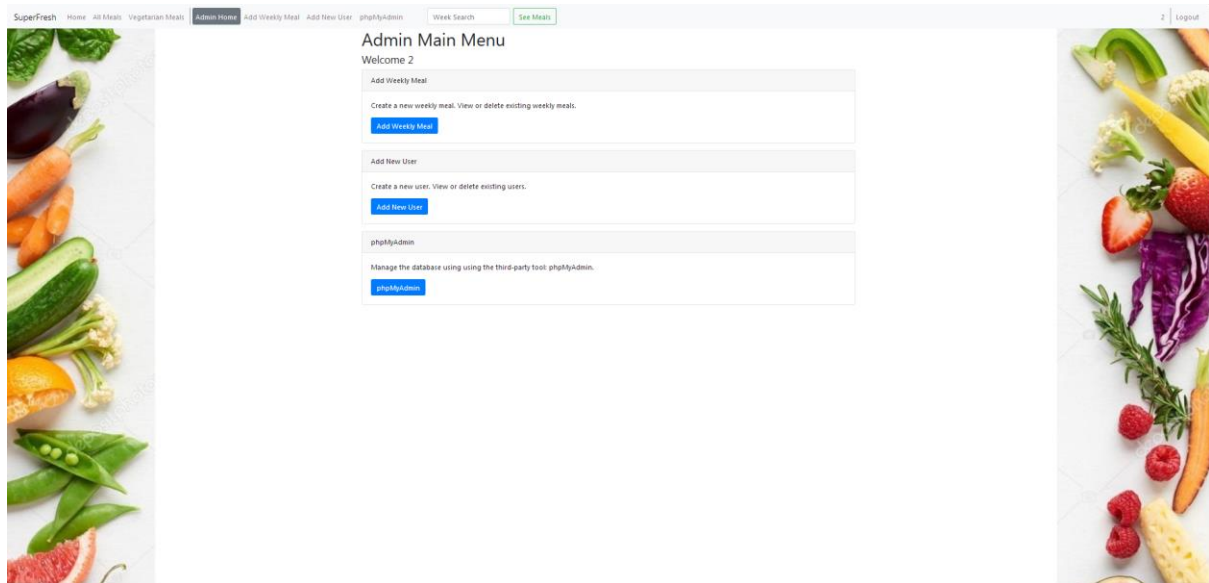
Figure 8 - Admin Homepage

2.9. Admin User Management

The "Admin User Management" page is accessed from the "Add New User" link in the navbar or the "Add New User" button on the admin homepage. A screenshot is shown in Figure 9.

On the left side of the page, there are input fields where the admin can enter a new user's username, password and access-level.

On the right, the admin can view existing users and their details. Additionally, next to each user is a "Delete" button, that when clicked on will delete the respective user.
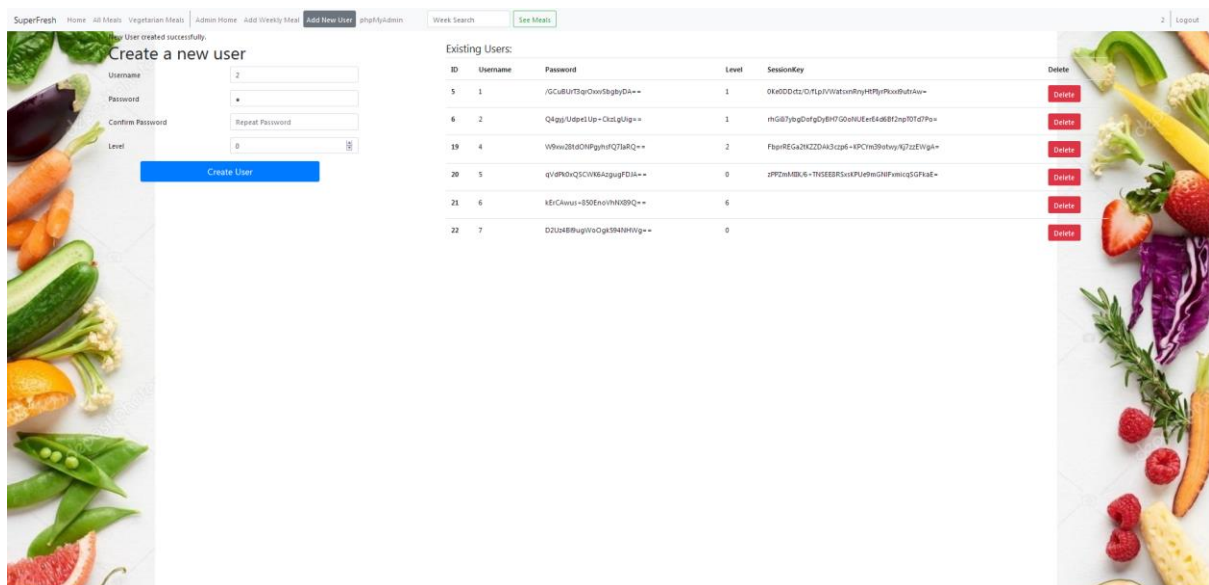
Figure 9 - Admin User Management

2.10. Admin Weekly Meal Schedule Management

The "Admin Weekly Meal Schedule Management" page is accessed from the "Add Weekly Meal" link in the navbar or the "Add Weekly Meal" button on the admin homepage. A screenshot is shown in Figure 10.

On the left side of the page, there are input fields where the admin can enter a new weekly meal's week number, meal id and day of the week.

On the right, the admin can view existing weekly meals and their details. Additionally, next to each meal is a "Delete" button, that when clicked on will delete the respective meal.

Figure 10 - Admin Weekly Meal Schedule Management

2.11.   phpMyAdmin Database Administration

The admins have access to a third-party tool called "phpMyAdmin" which can be used to manage the databse throught a web-based user-interface. This tool is accessed by clicking the "phpMyAdmin" link in the navbar or "phpMyAdmin" button on the admin homepage. The phpMyAdmin tool is shown in Figure 11.
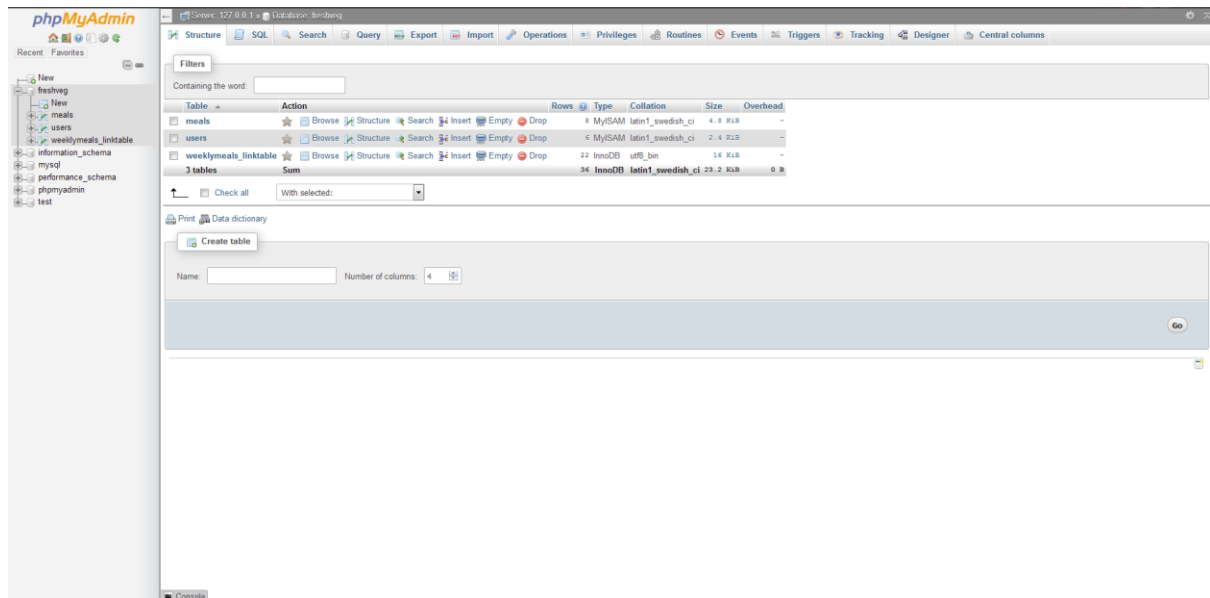
Figure 11 - phpMyAdmin Database Administration

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3. Implementation

3.1. XAMPP Installation

XAMPP includes an Apache web server, php interpreter and MySQL database that are needed for the implementation of the system.

