- # Spending Analysis

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1. ## Introduction

My database will track and record my spending. I want to track my spending in different categories including food, clothing and entertainment. In each of my categories I want to be able to use this data to create a spending budget and hopefully try to eliminate frivolous spending. My Application will have the ability to see the money spent on each entry and a few important details regarding that product. For instance if one of the products I purchase is a food item I want to record its calorie count and serving size in addition to the price, name, etc. Each product will be apart of a category and can be traced back to its transaction in which I will be able to view other products I have purchased in that same transaction. Will viewing detailed information about each one of my products I hope to be able to better analyze what I am spending the most on, where I am spending the most, and what category am I spending the most in. The goal of this is to help me eliminate expensive spending and better prioritize where my money goes..

- ## 2. Detailed Application Requirements

My application will need to store the price I paid for a product, what brand it is, when it was purchased, What store I got it from, and product name. Every time I get back from shopping I will have to enter what I buy into the database. I have three categories that I tend to spend the most on and I will be able to enter and track my spending. Since I am going to be adding many items I want my application to be very easy to understand and intuitive in design. The application will also need to sort and filter my data for easier reference to the items I purchased. It would be very handy if I could sort my data with multiple different ways. For instance if I was looking at my products table I would like to have the option to

view the products in ascending or descending order. I also hope to implement a function to filter through my products and view products only from a certain transaction so better reference what I spent my money on that transaction.

- **3. Design**

I want my user interface to have a menu on the bottom of the page with links to each category. After selecting the category you want you will be able to see everything in that category and also have the option to enter new data from the forms at the bottom of the page. After adding it will automatically update and you will be able to see the entities attributes with things like purchase date, name, brand, and price. When the user is viewing there will be a few handy tools that can manage the database for the application. I want there to be an edit button in case there is some mislabeled records. I also want there to be an option to delete unwanted records. another feature I also want to implement are few sorting filters so I can analyses what products have cost the most, what product I have purchased last, and the ability to do this in ascending or descending order.

- **4. Implementation Details**

All of my table that display the information Directly form the database follow the same general schema as the table above. On the left side It has an option to delete the selected item, in the middle it displays the important information about the product and on the right gives you the option to go to the edit page.

For the edit pages of each table they follow the same schema as the edit page above. It displays only the item selected to be edited and it has field in the bottom that will update the item when "edit" is pressed. I implemented the edit fields so that you can edit one field at a time or multiple. With the option to edit single field makes it so you can edit only the part that is messed up rather than having to delete the whole item and reenter it with the correct information.

Throughout my application the user may select any entity and have the option to either edit it or delete it. The users will however not be able to change the primary key, for example for products the user will not be able to change the item ID because if this value is changed it could cause problems later on if there a duplicates. There is sort of a two step verification for deleting an entity I have it so you have to check the check box for delete and then you click update. The update button will also allow you to update the table for newly added entities. On the top of the table there are a few handy filters and tools to help narrow down the results.

On the products page there is an option to only see the products that were purchased together. This is handy when you are trying to see what you bought on a particular transaction. The products page also has some ordering options.

The user is also able to sort the results in either ascending or descending order and choose what they are filtered by. There is an option to sort with ascending and descending for price, item ID, number purchased, and ratting.

In each of the different tables there are filtering otions taylored to the needs of that table for instance in the Food table you may sort the items in ascending or descending order with either calories, servings, and the original Item ID.

With in the transactions table it utilizes' both sorting by Things like Price, Date and Transaction # but it also includes the feature of limiting your search by only one store.

These really help when you want to see where the majority of your money is going since you can make it bring up one store at a time.

- **5. Evaluation**

Throughout the process of creating my application and the foundation of my database I have had the user in mind. In my application I have added many useful features in each table that will enhance the viewers ability to understand the data in more ways. I have implemented in each new page that you can access a "Quick View" option that will allow the user to quickly transition between tables. I have tested every form and editable field in my application and have become completely satisfied with its performance with no errors. I have added some safeguards one example is that the user may not change the Item ID since that is the primary key that is referenced by many other tables and if it is changed could cause errors. My application has fulfilled everything that I wanted to implement while going above and beyond to make the experience of this application great.

- **6. Future Work**

What additional functionalities you plan to implement beyond this class?
I would like to continue to use my database and application I have created since it is so easy to use to track my spending. I find it very useful the way I have multiple categories of what items I have purchased. With the multiple categories it makes it very easy to analyze my spending on certain things like Food, Clothing and entertainment. With the other tables it makes it easy to see how much I have spent on a certain day or even a certain transaction. I would like t add a little more functionality with filters and more sorting options if I had more time, but I think that I have fulfilled and even amazed my self with what I have already done/

- ## 7. Lessons Learned

One of the hardest feats that I had to overcome while working on this project would be not knowing anything about PHP, MySQL, and HTML. I think that it would have been much more beneficial if we covered some of these languages in class so when it comes to the final project we aren't just left on our own. I found W3Schools very helpful in teaching me the basics for PHP, MySQL, and HTML. After creating the first table I began to get more comfortable with programing three languages at once (which was a first for me). I also in the beginning had sort of a hard time with my conceptual schema. I had a few redundancies in my early stages of my Database and had to work them out with normalization. I think If I had to start all over again I wouldn't change too much of how I implemented my application, however, I think I would have been able to clean up my code a little bit since I now know the fundamentals of PHP, MySQL, and HTML I think I could find more simple ways to implement what I have completed in an easier way. I would have also spent more time with my ER diagram in the beginning. It could have been that since I didn't know too much about databases when I began designing my database the my ER diagram was not the best. Now after playing with and experimenting with my database I have become familiar with the general layout of how they should function and have made the proper adjustments to my ER diagram.

- ## 8. Stuff I don't know if you need or not.

