Implementation

1. Client side (index.html)

Figure 1 shows the design of the webpage I have created. Client is able to access this webpage through index.html to order fruits from this website. The top textbox requests user to input their username. Below the username textbox is a table which categorize into 3 different components. They are fruits that user can purchase from the website, the price of each fruit, and the quantity of fruits that the user would like to purchase. Below the table form are payment methods. VISA payment is selected by default. Users may choose one of the payment methods they prefer. Below the payment method section is the submit button. Initially, it will be disable until user orders a fruit by keying a value into one of the *Quantity* textbox.

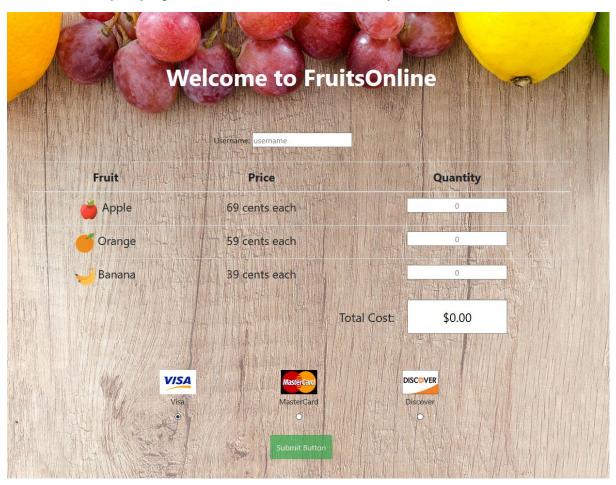


Figure 1: Client side webpage display

1.1 Username - Textbox

The top of the webpage contains a textbox for user to input. This can be created by using the *input* element in HTML (in Figure 1.1a). The *name* attribute, userName, in *input* element allows php file in the server to obtain the value keyed in by the user. The *required* attribute will highlight the textbook and notify the user to input a value

into the textbook if there is no value input in the username textbook upon clicking the submit button (in Figure 1.1b).

Figure 1.1a: Input Element for Username



Figure 1.1b: Notify user field required to fill-up

1.2 Order table

Below the username's textbook is contains a table with fruits to purchase and quality of fruits to order. The table can be created by using the *table* element (in Figure 1.1c). In the *table* element, the class attribute reference the design of the table to css in "css/ bootstrap.css". In the third column of the table contain rows of textboxes created by *input* element for user to key in the amount of individual fruits they would like to purchase.

The onChange attribute is an event that reference to changesToValue(this.id) which is a JavaScript method (in Figure 1.1c). This event is triggered when there is a change to the value in the quantity textbox. When calling changesToValue(), id of this input element will be passed to the method. In the changesToValue() method, the value in the quantity textbox will be check if it is a valid input through validations() method (in Figure 1.1d). If the validations() method returns true, calculateTotalCost() will be called to change the total cost displayed. Finally, enableSubmitBtn() method will be called enable or disable the submit button.

In the *validations()* method, if the value in the quantity textbox is a positive integer or empty, a Boolean of true will be returned back to *changesToValue()* method (in Figure 1.1e). Else, alert messages will be displayed to the user, that quantity textbox will be set empty, textbox that display the total cost of the ordered fruits will be set to "NaN", and lastly, Boolean of false will be returned back to *changesToValue()*.

```
<thread>
        <font size="5">Fruit</font>
        <font size="5">Price</font>
        <font size="5">Quantity</font>
     </thread>
  <t.body>
     <!-- All HTML are objects so need 'this' -->
        <imq src="images/apple.png" height="40" width="40"/><font size="5"> Apple</font>
        <font size="5">69 cents each</font>
        <input id="appleQty" name="apple Qty" class="quantityTextBox" type="text" placeholder="0"
           onchange="changesToValue(this.id)">
        <img src="images/orange.png" height="40" width="40"/><font size="5"> Orange</font>
        <font size="5">59 cents each</font>
        <input id="orangeQty" name="orange_Qty" class="quantityTextBox" type="text" placeholder="0"</pre>
           onchange="changesToValue(this.id)">
     <img src="images/banana.png" height="40" width="40"/><font size="5"> Banana</font>
        <font size="5">39 cents each</font>
```

Figure 1.1c: Table Element to display fruit, price, and fill-up quality

```
function changesToValue(identity)
{
    //validate latest input
    if(validations(identity))
        calculateTotalCost();    //calculate total and display if validation passes
    enableSubmitBtn();
}
```

Figure 1.1d: Method body for changesToValue()

Figure 1.1e: Method body for validations()

1.3 Total Cost - Textbox

Below the table of orders contains a textbox which displays the total cost of the fruits ordering by the user using *input* element in HTML (in Figure 1.1f). By default, the textbox will display "\$0.00" if no fruits are being added to the list of fruits using is ordering. Based on the *onChange* event in Figure 1.1c, the *changesToValue()* method will call the *calculateTotalCost()* method that will change the value of the total cost displayed (in Figure 1.1g). The total cost textbox will change its display to "NaN" if numbers are not input into any of the quantity textbox (in Figure 1.1e and 1.1h).