With MySQL, a new database called "freshveg" is created. Additionally, a new database user is created with username "freshveg", password "freshveg" and address "localhost". The user is granted all permissions on the new database. The tables and test data are created using an SQL script which can be found in Appendix A "freshveg.sql".

3.2. header.php

The full source code can be seen in Appendix B "header.php".

3.3. admin_header.php

The full source code can be seen in Appendix C "admin_header.php".

3.4. footer.php

The full source code can be seen in Appendix D "footer.php".

3.5. index.php

The full source code can be seen in Appendix E "index.php".

3.6. style.css

The full source code can be seen in Appendix F "style.css".

3.7. functions.php

The full source code can be seen in Appendix G "functions.php".

3.8. db.php

The full source code can be seen in Appendix H "db.php".

3.9. session.php

The full source code can be seen in Appendix I "session.php".

3.10. login.php

The full source code can be seen in Appendix J "login.php".

3.11. logout.php

The full source code can be seen in Appendix K "logout.php".

3.12. show_meals_card.php

The full source code can be seen in Appendix L "show_meals_card.php".

3.13. show_meals_all.php

The full source code can be seen in Appendix M "show_meals_all.php".

3.14. show_meal.php

The full source code can be seen in Appendix N "show_meal.php".

3.15. show_meals_week.php

The full source code can be seen in Appendix O "show_meals_week.php".

3.16. admin.php

The full source code can be seen in Appendix P "admin.php".

3.17. admin_users.php

The full source code can be seen in Appendix Q "admin_users.php".

3.18. admin_weeklymeals.php

The full source code can be seen in Appendix R "admin_weeklymeals.php".

4. Testing

4.1. Database Test Data

The test data for the freshveg database are created using an SQL script which can be found in Appendix A "freshveg.sql".

Importing the database is done by loading the script in the phpMyAdmin tool. The tool executes the script which contains sql to create the tables and insert rows into the them.

An image of the import process is shown below, in Figure 12.
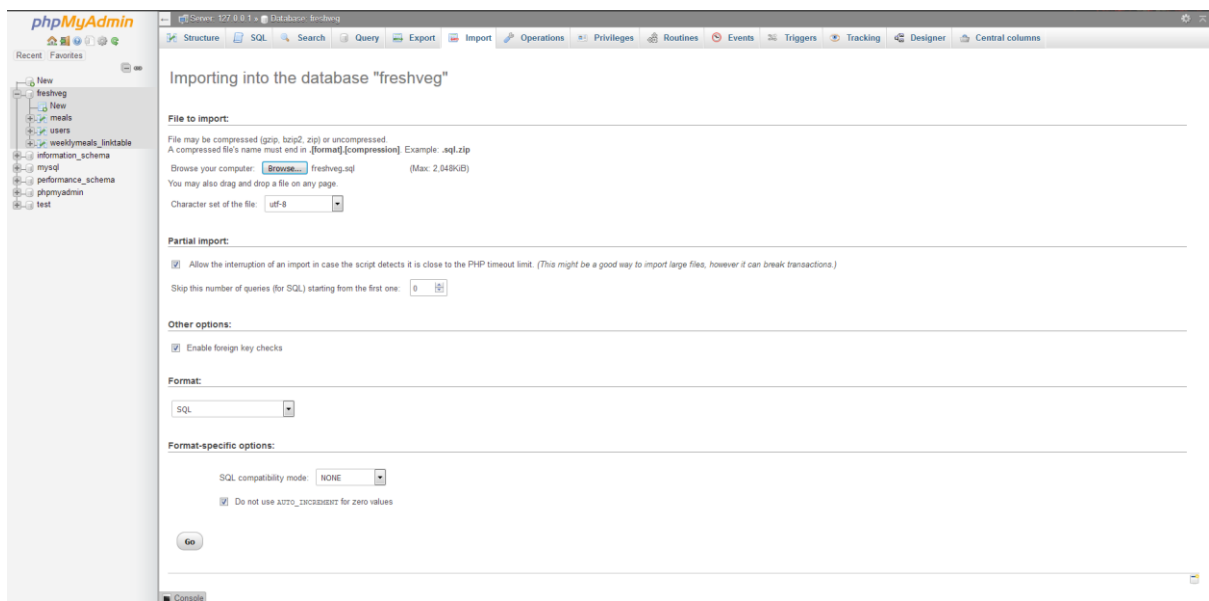
Figure 12 - Importing a database using phpMyAdmin

4.2.   Layout Responsiveness

The entire website is designed with "bootstrap" that allows the layout to adapt to different screen widths and eliminates the need for a horizontal scrollbar.

Smaller screen widths will cause the navbar to collapse into a menu item in the top-right corner.

A screenshot of the meals list page is shown in Figure 13, as it would be displayed on a device with a smaller screen width. This is in comparison to the full-width screen shown before, in Figure 2.

Figure 13 - Responsive Page Design

4.3. Non-Admin Access to Admin Pages

There are user checks in place to make sure that non-admin users don't have access to the admin pages and commands. This is done by checking the user's access level in the database, at the start of every admin page. A sample of the verification code is shown in Figure 14. The code is included in Appendix C "admin_header.php".

```php
// check page is admin-page and user-level is admin
if($isAdminPage && ($sessionLevel <= 0)){
    echo '</ul></div></nav><div class="row"><div class="col-12 w-25">';
    echo 'Error: Unauthorized user.';
    include_once('footer.php');
    // halt output and processing of html and php
    die();
}
```

Figure 14 - Check user access level

If the user doesn't meet the required level, a message "Error: Unauthorized user" is displayed to the user and the function *die()* is called to tell the php interpreter to stop processing the page. An image of the message can be seen in Figure 15.

Figure 15 - Error: Unauthorized user.

4.4.   SQL Injection Attack

The system is designed to be immune to sql injection attacks. This is accomplished using the php function *mysqli_real_escape_string*. This function removes all escape characters such as [/], ['] and ["]. Doing so prevents the attacker from escaping an input string and executing their own code. The hacker's code could be malicious and be used to delete or modify data. Or the code could be used to send personal user details and financial information back to the hacker. An example of an attack is shown in Figure 16.
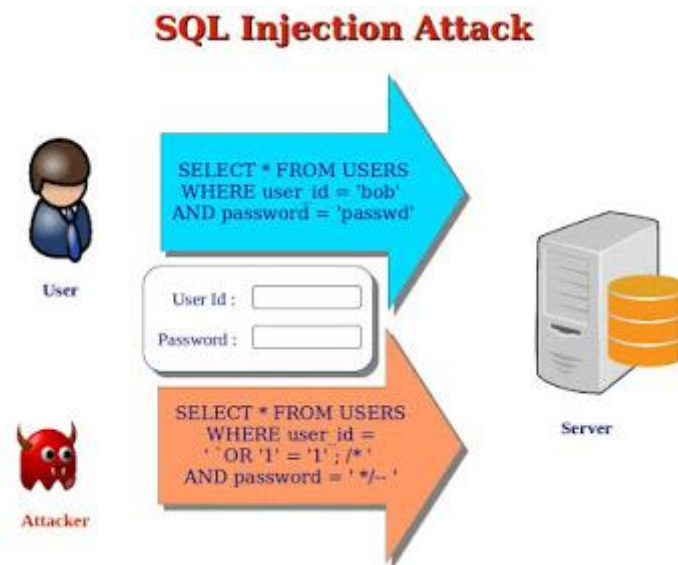
Figure 16 - SQL injection attack *(Mitra, Mitra and profile, 2018)*

The *mysqli_real_escape_string* function is used whenever we must read values that have been entered by a user, regardless if they are a guest, customer or administrator. A definition of the function, taken from *W3schools.com (2018)* can be found in Figure 17.