ER Diagram

Tables

Transction
create table Expence(Tran_ID int, Total int, Date datetime, Type Char(1), PRIMARY KEY (Tran_ID))

Product
create table Product(Item_ID int, Price int, Brand char(50), Rating int, PRIMARY KEY (Item_ID))

Activity
create table Activity(Activity_ID int, Price int, With_Who char(50), Location char(50), PRIMARY KEY (Activity_ID))

Clothing
create table Clothes(Material Char(20), Size char(2) , Item_ID int, PRIMARY KEY (Item_ID), foreign key (Item_ID)references Product)

Food
create table Food(Servings int, Item_ID int, Calories int, foreign key (Item_ID)references Product)

Entertainment
create table Entertainment(Item_ID int, Name Char(20), Price int, With_Who char(50), PRIMARY KEY (Food_ID), foreign key (Item_ID)references Product,
foreign key (Activity_ID)references Activity)

Relation Math

Show the price and the item id of the most expensive item on selected day.
Algebra
p(Pro_1, Product)
p(Pro_2, Product)
(pi)Price(Pro_1-(Pro_1(cx)Pro_1.Price>Pro_2.Price Pro_2))
(pi)Item_ID(Pro_1-(Pro_1(cx)Pro_1.Price>Pro_2.Price Pro_2))

SQL

SELECT	MAX(P.Price), P.Item_ID
FROM	Product AS P, Expense AS E
WHERE	E.Purchase_date = User_entered Date

Show the total spent on selected day
Algebra

Cannot compute because relational algebra doesn't count.

SQL

SELECT	SUM(P.Price)
FROM	Product AS P, Expense AS E
WHERE	E.Purchase_date = User_entered Date

Show what category the most money was spent in
Algebra
p(EX_1, Expense)
p(EX_2, Expense)
p(EX_3, EX_1 (cx) EX_1.Amount > EX_2.Amount Expense)
(pi)category_ID(EX_1-EX_3 Expense ^ (EX_1.Catagory_ID = EX_3.Catagory_ID))

SQL

SELECT	T.Catagory.ID
FROM	Is_Type AS T
WHERE	SELECT E3.Amount
	FROM Expence AS E_1, Expence AS E_3, Expence AS E_3
	WHERE SUM(E_1.Amount)>=(SUM(E_2.Amount) x SUM(E_3.Amount))

Show the store where the most money has been spent at.
Alegbra
p(P_1, Product)
p(P_2, Product)
p(P_3, P_1 (cx) P_1.Price > P_2.Price Product)
(pi)Store(P_1 – P_3 ^ (P_1.Store = P_2.Store = P_3.Store))

SQL

SELECT	DISTINCT P.Store
FROM	Product AS P
WHERE	SELECT SUM(P_2.Price)
	FROM Price AS P_1, Price AS P_2
	WHERE P_1.Store = P_2.Store

PHP Scripts

Products Add
        `<h4>Add a New Product</h4>`
        `<table border="0" >`

```
<tr>
<td>
<FORM ACTION="Product_edit.php" METHOD="get" >
<input type="hidden" name="_op" value="A">
    Name: <input type="text" name="_name">
    Brand: <input type="text" name="_brand">
    Transaction #: <input type="int" name="_trans">
    </td>
    </tr>
    <tr>
    <td>
    Price: <input type="double" name="_price">
            Rating: <input type="int" name="_rate">
            # Purchased: <input type="int" name="_num">
  <INPUT TYPE="SUBMIT" VALUE = "Add">
    </FORM>
</td>
</tr>
</table>
```

Product Delete

```
        <form ACTION="Product_edit.php" METHOD="GET">
        <input type="hidden" name="Item_ID" value="<?php print
$record['Item_ID'];?>">
<input type="checkbox" name="_op" value="D">Delete
<INPUT TYPE="SUBMIT" VALUE = "Update">
</form>
```

Products Filters

```
  if(isset($_GET['Trans_ID'])) {
   // Note: In your application, you should validate and sanitize user input
   $Tran = $_GET['Trans_ID'];
   $query = "select * from Product where Trans_ID = '" . $Tran . "'";
 } elseif($_list != NULL) {
        if($_list == 'I') {
            if($_order == 'A') {
                $query = "select * from Product ORDER BY Item_ID
ASC";
            }
            if($_order == 'D') {
```

```php
                        $query = "select * from Product ORDER BY Item_ID
DESC";
                }
        }
        elseif($_list == 'P') {
                if($_order == 'A') {
                        $query = "select * from Product ORDER BY Price
ASC";
                }
                if($_order == 'D') {
                        $query = "select * from Product ORDER BY Price
DESC";
                }
        }
        elseif($_list == 'R') {
                if($_order == 'A') {
                        $query = "select * from Product ORDER BY Rating
ASC";
                }
                if($_order == 'D') {
                        $query = "select * from Product ORDER BY Rating
DESC";
                }
        }
        elseif($_list == 'N') {
                if($_order == 'A') {
                        $query = "select * from Product ORDER BY Number
ASC";
                }
                if($_order == 'D') {
                        $query = "select * from Product ORDER BY Number
DESC";
                }
        }
    }

    else {
    $query = "select * from Product";
 }
```