The *onfocus* event will calls the *blur()* method which will prevent user from editing the content in the total cost textbox and triggers *onblur* event which calls *focus()* method if the mouse is not on top of the total cost textbox (in Figure 1.1f).

Figure 1.1f: input element textbox to display total cost

```
function calculateTotalCost()
{
    //sum up the data
    var totalPrice = 0;

    //only sum up the price if the quantity of that fruit is not ""
    //sum up in whole number before dividing by 100 to prevent Rounding Error
    if(document.getElementById("appleQty").value != "")
        totalPrice = parseInt(document.getElementById("appleQty").value) * 69;
    if(document.getElementById("orangeQty").value != "")
        totalPrice = totalPrice + parseInt(document.getElementById("orangeQty").value) * 59;
    if(document.getElementById("bananaQty").value != "")
        totalPrice = totalPrice + parseInt(document.getElementById("bananaQty").value) * 39;

    //set the total cost to the display of total cost textbox
    document.getElementById("totalCost").value = "$" + (totalPrice/100).toString();

    if(document.getElementById("totalCost").value = "$0")
        document.getElementById("totalCost").value = "$0")
        document.getElementById("totalCost").value = "$0.00";
}
```

Figure 1.1g: method body for calculateTotalCost()



Figure 1.1h: Total Cost textbox displays "NaN"

1.4 Payment methods

In the section below the table of orders contains a table of different payment methods user can choose to pay for their order. *Input* element of *radio* type is used to allow user to click the choice of payment method they prefer (in Figure 1.1i). The checked attribute in input element for VISA results in VISA to be selected by default. Users may click other payment methods such as MasterCard or Discover if they prefer to pay through those payment methods. The name attribute has to be the same so that only one radio open will be selected at one time. With the same name, only the selected payment option will be sent to the server.

```
<colgroup>
       <col width="250px">
       <col width="250px">
       <col width="250px">
   </colgroup>
       <img src="images/visa.jpg" height="50" width="75">
       <img src="images/mastercard.jpg" height="50" width="75">
<img src="images/discover.jpg" height="50" width="75">

   <label for="visaID" font-size="25px">Visa</label><br>
           <input id="visaID" name="payment" class="paymentOption" type="radio" value="Visa" checked>
       <label for="mastercardID" font-size="25px">MasterCard</label><br>
           <input id="mastercardID" name="payment" class="paymentOption" type="radio" value="Mastercard">
       <label for="discoverID" font-size="25px">Discover</label><br>
           <input id="discoverID" name="payment" class="paymentOption" type="radio" value="Discover">
       .
</t.r>
```

Figure 1.1i: Table for Payment Methods

1.5 Submit button

The submit button using the *input* element with *submit* type in HTML which will submit the value of the elements in the form to "order.php" in the server (in Figure 1.1j). *disabled* attribute is included so that at page start up, the button will be disabled. The button will only be enabled or disabled when the onChange event is triggered (in Figure 1.1c). enableSubmitBtn() method in JavaScript will determine if the submit button is enabled or disabled based on the value displayed on the total cost textbox (in Figure 1.1k). If the value of the textbox is "\$0.00", the submit button will be disabled to prevent user from submitting empty order request. If the value is "NaN", the submit button will be disabled as non-integer value was input into the quantity textboxes. Else, the submit button will be enabled.

```
<input id="submitBtnID" type="submit" class="btn btn-success" value="Submit Button" disabled="disabled">
```

Figure 1.1j: input Element for submit button to submit the form

Figure 1.1k: Method body of enableSubmitBtn()

2. Server side (order.php)

Figure 2 shows the receipt that will be display to the user from order.php in the server after successful order from the user. The receipt received by the user is in the form of a table where the username of the customer, quantity or apple, orange, and banana will be displayed. Total price of all the fruits ordered by the user and the preferred payment method by the user will be displayed. Below the table of receipt is a Home button which will bring the user back to the order home page as shown in Figure 1.