Figure 17 - mysqli_real_escape_string *(W3schools.com, 2018)*

For testing purposes, we will try the attack on the login page with username ['OR 1=1; /*] and password [*/]. The attack fails to work and a screenshot is shown in Figure 18. Thes result is an error message "Incorrect username or password".
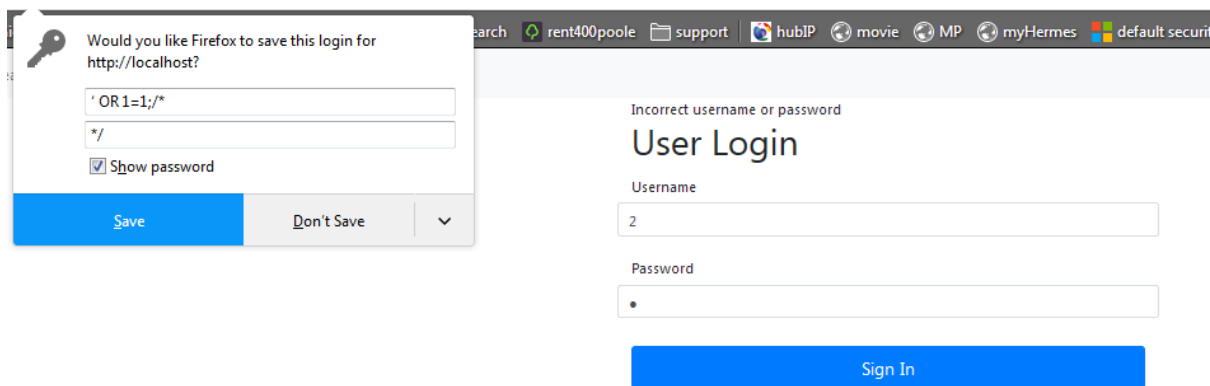
Figure 18 - Test SQL injection attack

5. Bibliography

1. Mark Otto, a. (2018). *Introduction*. [online] Getbootstrap.com. Available at: https://getbootstrap.com/docs/4.1/getting-started/introduction/ [Accessed 17 Apr. 2018].

2. Mitra, A., Mitra, A. and profile, V. (2018). *What is an SQL Injection Attack ?*. [online] Computersecuritypgp.blogspot.co.uk. Available at: https://computersecuritypgp.blogspot.co.uk/2016/01/what-is-sql-injection-attack.html [Accessed 17 Apr. 2018].

3. Stacey, A. (2018). *Dynamic Web Development (Level 5) 2017-18 Assignment 2 of 2.docx*.

4. W3schools.com. (2018). *PHP mysqli_real_escape_string() Function*. [online] Available at: https://www.w3schools.com/php/func_mysqli_real_escape_string.asp [Accessed 17 Apr. 2018].

5. W3schools.com. (2018). *PHP Delete Data From MySQL*. [online] Available at: https://www.w3schools.com/php/php_mysql_delete.asp [Accessed 17 Apr. 2018].

6. W3schools.com. (2018). *PHP Insert Data Into MySQL*. [online] Available at: https://www.w3schools.com/php/php_mysql_insert.asp [Accessed 17 Apr. 2018].

7. W3schools.com. (2018). *PHP mysqli_fetch_assoc() Function*. [online] Available at: https://www.w3schools.com/php/func_mysqli_fetch_assoc.asp [Accessed 17 Apr. 2018].

8. W3schools.com. (2018). *PHP mysqli_num_rows() Function*. [online] Available at: https://www.w3schools.com/php/func_mysqli_num_rows.asp [Accessed 17 Apr. 2018].

9. W3schools.com. (2018). *PHP Update Data in MySQL*. [online] Available at: https://www.w3schools.com/php/php_mysql_update.asp [Accessed 17 Apr. 2018].