<h1>Products</h1>

```html
<table border="0">
<tr>
<td>
    <FORM ACTION="Products.php" METHOD="GET" NAME = "Trans">
  Select Transaction:
  <select NAME ='Trans_ID' >
    <?php while ($record = mysqli_fetch_array($result_1)): ?>
  <option value="<?php print $record['Trans_ID'];?>"><?php print
$record['Trans_ID'];?></option>
    <?php endwhile; ?>
    </select>
  <INPUT TYPE="SUBMIT" VALUE = "Search">
    </FORM>
</td>
<td>
<FORM ACTION="Products.php" METHOD="GET" NAME = "Order">
  Select Order:
   <select NAME ="_list" >
            <option value="I">Item ID</option>
            <option value="P">Price</option>
            <option value="R">Rating</option>
            <option value="N">Number Purchased</option>
    </select>
  <select NAME ='_order' >
    <option value="A">Ascending</option>
            <option value="D">Descending</option>
            </select>
  <INPUT TYPE="SUBMIT" VALUE = "Search">
    </FORM>
    </td>
<td><a href="http://web.engr.oregonstate.edu/~quinnsa/Products.php">Undo
Filters</a></td>
</tr>
<tr>
</tr>
</table>
```

Product_edit (Where the Add, Edit, and Delete functions point to)
```php
<?php require_once("common_db.inc.php") ?>
<?php
    /*if($_GET["_name"] > NULL) {
    mysqli_query($link,"UPDATE Product SET Name=$_GET["_name"]
```

```php
WHERE Item_ID='1'");
}*/
    $url = 'http://web.engr.oregonstate.edu/~quinnsa/Products.php';
  $Ite = $_GET["Item_ID"];
  $_name = $_GET["_name"];
  $_brand = $_GET["_brand"];
  $_price = $_GET["_price"];
  $_trans = $_GET["_trans"];
  $_num = $_GET["_num"];
  $_rate = $_GET["_rate"];
  $_op = $_GET["_op"];
  //echo $Ite;
  if($_op == NULL) {
      header( "Location: $url" );
              exit();
}
  if($_op == 'A'){
      //echo $_op;

 if (!mysqli_query($link,"INSERT INTO Product (Trans_ID, Brand, Price, Name,
Rating, Number) VALUES ('$_trans', '$_brand', '$_price', '$_name', '$rate',
'$_num')")){
  die('Error: ' . mysqli_error($link));
  }
//echo "1 record added";
//mysqli_close($link);
header( "Location: $url" );
exit();
}
 else if($_op == 'D') {
     //echo $_op;
 //   echo $Ite;
  if (!mysqli_query($link,"DELETE FROM Product WHERE Item_ID='$Ite'")){
  die('Error: ' . mysqli_error($link));
  }
header( "Location: $url" );
exit();
 }

 else if($_op == 'E') {
if($_name != NULL) {
     mysqli_query($link,"UPDATE Product SET Name='$_name'
     WHERE Item_ID='$Ite'");
```

```php
}
if($_brand != NULL) {
    mysqli_query($link,"UPDATE Product SET Brand='$_brand'
    WHERE Item_ID='$Ite'");
}
if($_price != NULL) {
    mysqli_query($link,"UPDATE Product SET Price='$_price'
    WHERE Item_ID='$Ite'");
}
if($_num != NULL) {
    mysqli_query($link,"UPDATE Product SET Number='$_num'
    WHERE Item_ID='$Ite'");
}
if($_rate != NULL) {
    mysqli_query($link,"UPDATE Product SET Rating='$_rate'
    WHERE Item_ID='$Ite'");
}
if($_trans != NULL) {
    mysqli_query($link,"UPDATE Product SET Trans_ID='$_trans'
    WHERE Item_ID='$Ite'");
}
}
  $query = "select * from Product WHERE Item_ID='$Ite'";
  //$query_1 = "select DISTINCT $_GET["Item_ID"] from Product ORDER BY
Item_ID ASC";
  $result = mysqli_query($link, $query);
  $result_1 = mysqli_query($link, $query_1);

?>
<!doctype html>
<html lang="en">
<head>
 <meta charset="utf-8" />
 <title>Edit</title>
</head>
<body>
<table border="1">
 <tr>
   <th>Product Name</th>
   <th>Brand</th>
     <th>Item ID</th>
   <th>Transaction#</th>
     <th>Price</th>
```

```
      <th>Rating</th>
      <th># Purchased</th>
   </tr>

  <?php mysqli_data_seek($result, 0);
   while ($record = mysqli_fetch_array($result)): ?>
  <tr>
    <td><?php print $record['Name'];?></td>
    <td><?php print $record['Brand'];?></td>
      <td><?php print $record['Item_ID'];?></td>
    <td><?php print $record['Trans_ID'];?></td>
      <td>$<?php print $record['Price'];?></td>
      <td><?php print $record['Rating'];?></td>
      <td><?php print $record['Number'];?></td>
   </tr>
   <?php endwhile; mysqli_free_result($result);?>
</table>

<table border="0" >
<tr>
<td>
<FORM ACTION="Product_edit.php" METHOD="get" >
<input type="hidden" name="Item_ID" value="<?php print $Ite ?>">
<input type="hidden" name="_op" value="E">
    Name: <input type="text" name="_name">
    Brand: <input type="text" name="_brand">
    Transaction #: <input type="int" name="_trans">
    </td>
    </tr>
    <tr>
    <td>
    Price: <input type="double" name="_price">
        Rating: <input type="int" name="_rate">
        # Purchased: <input type="int" name="_num">
 <INPUT TYPE="SUBMIT" VALUE = "Edit">
    </FORM>
</td>
</tr>
<tr>
<td>
<a href="http://web.engr.oregonstate.edu/~quinnsa/Products.php">Go Back</a>
</td>
</tr>
```

```
</table>
</body>
</html>
```

Activity Add

```
<h4>Add a New Activity</h4>
<table border="0" >
<tr>
<td>
<FORM ACTION="Activity_edit.php" METHOD="get" >
<input type="hidden" name="_op" value="A">
    Description: <input type="text" name="_des">
    Location: <input type="text" name="_loc">
    </td>
    </tr>
    <tr>
    <td>
    Transaction ID: <input type="int" name="_trans">
            Price: <input type="int" name="_price">
  <INPUT TYPE="SUBMIT" VALUE = "Add">
    </FORM>
</td>
</tr>

</table>
```