Receipt	
Customer:	user1
Apples:	2
Oranges:	3
Bananas:	1
Total Price:	\$3.54
Payment Price:	Mastercard
	Home

Figure 2

2.1 Receive order from client

After user clicks on the submit button in index.html, values of the elements will be sent to the server through POST method and handles by order.php (in Figure 2.1a). The value of the element can be obtain by using the name attribute in the element in HTML in index.html (in Figure 2.1b). The values are set in the local variables of order.php.

```
$username = $_POST["userName"];
$appleQty = intval($_POST["apple_Qty"]);
$orangeQty = intval($_POST["orange_Qty"]);
$bananQty = intval($_POST["banana_Qty"]);
$totalPrice = floatval(str_replace("$", "", $_POST["total_Cost"])); //remove "$"
$paymentType = $_POST["payment"];
```

Figure 2.1a: Receive order value from client

Figure 2.1b: input element in index.html with name attribute

2.2 Check the existence of order.txt

The existence of "order.txt" is being checked (in Figure 2.1c). If it does not exist, it will be created. "order.txt" is important as it is acting as a local database then stores the total order.

```
$filename = "order.txt";

if(!file_exists($filename))
{
    //create file if it doesn't exist
    $fd = fopen($filename, "w");
    fclose($fd);
}
```

Figure 2.1c: Create "order.txt" if does not exist

2.3 Writes order to "order.txt"

After receiving a new order, the amount of each individual will be recorded in "order.txt". Firstly, "order.txt" will be checked if it is empty before writing new data of the new order of each individual fruits into it. This is to prevent existing data from being overwritten if "order.txt" is not empty. If it is not empty, the current data in "order.txt" will be extracted and the quantity of each individual fruits in the new order will be added into the total order in "order.txt" that was just extracted before writing the new total value data into "order.txt" and closing it (in Figure 2.1d).

```
//check if it is empty
filesize = filesize($filename);

//check if file is empty
if($filesize == 0)
{
    //write fresh content to file
        $fd = fopen($filename, "w");
        fwrite($fd, "Total number of apples: $appleQty\nTotal number of oranges: $orangeQty\nTotal number of bananas: $bananaQty");
}
else
{
        $fd = fopen($filename, "r");
        //split orders into list of order strings
        $orderList = explode("\n", fread($fd, $filesize));

        //get total order quantity from database("order.txt")
        $appleQty_total = intval(explode(": ", $orderList[0])[1]);
        $orangeQty_total = intval(explode(": ", $orderList[1])[1]);

        $bananaQty_total = intval(explode(": ", $orderList[2])[1]);

        //add with new order quantities
        $appleQty_total += $appleQty;
        $orangeQty_total += $orangeQty;
        $spananaQty_total += $orangeQty;
        $fd = fopen($filename, "w");
        fwrite($fd, "Total number of apples: $appleQty_total\nTotal number of oranges: $orangeQty_total\nTotal number of bananas: $bananaQty_total");
        flose($fd);
        folse($fd);
```

Figure 2.1d: Reading and writing of data into "order.txt"

2.4 Display of receipt to user

After storing the data into "order.txt", the receipt of the new order that was just made by the user will be send to the user in the form of HTML (in Figure 2.1e). Figure 2 shows an example of the receipt that the user will view after successful order.

```
echo
<html>
 <title>CZ3006 Webpage Project</title>
<meta charset="utf-8">
<link href="css/bootstrap.min.css" rel="stylesheet">
<div class="container" style="margin-top: 75px;">
  Customer: 

    Payment Price: 
:

  </div>
</body>
 function goBackHome()
   location.replace("index.html");
```

Figure 2.1e: Echo HTML to client to display receipt

Documentation

Below are the list of source files required and their details:

- index.html : Main webpage send to the client to order fruits
- style.css: A CSS file to change the layout and appearance of each element in index.html
- bootstrap.min.css: A CSS file by bootstrap to change the layout and appearance of certain elements in index.html
- order.php: Implements the server side logic for this application
- order.txt : A local database to save the total number of each individual fruits ordered
- apple.png : An image used to display image of an apple in index.html
- banana.png: An image used to display image of a banana in index.html
- orange.png : An image used to display image of an orange in index.html
- fruits.jpg : An image used as the background of the webpage display to the client in index.html
- discover.jpg: An image used to display image of Discover in the payment option section

- mastercard.jpg : An image used to display image of MasterCard in the payment option section
- visa.jpg : An image used to display image of VISA in the payment option section