6. Appendices

Appendix A. freshveg.sql

```
-- phpMyAdmin SQL Dump
-- version 4.7.7
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Apr 16, 2018 at 02:19 PM
-- Server version: 10.1.30-MariaDB
-- PHP Version: 7.2.2

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;

--
-- Database: `freshveg`
--

-- --------------------------------------------------------

--
-- Table structure for table `meals`
--

CREATE TABLE `meals` (
  `meal_id` int(20) NOT NULL,
  `meal_name` text NOT NULL,
  `description` text NOT NULL,
  `ingredients` text NOT NULL,
  `instructions` text NOT NULL,
  `vegetarian` tinyint(1) NOT NULL,
  `allergies` text NOT NULL,
  `cook_time` text NOT NULL,
  `img_filename` text NOT NULL
) ENGINE=MyISAM DEFAULT CHARSET=latin1;

--
-- Dumping data for table `meals`
--

INSERT INTO `meals` (`meal_id`, `meal_name`, `description`, `ingredients`,
`instructions`, `vegetarian`, `allergies`, `cook_time`, `img_filename`) VALUES
(1, 'Fish and Chips', 'The best meal you will ever have.', '1x Qui eius', 'vis ad, ea
eos tation debitis', 0, 'Fish', '30 minutes', 'fishandchips.jpg'),
(2, 'Pie and Mash', 'Lorem ipsum dolor sit amet, ius simul commodo platonem ne, in meis
reque mel. Usu ea fuisset blandit probatus, nullam causae prodesset cu ius, ad probo
utinam sed. Est te homero invenire, pri mandamus definitiones ut. Essent insolens eam
ea, sea ne prima viris. Appareat menandri duo ea.', '2x meliore in', 'vis ad, ea eos
tation debitis', 0, '', '30 minutes', 'pieandmash.jpg'),
(3, 'Pizza', 'Cu oblique rationibus dissentiet per, commune laboramus intellegam ne
vim, sea mutat scripta accusamus ad. Sea at saepe quidam. Nec impetus veritus
vituperata ex, ex dicam aperiri honestatis vel. In pro facete nominavi efficiantur, cu
facer nonumy ubique sit, wisi equidem suavitate quo ei. Consul reprehendunt ne qui. Et
ius quod iuvaret comprehensam, nec ea epicurei antiopam molestiae.', '1tsp diam clita',
```

```
'vis ad, ea eos tation debitis', 0, 'Basil', '10-15 minutes', 'pizza.jpg'),
(4, 'Shepards Pie', 'Eam dicam probatus ad, ea voluptaria appellantur eam. Pro erat
utroque maiorum te, ad pertinacia abhorreant sed. Ei eos malorum similique, velit
mediocrem ius te. Pro ei dico lorem recusabo, his te duis possim accusata. Mei ex
putant reformidans.', '1tbsp option mei', 'vis ad, ea eos tation debitis', 0, '', '30
minutes', 'shepardspie.jpg'),
(5, 'Tomato Soup', 'Ius nobis facilis quaerendum ei, ex tibique appellantur mel, in est
appetere facilisis iudicabit. Erat ubique nostro ut ius. Nonumes percipit no nec, eum
no nisl feugait sententiae. Duis invidunt nec ne, qui tale nibh definiebas ut, no pri
decore tractatos constituam. Eu tale atqui sed, eam alia integre id. Sed melius
explicari vituperatoribus eu, id mei hinc petentium necessitatibus.', '1/2cup at ad',
'vis ad, ea eos tation debitis', 1, 'Basil', '5 minutes', 'tomatosoup.jpg'),
(6, 'Burger and Chips', 'Modo tota nam ne, vim cu dicam mnesarchum voluptatum, has
adhuc paulo option no. Ea vis offendit corrumpit, vim no viderer fierent omittam.
Maiorum molestiae et usu, nam saepe appareat te. Sale copiosae adolescens at qui.',
'25g diam quot', 'vis ad, ea eos tation debitis', 0, '', '20 minutes',
'burgerandchips.jpg'),
(7, 'Chilli Con Carne', 'No quando verterem sensibus pro, nibh consetetur ad mei, est
epicuri referrentur in. Ocurreret prodesset an mel. Sit nobis dissentias ei. Odio
option ad his, est ut atqui honestatis, at vide novum postulant his.', '20cl postea
duo', 'vis ad, ea eos tation debitis', 0, '', '30 minutes', 'chilliconcarne.jpg'),
(8, 'Spiced Carrot and Lentil Soup', 'Et utamur sadipscing duo, ei prompta meliore eam.
Qui eius meliore in, diam clita option mei at, ad diam quot postea duo. Nulla latine
vis ad, ea eos tation debitis. Fugit singulis consulatu no sed. Minim tibique
delicatissimi te pri, eum et laudem ocurreret.', '1pinch Nulla latine', 'vis ad, ea eos
tation debitis', 1, 'Mustard', '5 minutes', 'spicedcarrotandlentilsoup.jpg');

-- --------------------------------------------------------

--
-- Table structure for table `users`
--

CREATE TABLE `users` (
  `user_id` int(20) NOT NULL,
  `username` varchar(20) NOT NULL,
  `password` varchar(256) NOT NULL,
  `level` tinyint(1) NOT NULL,
  `sessionkey` text NOT NULL
) ENGINE=MyISAM DEFAULT CHARSET=latin1;

--
-- Dumping data for table `users`
--

INSERT INTO `users` (`user_id`, `username`, `password`, `level`, `sessionkey`) VALUES
(5, '1', '/GCuBUrT3qrOxxvSbgbyDA==', 1,
'0Ke0DDctz/O/fLpJVWatsxnRnyHtPIyrPkxxi9utrAw='),
(6, '2', 'Q4gyj/Udpe1Up+CkzLgUig==', 1,
'nP39cForgtf01cp5773kqopYVgmWadxsAx/9NYyVzlg='),
(20, '5', 'qVdPk0xQSCWK6AzgugFDJA==', 0,
'zPPZmMIIK/6+TNSEE8RSxsKPUe9mGNlFxmicqSGFkaE='),
(21, '6', 'kErCAwus+850EnoVhNX89Q==', 6, ''),
(19, '4', 'W9xw28tdONPgyhsfQ7IaRQ==', 2,
'FbprREGa2tKZZDAk3czp6+KPCYm39otwy/Kj7zzEWgA=');

-- --------------------------------------------------------

--
-- Table structure for table `weeklymeals_linktable`
--

CREATE TABLE `weeklymeals_linktable` (
  `weeklymeals_id` int(20) NOT NULL,
  `week_id` int(20) NOT NULL,
```

```
  `meal_id` int(20) NOT NULL,
  `dayofweek` int(1) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8 COLLATE=utf8_bin;

--
-- Dumping data for table `weeklymeals_linktable`
--

INSERT INTO `weeklymeals_linktable` (`weeklymeals_id`, `week_id`, `meal_id`,
`dayofweek`) VALUES
(22, 1, 1, 1),
(24, 1, 4, 3),
(25, 1, 8, 4),
(26, 1, 3, 2),
(27, 1, 6, 5),
(28, 1, 5, 6),
(29, 1, 2, 7),
(30, 2, 7, 4),
(31, 2, 4, 2),
(32, 2, 5, 6),
(33, 2, 3, 1),
(34, 2, 2, 3),
(35, 2, 1, 5),
(36, 2, 8, 7),
(37, 3, 1, 1),
(38, 3, 2, 2),
(39, 3, 3, 3),
(41, 3, 5, 5),
(42, 3, 6, 6),
(43, 3, 7, 7),
(44, 3, 8, 4),
(47, 4, 2, 5);

--
-- Indexes for dumped tables
--


--
-- Indexes for table `meals`
--
ALTER TABLE `meals`
  ADD PRIMARY KEY (`meal_id`);

--
-- Indexes for table `users`
--
ALTER TABLE `users`
  ADD PRIMARY KEY (`user_id`);

--
-- Indexes for table `weeklymeals_linktable`
--
ALTER TABLE `weeklymeals_linktable`
  ADD PRIMARY KEY (`weeklymeals_id`);

--
-- AUTO_INCREMENT for dumped tables
--


--
-- AUTO_INCREMENT for table `meals`
--
ALTER TABLE `meals`
  MODIFY `meal_id` int(20) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=9;
```

```
--
-- AUTO_INCREMENT for table `users`
--
ALTER TABLE `users`
  MODIFY `user_id` int(20) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=22;


--
-- AUTO_INCREMENT for table `weeklymeals_linktable`
--
ALTER TABLE `weeklymeals_linktable`
  MODIFY `weeklymeals_id` int(20) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=48;
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

Appendix B.   header.php

```php
<?php
      include_once('functions.php');
      include_once('db.php');
      include_once('session.php');

      // constants & variable declarations
      $dayofweek_map = array('0', 'Monday', 'Tuesday', 'Wednesday', 'Thursday',
'Friday', 'Saturday', 'Sunday');
      // navbar active states
      $navactive_home = $navactive_all = $navactive_veg = '';
      $navactive_class = 'bg-secondary text-light active';
      // check page base url
      $self_url = $_SERVER["PHP_SELF"];
?>

<!DOCTYPE html>
<html class="full" lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-
fit=no">
      <meta http-equiv="x-ua-compatible" content="ie=edge">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css"
integrity="sha384-Gn5384xqQ1aoWXA+058RXPxPg6fy4IWvTNh0E263XmFcJlSAwiGgFAW/dAiS6JXm"
crossorigin="anonymous">

      <title>SuperFresh</title>
      <!-- Optional JavaScript -->
      <!-- jQuery first, then Popper.js, then Bootstrap JS -->
      <script src="https://code.jquery.com/jquery-3.2.1.slim.min.js" integrity="sha384-
KJ3o2DKtIkvYIK3UENzmM7KCkRr/rE9/Qpg6aAZGJwFDMVNA/GpGFF93hXpG5KkN"
crossorigin="anonymous"></script>
      <script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper.min.js"
integrity="sha384-ApNbgh9B+Y1QKtv3Rn7W3mgPxhU9K/ScQsAP7hUibX39j7fakFPskvXusvfa0b4Q"
crossorigin="anonymous"></script>
      <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js"
integrity="sha384-JZR6Spejh4U02d8jOt6vLEHfe/JQGiRRSQQxSfFWpi1MquVdAyjUar5+76PVCmYl"
crossorigin="anonymous"></script>

      <link rel="stylesheet" href="style.css">
</head>

<body>
      <nav class="navbar navbar-expand-lg navbar-light bg-light">
            <a class="navbar-brand" href="index.php">SuperFresh</a>
            <button class="navbar-toggler" type="button" data-toggle="collapse" data-
target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-
expanded="false" aria-label="Toggle navigation">
                  <span class="navbar-toggler-icon"></span>
            </button>

            <?php
                  // set active class on current navbar button
                  if(($self_url == '/index.php') || ($self_url == '/')){
                        $navactive_home = $navactive_class;
                  }else if($self_url == '/show_meals_all.php'){
                        if(isset($_GET['veg'])){
```