Activity Delete

```
        <form ACTION="Activity_edit.php" METHOD="GET">
        <input type="hidden" name="_ai" value="<?php print
$record['Activity_ID'];?>">
<input type="checkbox" name="_op" value="D">Delete
<INPUT TYPE="SUBMIT" VALUE = "Update">
</form>
```

Activity Filters

```
  $_list = $_GET['_list'];
  $_order = $_GET['_order'];
  if ($_list == 'P'){
```

```php
                if($_order == 'A') {
                                $query = "select * from Activity ORDER BY
Price ASC";
                }
                else {
                                $query = "select * from Activity ORDER BY
Price DESC";
                }

    }
    else if ($_list == 'T'){
            if($_order == 'A') {
                                $query = "select * from Activity ORDER BY
Tran_ID ASC";
                }
                else {
                                $query = "select * from Activity ORDER BY
Tran_ID DESC";
                }
    }
    else if ($_list == 'I'){
            if($_order == 'A') {
                                $query = "select * from Activity ORDER BY
Activity_ID ASC";
                }
                else {
                                $query = "select * from Activity ORDER BY
Activity_ID DESC";
                }
    }

    else {

    $query = "select * from Activity";
}


<FORM ACTION="Activity.php" METHOD="GET"> Select Order:
  <select NAME ="_list" >
  <option value="NULL" selected> Sort </option>
            <option value="I">Activity ID</option>
            <option value="T">Transaction #</option>
            <option value="P">Price</option>
```

```
            </select>
        <select NAME ='_order' >
            <option value="A">Ascending</option>
                    <option value="D">Descending</option>
                    </select>
        <INPUT TYPE="SUBMIT" VALUE = "Sort">
            </FORM>
```

Activity_edit (Where the Add, Edit, and Delete functions point to)

```php
<?php require_once("common_db.inc.php") ?>
<?php
    /*if($_GET["_name"] > NULL) {
    mysqli_query($link,"UPDATE Product SET Name=$_GET["_name"]
WHERE Item_ID='1'");
}*/
    $url = 'http://web.engr.oregonstate.edu/~quinnsa/Activity.php';
 $_ai = $_GET["_ai"];
 $_des = $_GET["_des"];
 $_loc = $_GET["_loc"];
 $_price = $_GET["_price"];
 $_trans = $_GET["_trans"];
 $_num = $_GET["_num"];
 $_op = $_GET["_op"];
 //echo $Ite;
 if($_op == NULL) {
    header( "Location: $url" );
            exit();
}
 if($_op == 'A'){
    //echo $_op;

 if (!mysqli_query($link,"INSERT INTO Activity (Activity_ID, Description, Price,
Location, Tran_ID) VALUES ('$_ai', '$_des', '$_price', '$_loc', '$_trans')")){
 die('Error: ' . mysqli_error($link));
 }
//echo "1 record added";
//mysqli_close($link);
header( "Location: $url" );
exit();
}
 else if($_op == 'D') {
    //echo $_op;
```

```php
//    echo $Ite;
   if (!mysqli_query($link,"DELETE FROM Activity WHERE Activity_ID='$_ai'")){
  die('Error: ' . mysqli_error($link));
  }
header( "Location: $url" );
exit();
 }

 else if($_op == 'E') {
if($_des != NULL) {
    mysqli_query($link,"UPDATE Activity SET Description='$_des'
    WHERE Activity_ID='$_ai'");
}
if($_loc != NULL) {
    mysqli_query($link,"UPDATE Activity SET Location='$_loc'
    WHERE Activity_ID='$_ai'");
}
if($_trans != NULL) {
    mysqli_query($link,"UPDATE Activity SET Tran_ID='$_trans'
    WHERE Activity_ID='$_ai'");
}
if($_price != NULL) {
    mysqli_query($link,"UPDATE Activity SET Price='$_price'
    WHERE Activity_ID='$_ai'");
}
}
  $query = "select * from Activity WHERE Activity_ID='$_ai'";
  //$query_1 = "select DISTINCT $_GET["Item_ID"] from Product ORDER BY
Item_ID ASC";
  $result = mysqli_query($link, $query);
  $result_1 = mysqli_query($link, $query_1);

?>
<!doctype html>
<html lang="en">
<head>
 <meta charset="utf-8" />
 <title>Edit</title>
</head>
<body>
<table border="1">
 <tr>
    <th>Activity ID</th>
```

```html
      <th>Description</th>
        <th>Location</th>
        <th>Transaction #</th>
        <th>Price</th>
    </tr>

  <?php mysqli_data_seek($result, 0);
  while ($record = mysqli_fetch_array($result)):?>

   <tr>
    <td><?php print $record['Activity_ID'];?></td>
        <td><?php print $record['Description'];?></td>
        <td><?php print $record['Location'];?></td>
        <td><?php print $record['Tran_ID'];?></td>
            <td>$<?php print $record['Price'];?></td>
    </tr>
    <?php endwhile; mysqli_free_result($result);?>

</table>

<table border="0" >
<tr>
<td>
<FORM ACTION="Activity_edit.php" METHOD="get" >
<input type="hidden" name="_ai" value="<?php print $_ai ?>">
<input type="hidden" name="_op" value="E">
    Description: <input type="text" name="_des">
    Location: <input type="text" name="_loc">
    </td>
    </tr>
    <tr>
    <td>
    Transaction ID: <input type="int" name="_trans">
            Price: <input type="int" name="_price">
  <INPUT TYPE="SUBMIT" VALUE = "Edit">
    </FORM>
</td>
</tr>
<tr>
<td><a href="http://web.engr.oregonstate.edu/~quinnsa/Activity.php">Go
Back</a></td>
</tr>
```

```
                </table>

                </body>
                </html>
```