Source code

1. index.html

```
<!DOCTYPE html>
     □<html>
□<head>
              <title>CZ3006 Webpage Project</title>
             <meta charset="utf-8">
<link rel="stylesheet" href="css/bootstrap.min.css">
<link rel="stylesheet" href="styles.css">
8 9 10 112 13 14 15 16 17 18 19 0 22 12 22 3 25 26 27 28 9 30 31 32 33 34 44 44 45 64 47
     chody>
class="container">
div class="container">
class="welcome
                   <div class="welcome">
                         center><font color="white" size="10"><b>Welcome to FruitsOnline</b></font></center>
                   <form action="order.php" id="orderForm" method="post">
                         <div class="usernameContainer"
                             <label for="usernameID" font-size="25px">Username:
                               <input id="usernameID" name="userName" type="text" placeholder="username" required>
                         </div>

                               <thread>
                                    <font size="5">Fruit</font>
<font size="5">Price</font>
<font size="5">Quantity</font>

                               </thread>

<!-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
</id>

<i-- All HTML are objects so need 'this' -->
<i-- All HTML are objects so need 'this' -->
</id>

<i-> Apple
</i> Apple

<i-> Apple
<i-> Apple

<i-> Class="quantityTextBox" type="text" placeholder="0" onchange="ohangesToValue(this.id]">

                                     <img src="images/orange.png" height="40" width="40"/><font size="5"> Orange</font>

    <img src="images/banana.png" height="40" width="40"/><font size="5"> Banana</font>
```

```
49
51
52
53
54
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60
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63
66
67
68
66
67
77
72
74
75
68
77
88
79
80
81
82
82
88
84
                       <input =
</div
</div
</div class="paymentContainer">

<colgroup>
                                 <col width="250px">
<col width="250px">
                                  </colgroup>
                                      cth><img src="images/visa.jpg" height="50" width="75">
<img src="images/mastercard.jpg" height="50" width="75">
<img src="images/discover.jpg" height="50" width="75">

<label for="visaID" font-size="25px">Visa</label><br>
<input id="visaID" name="payment" class="paymentOption" type="radio" value="Visa" checked>

                                           >
                                            <label for="discoverID" font-size="25px">Discover</label><br/>
<input id="discoverID" name="payment" class="paymentOption" type="radio" value="Discover">

<
             </div>
88 <!-- All Javascript after body section -->
89 = <script type="text/javascript">
              function calculateTotalCost()
 92
93
94
95
96
97
98
99
                     //sum up the data
                     var totalPrice = 0;
                    //only sum up the price if the quantity of that fruit is not ""
//sum up in whole number before dividing by 100 to prevent Rounding Error
if(document.getElementById("appleQty").value != "")
                    totalPrice = totalPrice + parseInt(document.getElementBvId("bananaOtv").value) * 39;
103
104
                    //set the total cost to the display of total cost textbox document.getElementById("totalCost").value = "$" + (totalPrice/100).toString();
105
106
107
                     if(document.getElementById("totalCost").value == "$0")
    document.getElementById("totalCost").value = "$0.00";
108
109
               function changesToValue(identity)
112
113
114
                    //validate latest input
if(validations(identity))
115
116
                           calculateTotalCost();
                                                              //calculate total and display if validation passes
117
118
119
                     enableSubmitBtn():
               function enableSubmitBtn()
                     //for enabling and disabling of submit button
if(document.getElementById("totalCost").value == "$0.00" || document.getElementById("totalCost").value == "NaN")
    document.getElementById("submitBtnID").setAttribute("disabled", "disabled");
123
124
                           document.getElementById("submitBtnID").removeAttribute("disabled"); //only when user keyed in username
```

```
//works for "" as well
function isInt(n)
                     return n%1 === 0;
133
134
135
136
137 \boxminus
138
139
               //reset all "" in quantity textbox to "0"
function resetValue()
                    //reset quantity textbox value to 0 if is ""
document.getElementById("appleQty").value == "";
document.getElementById("orangeQty").value = "";
document.getElementById("bananaQty").value = "";
139
140
141
142 -
143
144
145 -
146
147
148 -
                     //check if it is a number, NaN = Not a Number, or if it is empty if(!isNaN(document.getElementById(identity).value) || document.getElementById(identity).value == "")
                           if(isInt(document.getElementById(identity).value))
                                if(parseInt(document.getElementById(identity).value) > -1 || document.getElementById(identity).value == "")
                                       return true; //return when user input is correct
154
155
156
                                      alert("Please input 0 or amount larger than 0.") //inform user to input again
                                alert ("Please input whole numbers only.") //inform user to input again
                     else
160
161
                           alert("Please input numbers only."); //inform user to input again
                     //reset to empty again
163
164
                    document.getElementById(identity).value = "";
document.getElementById("totalCost").value = "NaN"; //set total cost textbox to "NaN"
```

2. order.php

```
//pop out of memory (close(Edd))
for interfers, "rotal number of applies: SappleQty_total\nrotal number of oranges: SorangeQty_total\nrotal number of bananas: ShananaQty_total";
foliac(Edd))
foliac(Edd)

cacho
dhaml)
dhaml)
dhaml)
dhaml)
dhaml
dh
```