```php
                            if($_GET['veg'] == -1){
                                    $navactive_all = $navactive_class;
                            }else if($_GET['veg'] == 1){
                                    $navactive_veg = $navactive_class;
                            }
                    }else{
                            $navactive_all = $navactive_class;
                    }
            }
    ?>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">
                <ul class="navbar-nav nav-pills">
                        <a class="nav-link <?php echo $navactive_home; ?>"
href="index.php">Home<span class="sr-only">(current)</span></a>
                        <a class="nav-link <?php echo $navactive_all; ?>"
href="show_meals_all.php">All Meals</a>
                        <a class="nav-link <?php echo $navactive_veg; ?>"
href="show_meals_all.php?veg=1">Vegetarian Meals</a>
                </ul>

                <?php include_once('admin_header.php'); ?>

                <form class="form-inline ml-5 mr-auto" action="show_meals_week.php"
method="get">
                        <input class="form-control mr-sm-2" type="search"
placeholder="Week Search" aria-label="Type in Weekly Meals ID" name="week_id">
                        <button class="btn btn-outline-success" type="submit">See
Meals</button>
                </form>

                <ul class="navbar-nav nav-pills">
                        <li class="nav-item">
                            <?php
                                    if($sessionUsername != ''){
                                            //echo '<a class="nav-link ' .
$navactive_class . '" href="">' . $sessionUsername . '</a>';
                                            echo '<a class="nav-link" href="">' .
$sessionUsername . '</a>';
                                            echo '</li>';
                                            echo '&nbsp <span class="border-left border-
secondary"></span> &nbsp';
                                            echo '<li class="nav-item">';
                                            echo '<a class="nav-link"
href="logout.php"><span class="glyphicon glyphicon-log-out"></span>Logout</a>';
                                    }else{
                                            echo '<a class="nav-link"
href="login.php"><span class="glyphicon glyphicon-log-in"></span>Login</a>';
                                    }
                            ?>
                        </li>
                </ul>
        </div>
    </nav>

    <div class="row justify-content-center">
        <div class="col-12 col-lg-10">
```

Appendix C.   admin_header.php

```php
<ul class="navbar-nav nav-pills">

<?php
     // navbar active states
     $navactive_admin = $navactive_weeklymeal = $navactive_newuser = '';

     // check page base url
     $isAdminPage = true;
     if($self_url == '/admin.php'){
          $navactive_admin = $navactive_class;
     }else if($self_url == '/admin_weeklymeals.php'){
          $navactive_weeklymeal = $navactive_class;
     }else if($self_url == '/admin_users.php'){
          $navactive_newuser = $navactive_class;
     }else{
          $isAdminPage = false;
     }

     // check admin-menu access
     if($sessionLevel >= 1){
          echo '&nbsp<span class="border-left border-secondary"></span>&nbsp';
          echo '<a class="nav-link ' . $navactive_admin . '" href="admin.php">Admin
Home</a>';
          echo '<a class="nav-link ' . $navactive_weeklymeal . '"
href="admin_weeklymeals.php">Add Weekly Meal</a>';
          echo '<a class="nav-link ' . $navactive_newuser . '"
href="admin_users.php">Add New User</a>';
          echo '<a class="nav-link " href="phpmyadmin/db_structure.php?db=' .
DB_DATABASE . '">phpMyAdmin</a>';
     }

     // --------VERY IMPORTANT!---------
     // check page is admin-page and user-level is admin
     if($isAdminPage && ($sessionLevel <= 0)){
          echo '</ul></div></nav><div class="row"><div class="col-12 w-25">';
          echo 'Error: Unauthorized user.';
          include_once('footer.php');
          // halt output and processing of html and php
          die();
     }
?>

</ul>
```

Appendix D.   footer.php

```
            </div>
        </div>
</body>
</html>

<?php
    // close the database connection
    mysqli_close($db);
?>
```

Appendix E. index.php

```php
<?php include_once('header.php'); ?>

<div id="carouselExampleIndicators" class="carousel slide" data-ride="carousel">
  <ol class="carousel-indicators">
      <li data-target="#carouselExampleIndicators" data-slide-to="0"
class="active"></li>
      <li data-target="#carouselExampleIndicators" data-slide-to="1"></li>
      <li data-target="#carouselExampleIndicators" data-slide-to="2"></li>
  </ol>
  <div class="carousel-inner">
      <div class="carousel-item active">
        <img class="d-block w-100" src="images\carousel\cowsgrazing2.jpg">
        <div class="carousel-caption d-none d-md-block">
            <h5>Cows</h5>
            <p>Fresh milk daily</p>
        </div>
      </div>
      <div class="carousel-item">
        <img class="d-block w-100" src="images\carousel\farmproduce.jpg">
        <div class="carousel-caption d-none d-md-block">
            <h5>Farm</h5>
            <p>Fresh produce</p>
        </div>
      </div>
      <div class="carousel-item">
        <img class="d-block w-100" src="images\carousel\foodtable.jpg">
        <div class="carousel-caption d-none d-md-block">
            <h5>Fresh food</h5>
            <p>Healthy eating</p>
        </div>
      </div>
  </div>
  <a class="carousel-control-prev" href="#carouselExampleIndicators" role="button"
data-slide="prev">
      <span class="carousel-control-prev-icon" aria-hidden="true"></span>
      <span class="sr-only">Previous</span>
  </a>
  <a class="carousel-control-next" href="#carouselExampleIndicators" role="button"
data-slide="next">
      <span class="carousel-control-next-icon" aria-hidden="true"></span>
      <span class="sr-only">Next</span>
  </a>
</div>

<?php include_once('show_meals_all.php'); ?>

<?php include_once('footer.php'); ?>
```

Appendix F.   style.css

```
body {
     background: none;
}

.full {
  background: url(/images/bg.jpg) no-repeat center center fixed;
  -webkit-background-size: cover;
  -moz-background-size: cover;
  -o-background-size: cover;
  background-size: cover;
  background-size: cover;
}
```

Appendix G.   functions.php

```php
<?php
    //The functions for the system.

    //connect to database
    function db(){
        define('DB_SERVER', 'localhost');
        define('DB_USERNAME', 'freshveg');
        define('DB_PASSWORD', 'freshveg');
        define('DB_DATABASE', 'freshveg');

        $db = mysqli_connect(DB_SERVER,DB_USERNAME,DB_PASSWORD,DB_DATABASE);

        return $db;
    }
?>
```

Appendix H.　db.php

```php
<?php
    // get database from functions.php
    $db = db();
?>
```

Appendix I.   session.php

```php
<?php
    include_once('db.php');

    // initialize variables
    $sessionUsername = '';
    $sessionLevel = 0;
    // load the cookie
    session_start();
    // check if there exists a session cookie
    if(isset($_SESSION['login_user'])){
        $sessionUsername = mysqli_real_escape_string($db,$_SESSION['login_user']);
        $sessionKey = mysqli_real_escape_string($db,$_SESSION['login_key']);
        // check for matching username and sessionkey
        $query = "select * from users where username='$sessionUsername' AND
sessionkey='$sessionKey';";
        $result = mysqli_query($db,$query) or die("Error: " . mysqli_error($db));
        // Count the returned rows, 1 would mean username and session-key was found
        if(mysqli_num_rows($result)){
            // count is non-zero
            $row = mysqli_fetch_assoc($result);
            // read admin-level from database
            $sessionLevel = $row['level'];
        }else{
            // invalid cookie username and/or sessionkey
            echo 'Invalid session';
            // destroy cookie
            session_destroy();
            // reload the cookie
            session_start();
        }
    }
?>
```

Appendix J.   login.php