Clothes Add
```
        <h4>Add a New Clothing Article</h4>
        <FORM ACTION="Clothes_edit.php" METHOD="get" >
        Select Item:
          <select NAME ='_item' >
              <?php while ($record = mysqli_fetch_array($result_3)): ?>
          <option name="_item" value="<?php print $record['Item_ID'];?>"><?php print
        $record['Item_ID'];?></option>
              <?php endwhile; ?>
              </select>
        <input type="hidden" name="_op" value="A">
              Material: <input type="text" name="_mat">
              Size: <input type="int" name="_size">
          <INPUT TYPE="SUBMIT" VALUE = "Add">
              </FORM>
```

Clothes Delete
```
                < <form ACTION="Clothes_edit.php" METHOD="GET">
                <input type="hidden" name="_item" value="<?php print
        $record['Item_ID'];?>">
        <input type="checkbox" name="_op" value="D">Delete
        <INPUT TYPE="SUBMIT" VALUE = "Update">
        </form>
```

Clothes Filters
```
           $_list = $_GET['_list'];
         $_order = $_GET['_order'];
            if($_order == 'A') {
                  $query = "SELECT * FROM Clothes ORDER BY Item_ID ASC";
            }
            else if($_order == 'D') {
                  $query = "SELECT * FROM Clothes ORDER BY Item_ID DESC";
```

```php
        }
        else {
            $query = "select * from Clothes";
        }


        <FORM ACTION="Clothes.php" METHOD="GET"> Select Order of Item ID:
         <select NAME ='_order' >
            <option value="A">Ascending</option>
                    <option value="D">Descending</option>
                    </select>
         <INPUT TYPE="SUBMIT" VALUE = "Sort">
            </FORM>
```

Clothes_edit (Where the Add, Edit, and Delete functions point to)

```php
        <?php require_once("common_db.inc.php") ?>
        <?php
            /*if($_GET["_name"] > NULL) {
            mysqli_query($link,"UPDATE Product SET Name=$_GET["_name"]
        WHERE Item_ID='1'");
        }*/
            $url = 'http://web.engr.oregonstate.edu/~quinnsa/Clothes.php';
         $_item = $_GET["_item"];
         $_mat = $_GET["_mat"];
         $_size = $_GET["_size"];
         $_op = $_GET["_op"];
         //echo $Ite;
         if($_op == NULL) {
            header( "Location: $url" );
                    exit();
        }
         if($_op == 'A'){
            //echo $_op;

         if (!mysqli_query($link,"INSERT INTO Clothes (Item_ID, Material, Size)
        VALUES ('$_item', '$_mat', '$_size')")){
          die('Error: ' . mysqli_error($link));
          }
        //echo "1 record added";
        //mysqli_close($link);
        header( "Location: $url" );
        exit();
        }
```

```php
 else if($_op == 'D') {
 //echo $_op;
 //echo $_item;
   if (!mysqli_query($link,"DELETE FROM Clothes WHERE Item_ID =
'$_item'")){
 die('Error: ' . mysqli_error($link));
  }
header( "Location: $url" );
exit();
 }

 else if($_op == 'E') {
if($_mat != NULL) {
    mysqli_query($link,"UPDATE Clothes SET Material='$_mat'
    WHERE Item_ID='$_item'");
}
if($_size != NULL) {
    mysqli_query($link,"UPDATE Clothes SET Size='$_size'
    WHERE Item_ID='$_item'");
}
}
 $query = "select * from Clothes WHERE Item_ID='$_item'";
 //$query_1 = "select DISTINCT $_GET["Item_ID"] from Product ORDER BY
Item_ID ASC";
 $result = mysqli_query($link, $query);
 $result_1 = mysqli_query($link, $query_1);

?>
<!doctype html>
<html lang="en">
<head>
 <meta charset="utf-8" />
 <title>Edit</title>
</head>
<body>
<table border="1">
 <tr>
    <th>Name</th>
 <th>Item ID</th>
    <th>Material</th>
    <th>Size</th>
    <th>Price</th>
 </tr>
```

```php
<?php mysqli_data_seek($result, 0);
while ($record = mysqli_fetch_array($result)):?>
<?php $_key = $record['Item_ID'];
mysqli_data_seek($result_21, 0);
$query_21 = "SELECT * FROM Product WHERE Item_ID = '$_key'";
$result_21 = mysqli_query($link, $query_21);
$record_2 = mysqli_fetch_array($result_21);
?>
 <tr>
  <td><?php print $record_2['Name'];?></td>
    <td><?php print $record['Item_ID'];?></td>
    <td><?php print $record['Material'];?></td>
    <td><?php print $record['Size'];?></td>
          <td>$<?php print $record_2['Price'];?></td>
 </tr>
 <?php endwhile; mysqli_free_result($result);?>

</table>

<table border="0" >
<tr>
<td>
<FORM ACTION="Clothes_edit.php" METHOD="get" >
<input type="hidden" name="_item" value="<?php print $_item ?>">
<input type="hidden" name="_op" value="E">
    Material: <input type="text" name="_mat">
    Size: <input type="text" name="_size">
 <INPUT TYPE="SUBMIT" VALUE = "Edit">
    </FORM>
</td>
</tr>
<tr>
<td><a href="http://web.engr.oregonstate.edu/~quinnsa/Clothes.php">Go
Back</a></td>
</tr>

</table>

</body>
</html>
```

Entertainment Add

```
<h4>Add a New Item to Entertainment</h4>
<table border="0" >
<tr>
<td>
<FORM ACTION="Ent_edit.php" METHOD="get" >
Select Item:
  <select NAME ='_item' >
     <?php while ($record = mysqli_fetch_array($result_2)): ?>
  <option name="_item" value="<?php print $record['Item_ID'];?>"><?php print
$record['Item_ID'];?></option>
     <?php endwhile; ?>
     </select>
<input type="hidden" name="_op" value="A">
    With Who: <input type="text" name="_ww">
    Description: <input type="text" name="_des">
  <INPUT TYPE="SUBMIT" VALUE = "Add">
    </FORM>
</td>
</tr>

</table>
```

Entertainment Delete

```
        <form ACTION="Ent_edit.php" METHOD="GET">
        <input type="hidden" name="_item" value="<?php print
$record['Item_ID'];?>">
<input type="checkbox" name="_op" value="D">Delete
<INPUT TYPE="SUBMIT" VALUE = "Update">
</form>
```

Entertainment Filters

```
    $_list = $_GET['_list'];
  $_order = $_GET['_order'];
if($_list == 'I') {
    if($_order == 'A') {
        $query = "SELECT * FROM Entertainment ORDER BY Item_ID
ASC";
```

```
        }
        else {
                $query = "SELECT * FROM Entertainment ORDER BY Item_ID
DESC";
        }
        }
    else {
        $query = "select * from Entertainment";
    }

    <FORM ACTION="Ent.php" METHOD="GET"> Select Order:
      <select NAME ="_list" >
      <option value="NULL" selected> Sort </option>
                <option value="I">Item ID</option>
        </select>
      <select NAME ='_order' >
        <option value="A">Ascending</option>
                <option value="D">Descending</option>
                </select>
      <INPUT TYPE="SUBMIT" VALUE = "Sort">
        </FORM>
```

Entertainment_edit (Where the Add, Edit, and Delete functions point to)

```
    <?php require_once("common_db.inc.php") ?>
    <?php
        /*if($_GET["_name"] > NULL) {
        mysqli_query($link,"UPDATE Product SET Name=$_GET["_name"]
    WHERE Item_ID='1'");
    }*/
        $url = 'http://web.engr.oregonstate.edu/~quinnsa/Ent.php';
      $_item = $_GET["_item"];
      $_des = $_GET["_des"];
      $_ww = $_GET["_ww"];
      $_op = $_GET["_op"];
      //echo $Ite;
      if($_op == NULL) {
        header( "Location: $url" );
                exit();
    }
      if($_op == 'A'){
        //echo $_op;

      if (!mysqli_query($link,"INSERT INTO Entertainment (Item_ID, With_who,
```

```php
Description) VALUES ('$_item', '$_ww', '$_des')")){
  die('Error: ' . mysqli_error($link));
  }
//echo "1 record added";
//mysqli_close($link);
header( "Location: $url" );
exit();
}
 else if($_op == 'D') {
 //echo $_op;
 //echo $_item;
   if (!mysqli_query($link,"DELETE FROM Entertainment WHERE Item_ID =
'$_item'")){
  die('Error: ' . mysqli_error($link));
  }
header( "Location: $url" );
exit();
 }

 else if($_op == 'E') {
if($_des != NULL) {
    mysqli_query($link,"UPDATE Entertainment SET Description='$_des'
    WHERE Item_ID='$_item'");
}
if($_ww != NULL) {
    mysqli_query($link,"UPDATE Entertainment SET With_Who='$_ww'
    WHERE Item_ID='$_item'");
}
}
 $query = "select * from Entertainment WHERE Item_ID='$_item'";
 //$query_1 = "select DISTINCT $_GET["Item_ID"] from Product ORDER BY
Item_ID ASC";
 $result = mysqli_query($link, $query);
 $result_1 = mysqli_query($link, $query_1);

?>
<!doctype html>
<html lang="en">
<head>
 <meta charset="utf-8" />
 <title>Edit</title>
</head>
<body>
```

```html
<table border="1">
  <tr>
      <th>Name</th>
  <th>Item ID</th>
      <th>With Who</th>
      <th>Description</th>
      <th>Price</th>
  </tr>

 <?php mysqli_data_seek($result, 0);
  while ($record = mysqli_fetch_array($result)):?>
  <?php $_key = $record['Item_ID'];
  mysqli_data_seek($result_21, 0);
  $query_21 = "SELECT * FROM Product WHERE Item_ID = '$_key'";
  $result_21 = mysqli_query($link, $query_21);
  $record_2 = mysqli_fetch_array($result_21);
?>
  <tr>
   <td><?php print $record_2['Name'];?></td>
      <td><?php print $record['Item_ID'];?></td>
      <td><?php print $record['With_Who'];?></td>
      <td><?php print $record['Description'];?></td>
              <td>$<?php print $record_2['Price'];?></td>
  </tr>
  <?php endwhile; mysqli_free_result($result);?>

</table>

<table border="0" >
<tr>
<td>
<FORM ACTION="Ent_edit.php" METHOD="get" >
<input type="hidden" name="_item" value="<?php print $_item ?>">
<input type="hidden" name="_op" value="E">
    Description: <input type="text" name="_des">
    With Who: <input type="text" name="_ww">
 <INPUT TYPE="SUBMIT" VALUE = "Edit">
    </FORM>
</td>
</tr>
<tr>
<td><a href="http://web.engr.oregonstate.edu/~quinnsa/Ent.php">Go
Back</a></td>
```

```
        </tr>

        </table>

        </body>
        </html>
```

Food Add

```
        <h4>Add a New Item to Food</h4>
        <FORM ACTION="Food_edit.php" METHOD="get" >
        Select Item:
         <select NAME ='_item' >
            <?php while ($record = mysqli_fetch_array($result_3)): ?>
         <option name="_item" value="<?php print $record['Item_ID'];?>"><?php print
$record['Item_ID'];?></option>
            <?php endwhile; ?>
            </select>
        <input type="hidden" name="_op" value="A">
            Calories: <input type="text" name="_cal">
            Servings: <input type="text" name="_ser">
         <INPUT TYPE="SUBMIT" VALUE = "Add">
            </FORM>
```