```php
<?php include_once('header.php'); ?>

<div class="row justify-content-center">
      <div class="w-25">
            <?php
                  if($_SERVER["REQUEST_METHOD"] == "POST") {
                        $myusername =
mysqli_real_escape_string($db,$_POST['username']);
                        $mypassword =
mysqli_real_escape_string($db,$_POST['password']);
                        // SQL find user record
                        $sql = "SELECT * FROM users WHERE username='$myusername';";
                        $result = mysqli_query($db,$sql);
                        // Count the returned rows, 1 would mean username was found
                        $count = mysqli_num_rows($result);
                        // Get row
                        $row = mysqli_fetch_assoc($result);
                        $level = $row['level'];

                        // Cryptography
                        $key = "25c6c7ff35b9979b151f2136cd13b0ff";
                        $cipher = "AES-256-CBC";  // AES is used by the U.S. gov't to
encrypt top secret documents.
                        //$ivlen = openssl_cipher_iv_length($cipher);
                        //$iv = openssl_random_pseudo_bytes($ivlen);
                        // Decrypt the password
                        $encryptedPassword = $row['password'];
                        $decryptedPassword = openssl_decrypt($encryptedPassword,
$cipher, $key);//, $options=0, $iv);
                        //check username and password are correct
                        if(($count == 1) && ($mypassword == $decryptedPassword)){
                              $_SESSION['login_user'] = $myusername;
                              // create a session-key
                              $sessionKey = $myusername . microtime();
                              //To Encrypt
                              $ivlen = openssl_cipher_iv_length($cipher);
                              $iv = openssl_random_pseudo_bytes($ivlen);
                              $sessionKey = openssl_encrypt($sessionKey, $cipher, $key,
$options=0, $iv);

                              // store session-key
                              $_SESSION['login_key'] = $sessionKey;
                              $sql = "UPDATE users SET sessionkey='$sessionKey' WHERE
username = '$myusername';";
                              $result = mysqli_query($db,$sql) or die("Error: " .
mysqli_error($db));
                              //
                              echo 'Login Successful.';// die();
                              // check if admin
                              if($level == 1){
                                    // redirect to admin page
                                    header("location: admin.php");
                              }else{
                                    // redirect to homepage
                                    header("location: index.php");
                              }
                        }else{
                              // not logged in
                              echo 'Incorrect username or password';
                              // go back and try again
                              //header("location: login.php");
                        }
                  }
```

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```
        ?>

        <h1 class="login-title">User Login</h1>
        <div class="account-wall">
            <form class="form-signin" action = "" method = "post">
            <div class="form-group row">
                <label class="col-6 col-form-label">Username</label>
                <input type="text" name = "username" class="form-control"
placeholder="Username" required autofocus>
            </div>
            <div class="form-group row">
                <label class="col-6 col-form-label">Password</label>
                <input type="password" name = "password" class="form-control"
placeholder="Password" required>
            </div>
            <div class="form-group row">
            </div>
            <button class="btn btn-lg btn-primary btn-block" type="submit">Sign
In</button>
        </div>
    </div>
</div>

<?php include_once('footer.php'); ?>
```

Appendix K.   logout.php

```php
<?php include_once('header.php'); ?>

<div class="row justify-content-center">
    <div class="w-25">
        <?php
            // destroy the session
            if(session_destroy()){
                // successful
            }
            // check if refreshed
            if(isset($_GET['logout'])){
                // notify user
                echo 'You have been logged out';
            }else{
                // notify user
                echo 'Refreshing...';
                // refresh the page
                header("location:logout.php?logout=1");
            }
        ?>
    </div>
</div>

<?php include_once('footer.php'); ?>
```

Appendix L.   show_meals_card.php

```php
<?php
    // $meal_data provided by caller
    $meal_id = $meal_data['meal_id'];
    $meal_name = $meal_data['meal_name'];
    $meal_image = $meal_data['img_filename'];
    $description = $meal_data['description'];
    // meal description not to exceed 200 characters
    $description_maxlength = 200;
    if (strlen($description) > $description_maxlength){
        $description = substr($description, 0, $description_maxlength-3) . '...';
    }
    // link to the meal page
    $meal_href = 'href="show_meal.php?meal=' . $meal_id . '"';
    // html output
    echo '<div class="card bg-light border-secondary mb-3">';
        echo '<div class="card-body text-center">';
            echo '<a ' . $meal_href . '><img class="card-img-top img-fluid mb-3
rounded" src="images/meals/' . $meal_image . '"></a>';
            echo '<a ' . $meal_href . '><h5 class="card-title">' . $meal_name .
'</h5></a>';
            echo '<p class="card-text text-justify">' . $description . '</p>';
        echo '</div>';
    echo '</div>';
?>
```

Appendix M.   show_meals_all.php

```php
<?php include_once('header.php'); ?>

<?php
        // check for vegetarian filter
        if(isset($_GET['veg'])){
                // get filter
                $isVegetarian = mysqli_real_escape_string($db, $_GET['veg']);
        }else{
                // set default filter off -1
                $isVegetarian = -1;
        }
        // header text
        if($isVegetarian == -1){
                echo '<h3>All Meals</h3>';
        }else if($isVegetarian == 0){
                echo '<h3>Non-Vegetarian Meals</h3>';
        }else if($isVegetarian == 1){
                echo '<h3>Vegetarian Meals</h3>';
        }
        // find out how many rows are in the table
        if($isVegetarian == -1){
                $sql = "SELECT COUNT(*) FROM meals";
        }else{
                $sql = "SELECT COUNT(*) FROM meals WHERE vegetarian='$isVegetarian'";
        }
        $result = mysqli_query($db, $sql);
        $numrows = mysqli_num_rows($result);
        $r = mysqli_fetch_assoc($result);

        // number of rows in table to show per page
        $rowsperpage = 4;
        // find out total pages
        $totalpages = ceil($numrows / $rowsperpage);

        // get the current page or set a default
        if (isset($_GET['page']) && is_numeric($_GET['page'])) {
           // cast var as int
           $currentpage = (int) mysqli_real_escape_string($db, $_GET['page']);
        } else {
           // default page number
           $currentpage = 1;
        } // end if

        // if current page is greater than total pages...
        if ($currentpage > $totalpages) {
           // set current page to last page
           $currentpage = $totalpages;
        } // end if
        // if current page is less than first page...
        if ($currentpage < 1) {
           // set current page to first page
           $currentpage = 1;
        } // end if

        // the offset of the list, based on current page
        $offset = ($currentpage - 1) * $rowsperpage;

        // get the info from the db
        if($isVegetarian == -1){
                $sql = "SELECT * FROM meals LIMIT $offset, $rowsperpage";
        }else{
                $sql = "SELECT * FROM meals WHERE vegetarian = $isVegetarian LIMIT $offset,
```

```php
$rowsperpage";
      }

      $result = mysqli_query($db, $sql);

      $posts = array();
      while($row = mysqli_fetch_assoc($result)){
            $posts[] = $row;
      }

      echo '<div class="row">';
      $postChunks = array_chunk($posts, 4); // 4 is used to have 4 items in a row
      foreach ($postChunks as $posts) {
            foreach ($posts as $meal_data) {
                  echo '<div class="col-12 col-sm-6 col-md-4 col-lg-3 col-xl-3"> <!--
remember to change this so that your rows add up to 12 -->';
                  include('show_meals_card.php');
                  echo '</div>';
            }
      }
      echo '</div>';
?>

<?php
      /****** build the pagination links ******/
      echo '<nav aria-label="Page navigation example"><ul class="pagination">';
      // range of number of links to show
      $range = 5;
      // if not on page 1, don't show back links
      if ($currentpage > 1) {
            // show << link to go back to page 1
            echo '<li class="page-item">';
         // get previous page num
         $prevpage = $currentpage - 1;
      }else{
            echo '<li class="page-item disabled">';
      }     // end if
      echo '<a class="page-link" href="' . $_SERVER["PHP_SELF"] . '?page=1&veg=' .
$isVegetarian . '" aria-label="Previous">';
      echo '<span aria-hidden="true">&laquo;</span><span class="sr-
only">Previous</span></a></li>';

      // loop to show links to range of pages around current page
      for ($x = ($currentpage - $range); $x < (($currentpage + $range) + 1); $x++) {
            // if it's a valid page number...
            if (($x > 0) && ($x <= $totalpages)) {
                  // if we're on current page...
                  if ($x == $currentpage) {
                        // 'highlight' it but don't make a link
                        //echo " [<b>$x</b>] ";
                        echo '<li class="page-item active">';
                        // if not current page...
                  } else {
                        // make it a link
                        echo '<li class="page-item">';
                  } // end else
                  echo '<a class="page-link" href="' . $_SERVER["PHP_SELF"] . '?page='
. $x . '&veg=' . $isVegetarian . '">' . $x . '</a></li>';
            } // end if
      } // end for

      // if not on last page, show forward and last page links
      if ($currentpage != $totalpages) {
            // get next page
            $nextpage = $currentpage + 1;
```

```php
            // echo forward link for last page
            echo '<li class="page-item">';
        }else{
            echo '<li class="page-item disabled">';
        } // end if
        echo '<a class="page-link" href="' . $_SERVER["PHP_SELF"] . '?page=' .
$totalpages . '&veg=' . $isVegetarian . '" aria-label="Next">';
        echo '<span aria-hidden="true">&raquo;</span><span class="sr-
only">Next</span></a></li>';
        echo '</ul></nav>';
        /****** end build pagination links ******/
?>

<?php include_once('footer.php'); ?>
```

Appendix N.   show_meal.php

```php
<?php include_once('header.php'); ?>

    <?php
        $meal = mysqli_real_escape_string($db,$_GET['meal']);
        $sql = "SELECT * FROM meals WHERE meal_id = '$meal'";
        $result = mysqli_query($db, $sql);
        $data = mysqli_fetch_assoc($result);
        $isVegetarian = $data["vegetarian"] ? "Yes" : "No";
        $allergies = $data["allergies"];

        echo '<div class="card bg-light border-secondary w-50 float-right">';
            echo '<div class="card-body text-center">';
                echo '<img class="img-fluid rounded" src="images/meals/' .
$data['img_filename'] . '">';
            echo '</div>';
        echo '</div>';

        echo "<h1>" . $data["meal_name"] . "</h1>";
        echo "<p>" . $data["description"] . "</p>";
        echo "Vegetarian: " . $isVegetarian . "<br>";
        if($allergies){echo "Allergies: " . $allergies . "<br>";}
        echo "Cooking Time: " . $data["cook_time"] . "<br><br>";

        echo '<h4>Ingredients</h4><p>' . $data["ingredients"] . '</p><br>';

        echo '<div class="clearfix"></div>';

        echo '<h4>Cooking Instructions</h4><p>' . $data["instructions"] .
'</p><br>';
    ?>

<?php include_once('footer.php'); ?>
```

Appendix O.   show_meals_week.php

```php
<?php include_once('header.php'); ?>

<?php
    $week_id = mysqli_real_escape_string($db,$_GET["week_id"]);
    // html output
    echo '<h3>Week ' . $week_id . ' Meals</h3>';
    // SQL
    $sql = "
        SELECT *
        FROM weeklymeals_linktable
        JOIN meals USING (meal_id)
        WHERE week_id = '$week_id'
        ORDER BY dayofweek;";
    // get rows
    $result = mysqli_query($db, $sql);
    // got any results?
    if(mysqli_num_rows($result) == 0){
        // notify user
        echo 'No results found for week ' . $week_id;
    }else{
        echo '<div class="row">';
        // for each row
        while($row = mysqli_fetch_assoc($result)){
            $meal_data = $row;
            $dayofweek = $meal_data['dayofweek'];
            // show the meal card
            echo '<div class="col-12 col-sm-6 col-md-4 col-lg-3">';
                echo '<b>' . $dayofweek_map[$dayofweek] . '</b>';
                include('show_meals_card.php');
            echo '</div>';
        }
        echo '</div>';
    }
?>

<?php include_once('footer.php'); ?>
```

Appendix P. admin.php

```php
<?php include_once('header.php'); ?>

<div class="row justify-content-center">
     <div class="col-6">
          <h1>Admin Main Menu</h1>
          <h4>Welcome <?php echo $sessionUsername; ?></h4>

          <div class="card mb-3">
               <div class="card-header">
                    Add Weekly Meal
               </div>
               <div class="card-body">
                    <p class="card-text">Create a new weekly meal. View or delete
existing weekly meals.</p>
                    <a href="admin_weeklymeals.php" class="btn btn-primary">Add
Weekly Meal</a>
               </div>
          </div>

          <div class="card mb-3">
               <div class="card-header">
                    Add New User
               </div>
               <div class="card-body">
                    <p class="card-text">Create a new user. View or delete existing
users.</p>
                    <a href="admin_users.php" class="btn btn-primary">Add New
User</a>
               </div>
          </div>

          <div class="card mb-3">
               <div class="card-header">
                    phpMyAdmin
               </div>
               <div class="card-body">
                    <p class="card-text">Manage the database using using the third-
party tool: phpMyAdmin.</p>
                    <a href="phpmyadmin/db_structure.php?db=<?php echo DB_DATABASE
?>" class="btn btn-primary">phpMyAdmin</a>
               </div>
          </div>

     </div>
</div>

<?php include_once('footer.php'); ?>
```

Appendix Q.   admin_users.php

```php
<?php include_once('header.php'); ?>

<?php
    // check current action
    if(isset($_POST['action']) || isset($_GET['action'])){
        // get action
        if(isset($_POST['action'])){
            $action = mysqli_real_escape_string($db, $_POST['action']);
        }else{
            $action = mysqli_real_escape_string($db, $_GET['action']);
        }
        //echo $action . '<br>';
        // check action type
        if($action == 'delete_users'){
            // get user_id
            if(isset($_GET['user_id'])){
                $user_id = mysqli_real_escape_string($db, $_GET['user_id']);
                // sql to delete a record
                $sql = "DELETE FROM users WHERE user_id='$user_id';";
                //echo $sql;
                if ($db->query($sql) === TRUE) {
                    echo "User deleted successfully. <br>";
                } else {
                    echo "Error: " . $db->error;
                }
            }else{
                echo 'Error: user_id not set.';
            }
        }else if($action == 'insert_users'){
            // username and password sent from form
            $myusername = mysqli_real_escape_string($db,$_POST['username']);
            $mypassword = mysqli_real_escape_string($db,$_POST['password']);
            $mypassword2 = mysqli_real_escape_string($db,$_POST['password2']);
            $mylvl = mysqli_real_escape_string($db,$_POST['level']);

            // SQL find user record
            $sql = "SELECT * FROM users WHERE username='$myusername';";
            $result = mysqli_query($db,$sql);
            // Count the returned rows, 1 would mean username was found
            $count = mysqli_num_rows($result);
            // check username
            if($count >= 1){
                echo "Error: Username already exists. <br>";
            }else{
                // Cryptography
                $key = "25c6c7ff35b9979b151f2136cd13b0ff";
                $cipher = "AES-256-CBC";  // AES is used by the U.S. gov't to
encrypt top secret documents.
                $ivlen = openssl_cipher_iv_length($cipher);
                $iv = openssl_random_pseudo_bytes($ivlen);
                //To Encrypt
                error_reporting(E_ERROR);
                $encryptedPassword = openssl_encrypt($mypassword, $cipher,
$key);//, $options=0, $iv);
                error_reporting(E_ALL);
                // confirm password match
                if($mypassword == $mypassword2){
                    //SQL Query
                    $sql ="INSERT INTO users (username, password, level)
VALUES ('$myusername','$encryptedPassword', '$mylvl')";
                    if ($db->query($sql) === TRUE) {
                        echo "New User created successfully. <br>";
```

```php
                        } else {
                            echo "Error: " . $db->error;
                        }
                    }else{
                        echo "Error: Passwords don't match. <br>";
                    }
                }
            }
        }
?>

<div class="row justify-content-center">
    <div class="col-4">
        <h1>Create a new user</h1>
        <form class="w-75" action="admin_users.php" method="post">
            <input type="hidden" name="action" value="insert_users">
            <div class="form-group row">
                <label class="col-6 col-form-label">Username</label>
                <input class="col-6 form-control" type="text" name="username"
placeholder="Username" required autofocus>
            </div>
            <div class="form-group row">
                <label class="col-6 col-form-label">Password</label>
                <input class="col-6 form-control" type="password"
name="password" placeholder="Password" required>
            </div>
            <div class="form-group row">
                <label class="col-6 col-form-label">Confirm Password</label>
                <input class="col-6 form-control" type="password"
name="password2" placeholder="Repeat Password" required>
            </div>
            <div class="form-group row">
                <label class="col-6 col-form-label">Level</label>
                <input class="col-6 form-control" type="number" min="0"
value="0" name="level" placeholder="Access Level" required>
            </div>
            <div class="form-group row justify-content-center"><div class="col-
9">
                <button class="btn btn-lg btn-primary btn-block"
type="submit">Create User</button>
            </div></div>
        </form>
    </div>

    <div class="col-8">
        <h4>Existing Users:</h4>
        <table class="table">
            <thead>
                <tr>
                    <th scope="col">ID</th>
                    <th scope="col">Username</th>
                    <th scope="col">Password</th>
                    <th scope="col">Level</th>
                    <th scope="col">SessionKey</th>
                    <th scope="col">Delete</th>
                </tr>
            </thead>
            <tbody>
                <?php
                // get previous weekly meals
                $sql = "SELECT * FROM users ORDER BY username";
                $result = mysqli_query($db,$sql);
                // output each row
                while($row = mysqli_fetch_assoc($result)){
                    $user_id = $row["user_id"];
```