Food Delete

```
            <form ACTION="Food_edit.php" METHOD="GET">
            <input type="hidden" name="_item" value="<?php print
$record['Item_ID'];?>">
        <input type="checkbox" name="_op" value="D">Delete
        <INPUT TYPE="SUBMIT" VALUE = "Update">
        </form>
```

Food Filters

```
        $_list = $_GET['_list'];
         $_order = $_GET['_order'];
        if($_list == 'C') {
            if($_order == 'A') {
                $query = "SELECT * FROM Food ORDER BY Calories ASC";
```

```php
            }
            else {
                    $query = "SELECT * FROM Food ORDER BY Calories DESC";
            }
        }
        else if($_list == 'S') {
            if($_order == 'A') {
                    $query = "SELECT * FROM Food ORDER BY Servings ASC";
            }
            else {
                    $query = "SELECT * FROM Food ORDER BY Servings DESC";
            }
        }
        else if($_list == 'I') {
            if($_order == 'A') {
                    $query = "SELECT * FROM Food ORDER BY Item_ID ASC";
            }
            else {
                    $query = "SELECT * FROM Food ORDER BY Item_ID DESC";
            }
        }
        else {
            $query = "select * from Food";
        }

        <FORM ACTION="Food.php" METHOD="GET"> Select Order:
          <select NAME ="_list" >
          <option value="NULL" selected> Sort </option>
                    <option value="I">Item ID</option>
                    <option value="C">Calories</option>
                    <option value="S">Servings</option>
            </select>
          <select NAME ='_order' >
            <option value="A">Ascending</option>
                    <option value="D">Descending</option>
                    </select>
          <INPUT TYPE="SUBMIT" VALUE = "Sort">
            </FORM>
```

Food_edit (Where the Add, Edit, and Delete functions point to)

```php
        <?php require_once("common_db.inc.php") ?>
        <?php
            /*if($_GET["_name"] > NULL) {
```

```php
        mysqli_query($link,"UPDATE Product SET Name=$_GET["_name"]
WHERE Item_ID='1'");
}*/
        $url = 'http://web.engr.oregonstate.edu/~quinnsa/Food.php';
    $_item = $_GET["_item"];
    $_cal = $_GET["_cal"];
    $_ser = $_GET["_ser"];
    $_op = $_GET["_op"];
    //echo $Ite;
    if($_op == NULL) {
        header( "Location: $url" );
                exit();
}
    if($_op == 'A'){
        //echo $_op;

 if (!mysqli_query($link,"INSERT INTO Food (Item_ID, Calories, Servings)
VALUES ('$_item', '$_cal', '$_ser')")){
 die('Error: ' . mysqli_error($link));
    }
//echo "1 record added";
//mysqli_close($link);
header( "Location: $url" );
exit();
}
 else if($_op == 'D') {
 echo $_op;
 echo $_item;
   if (!mysqli_query($link,"DELETE FROM Food WHERE Item_ID = '$_item'")){
 die('Error: ' . mysqli_error($link));
    }
header( "Location: $url" );
exit();
 }

 else if($_op == 'E') {
if($_cal != NULL) {
    mysqli_query($link,"UPDATE Food SET Calories='$_cal'
    WHERE Item_ID='$_item'");
}
if($_ser != NULL) {
    mysqli_query($link,"UPDATE Food SET Servings='$_ser'
    WHERE Item_ID='$_item'");
```

```php
    }
  }
  $query = "select * from Food WHERE Item_ID='$_item'";
  //$query_1 = "select DISTINCT $_GET["Item_ID"] from Product ORDER BY
Item_ID ASC";
  $result = mysqli_query($link, $query);
  $result_1 = mysqli_query($link, $query_1);

?>
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <title>Edit</title>
</head>
<body>
<table border="1">
  <tr>
      <th>Name</th>
  <th>Item ID</th>
      <th>Calories</th>
      <th>Servings</th>
      <th>Price</th>
  </tr>

 <?php mysqli_data_seek($result, 0);
  while ($record = mysqli_fetch_array($result)):?>
  <?php $_key = $record['Item_ID'];
  mysqli_data_seek($result_21, 0);
  $query_21 = "SELECT * FROM Product WHERE Item_ID = '$_key'";
  $result_21 = mysqli_query($link, $query_21);
  $record_2 = mysqli_fetch_array($result_21);
?>
  <tr>
   <td><?php print $record_2['Name'];?></td>
      <td><?php print $record['Item_ID'];?></td>
      <td><?php print $record['Calories'];?></td>
      <td><?php print $record['Servings'];?></td>
              <td>$<?php print $record_2['Price'];?></td>
  </tr>
  <?php endwhile; mysqli_free_result($result);?>

</table>
```

```
<table border="0" >
<tr>
<td>
<FORM ACTION="Food_edit.php" METHOD="get" >
<input type="hidden" name="_item" value="<?php print $_item ?>">
<input type="hidden" name="_op" value="E">
    Calories: <input type="text" name="_cal">
    Servings: <input type="text" name="_ser">
  <INPUT TYPE="SUBMIT" VALUE = "Edit">
    </FORM>
</td>
</tr>
<tr>
<td><a href="http://web.engr.oregonstate.edu/~quinnsa/Food.php">Go
Back</a></td>
</tr>

</table>

</body>
</html>
```

Transaction Add

```
<h4>Add a New Transaction</h4>
<FORM ACTION="Trans_edit.php" METHOD="get" >
<input type="hidden" name="_op" value="A">
    Store: <input type="text" name="_str">
    Type: <input type="text" name="_type">
    <br>
    Date(YYYY-MM-DD HH:MM:SS): <input type="datetime" name="_date">
    Total: <input type="double" name="_tot">
  <INPUT TYPE="SUBMIT" VALUE = "Add">
    </FORM>
```