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```php
                                // for each table row
                                echo '<tr>';
                                        echo '<th scope="row">' . $user_id . '</th>';
                                        echo '<td>' . $row["username"] . '</td>';
                                        echo '<td>' . $row["password"] . '</td>';
                                        echo '<td>' . $row["level"] . '</td>';
                                        echo '<td>' . $row["sessionkey"] . '</td>';
                                        echo '<td><a
href="\admin_users.php?action=delete_users&user_id=' . $user_id . '"><button
type="button" class="btn btn-danger">Delete</button></a></td>';
                                echo '</tr>';
                        }
                ?>
            </tbody>
        </table>
    </div>
</div>

<?php include_once('footer.php'); ?>
```

Appendix R.   admin_weeklymeals.php

```php
<?php include_once('header.php'); ?>

<?php
      // check current action
      if(isset($_GET['action'])){
            // get action
            $action = mysqli_real_escape_string($db, $_GET['action']);
            // check action type
            if($action == 'delete_weeklymeals'){
                  // get weeklymeals_id
                  $weeklymeals_id = mysqli_real_escape_string($db,
$_GET['weeklymeals_id']);
                  // sql to delete a record
                  $sql = "DELETE FROM weeklymeals_linktable WHERE
weeklymeals_id='$weeklymeals_id'";
                  if ($db->query($sql) === TRUE) {
                        echo "Record deleted successfully";
                  } else {
                        echo "Error deleting record: " . $db->error;
                  }
            }else if($action == 'insert_weeklymeals'){
                  // get parameters
                  $week_id = mysqli_real_escape_string($db, $_GET['week_id']);
                  $dayofweek = mysqli_real_escape_string($db, $_GET['dayofweek']);
                  $meal_id = mysqli_real_escape_string($db, $_GET['meal_id']);
                  //SQL Query
                  $sql = "INSERT INTO weeklymeals_linktable (week_id, dayofweek,
meal_id) VALUES ('$week_id','$dayofweek', '$meal_id')";
                  if ($db->query($sql) === TRUE) {
                        echo "Record created successfully <br>";
                  } else {
                        echo "Error updating record: " . $db->error;
                  }
            }
      }
?>

<div class="row justify-content-center">
      <div class="col-6">
            <h1>Create a new weekly meal</h1>
            <form class="w-75" action="admin_weeklymeals.php" method="get">
                  <input type="hidden" name="action" value="insert_weeklymeals">
                  <div class="form-group row">
                        <label class="col-4 col-form-label">Week</label>
                        <input class="col-8 form-control" type="number" min="0"
id="inputWeek" name="week_id" placeholder="Week" required >
                  </div>
                  <div class="form-group row">
                        <label  class="col-4 col-form-label">Day</label>
                        <select class="col-8 form-control" id="selectDay"
name="dayofweek" required>
                              <option value="1">Monday</option>
                              <option value="2">Tuesday</option>
                              <option value="3">Wednesday</option>
                              <option value="4">Thursday</option>
                              <option value="5">Friday</option>
                              <option value="6">Saturday</option>
                              <option value="7">Sunday</option>
                        </select>
                  </div>
                  <div class="form-group row">
                        <label class="col-4 col-form-label">Meal ID</label>
```

```
                    <input class="col-8 form-control" type="number" min="0"
id="inputMeal" name="meal_id" placeholder="Meal" required >
                </div>
                <div class="form-group row justify-content-center"><div class="col-
9">
                    <button class="btn btn-lg btn-primary btn-block"
type="submit">Create Weekly Meal</button>
                </div></div>
        </form>

        <br><h4>Available Meals:</h4>
        <table class="table w-75">
            <thead>
                <tr>
                    <th scope="col">ID</th>
                    <th scope="col">Meal</th>
                </tr>
            </thead>
            <tbody>
                <?php
                    // get a list of meals
                    $sql = "SELECT * FROM meals";
                    $meals = mysqli_query($db,$sql);
                    // show meals
                    foreach ($meals as $meal_data){
                        echo '<tr>';
                            echo '<th scope="row">' .
$meal_data['meal_id'] . '</th>';
                            echo '<td>' . $meal_data['meal_name'] .
'</td>';
                            echo '</tr>';
                    }
                ?>
            </tbody>
        </table>
    </div>

    <div class="col-6">
        <h4>Previous Weekly Meals:</h4>
        <table class="table">
            <thead>
                <tr>
                    <th scope="col">ID</th>
                    <th scope="col">Week</th>
                    <th scope="col">Day</th>
                    <th scope="col">Meal</th>
                    <th scope="col">Delete</th>
                </tr>
            </thead>
            <tbody>
                <?php
                    // get previous weekly meals
                    $sql = "
                        SELECT *
                        FROM weeklymeals_linktable
                        JOIN meals USING (meal_id)
                        ORDER BY week_id DESC, dayofweek DESC LIMIT 28";
                    $result = mysqli_query($db,$sql);
                    // output each row
                    while($row = mysqli_fetch_assoc($result)){
                        // for each table row
                        echo '<tr>';
                            echo '<th scope="row">' .
$row["weeklymeals_id"] . '</th>';
                            echo '<td>' . $row["week_id"] . '</td>';
```

```php
                                                        echo '<td>' .
$dayofweek_map[$row["dayofweek"]] . '</td>';
                                                        echo '<td>' . $row["meal_name"] . '</td>';
                                                        echo '<td><a
href="\admin_weeklymeals.php?action=delete_weeklymeals&weeklymeals_id=' .
$row['weeklymeals_id'] . '"><button type="button" class="btn btn-
danger">Delete</button></a></td>';
                                                        echo '</tr>';
                                        }
                                ?>
                        </tbody>
                </table>
        </div>
</div>

<?php include_once('footer.php'); ?>
```