Transaction Delete

```
        <form ACTION="Trans_edit.php" METHOD="GET">
        <input type="hidden" name="_tran" value="<?php print
$record['Tran_ID'];?>">
```

```
<input type="checkbox" name="_op" value="D">Delete
<INPUT TYPE="SUBMIT" VALUE = "Update">
</form>
```

Transaction Filters

```
  $_store = $_GET['_store'];
 $_type = $_GET['_type'];
 $_list = $_GET['_list'];
 $_order = $_GET['_order'];

if ($_list == 'P'){
                if($_order == 'A') {
                                $query = "select * from Transaction ORDER
BY Total ASC";
                }
                else {
                                $query = "select * from Transaction ORDER
BY Total DESC";
                }

    }
    else if ($_list == 'D'){
            if($_order == 'A') {
                                $query = "select * from Transaction ORDER
BY Date ASC";
                }
                else {
                                $query = "select * from Transaction ORDER
BY Date DESC";
                }
    }
    else if ($_list == 'N'){
            if($_order == 'A') {
                            $query = "select * from Transaction ORDER BY
Tran_ID ASC";
                }
                else {
                            $query = "select * from Transaction ORDER BY
Tran_ID DESC";
                }
    }
```

```
        else {
                $query = "select * from Transaction";

    if($_store != 'NULL')
     {
      // Note: In your application, you should validate and sanitize user input
      //echo $_type;
     // echo $_store;
     if($_type != 'NULL')
      {

                $query = "select * from Transaction where Type = '" . $_type . "' AND
where Store = '" . $_store . "'";
      }
         else
         {
                $query = "select * from Transaction where Store = '" . $_store . "'";
         }
    }
    else if($_type != 'NULL')
    {
                $query = "select * from Transaction where Type = '" . $_type . "'";
    }
                }
```

Transaction_edit (Where the Add, Edit, and Delete functions point to)

```php
<?php require_once("common_db.inc.php") ?>
<?php
    /*if($_GET["_name"] > NULL) {
    mysqli_query($link,"UPDATE Product SET Name=$_GET["_name"]
WHERE Item_ID='1'");
}*/
    $url =
'http://web.engr.oregonstate.edu/~quinnsa/Transactions.php?_store=NULL&_type=
NULL';
  $_tran = $_GET["_tran"];
  $_str = $_GET["_str"];
  $_type = $_GET["_type"];
$_date = $_GET["_date"];
$_tot = $_GET["_tot"];
  $_op = $_GET["_op"];
  //echo $Ite;
```

```php
  if($_op == NULL) {
      header( "Location: $url" );
              exit();
}
  if($_op == 'A'){
      //echo $_op;

 if (!mysqli_query($link,"INSERT INTO Transaction (Store, Type, Date, Total)
VALUES ('$_str', '$_type', '$_date', '$_tot')")){
  die('Error: ' . mysqli_error($link));
  }
//echo "1 record added";
//mysqli_close($link);
header( "Location: $url" );
exit();
}
 else if($_op == 'D') {
 //echo $_op;
 //echo $_item;
   if (!mysqli_query($link,"DELETE FROM Transaction WHERE Tran_ID =
'$_tran'")){
  die('Error: ' . mysqli_error($link));
  }
header( "Location: $url" );
exit();
 }

 else if($_op == 'E') {
if($_str != NULL) {
     mysqli_query($link,"UPDATE Transaction SET Store='$_str'
     WHERE Tran_ID='$_tran'");
}
if($_type != NULL) {
     mysqli_query($link,"UPDATE Transaction SET Type='$_type'
     WHERE Tran_ID='$_tran'");
}
if($_date != NULL) {
     mysqli_query($link,"UPDATE Transaction SET Date='$_date'
     WHERE Tran_ID='$_tran'");
}
if($_tot != NULL) {
     mysqli_query($link,"UPDATE Transaction SET Total='$_tot'
     WHERE Tran_ID='$_tran'");
```

```php
    }
 }
   $query = "select * from Transaction WHERE Tran_ID='$_tran'";
   $result = mysqli_query($link, $query);
   $result_1 = mysqli_query($link, $query_1);

?>
```
```html
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <title>Edit</title>
</head>
<body>
<table border="1">
  <tr>
  <th>Transaction #</th>
     <th>Store</th>
     <th>Type</th>
     <th>Date</th>
     <th>Total</th>
  </tr>

  <?php mysqli_data_seek($result, 0);
  while ($record = mysqli_fetch_array($result)):?>
   <tr>
   <td><?php print $record['Tran_ID'];?></td>
     <td><?php print $record['Store'];?></td>
     <td><?php print $record['Type'];?></td>
     <td><?php print $record['Date'];?></td>
          <td>$<?php print $record['Total'];?></td>
  </tr>
  <?php endwhile; mysqli_free_result($result);?>

</table>

<table border="0" >
<tr>
<td>
<FORM ACTION="Trans_edit.php" METHOD="get" >
<input type="hidden" name="_tran" value="<?php print $_tran ?>">
<input type="hidden" name="_op" value="E">
     Store <input type="text" name="_str">
```

```html
        Type: <input type="text" name="_type">
        <br>
        Date(YYYY-MM-DD HH:MM:SS): <input type="datetime" name="_date">
        Total: <input type="double" name="_tot">
  <INPUT TYPE="SUBMIT" VALUE = "Edit">
        </FORM>
</td>
</tr>
<tr>
<td><a
href="http://web.engr.oregonstate.edu/~quinnsa/Transactions.php?_store=NULL&_
type=NULL">Go Back</a></td>
</tr>

</table>

</body>
</html>
```