



**NANYANG**  
**TECHNOLOGICAL**  
**UNIVERSITY**

## **CZ3006 Net-Centric Computing**

### **Lab Assignment II:**

### **Web applications using JavaScript and PHP**

Lab Group: TS2

Index Number: TS2U6

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## Description of HTML

### 1) Web UI Design of the fruit order form page

Welcome to SCSE's Online Fruit Stall

Enter Your Name:

Enter your quantity for each fruit:

Fruit	Price	Quantity
Apple	\$0.69	<input type="text"/>
Orange	\$0.59	<input type="text"/>
Banana	\$0.39	<input type="text"/>

Total cost: \$

Payment Method

☐ Visa  
☐ Master Card  
☐ Discover

Figure 1: Order form page

The design of the fruit order form is designed to be simple and intuitive for users. In sequence from top to bottom, users will first enter their names, then enter the quantity of each fruit they wish to order, and lastly choose their payment method and submit form.

### 2) Validate quantity of fruits textboxes

155.69.100.36 says  
asd is not a number. Please enter a number!

OK

Enter Your Name:

Enter your quantity for each fruit:

Fruit	Price	Quantity
Apple	\$0.69	asd
Orange	\$0.59	<input type="text"/>
Banana	\$0.39	<input type="text"/>

Figure 2.1: Javascript alert - input is not a number

Since quantity of fruits must be a number, we can allow user to input digits. When user inputs a non-positive number in the "Quantity" field textboxes, upon changing focus from the field, an alert will be prompted to request user to re-enter the value, as shown in Fig 2.1.

```
140 <script type = "text/javascript">
141 <!--
142 // Set form element object properties to the event handler function
143 var appleNode = document.getElementById("apple");
144 var orangeNode = document.getElementById("orange");
145 var bananaNode = document.getElementById("banana");
146 appleNode.addEventListener("change", checkNum, false);
147 orangeNode.addEventListener("change", checkNum, false);
148 bananaNode.addEventListener("change", checkNum, false);
149 </script>
```

Figure 3.2: Set form element object properties to event handler function

```

17 //Alert if input NaN
18 function checkNum(event) {
19     //set myNum to the current Node;
20     var myNum = event.currentTarget;
21     var pos = isNaN(myNum.value);
22     if (pos!=0) {
23         alert(myNum.value+" is not a number. Please enter a number!");
24         myNum.focus();
25         myNum.select();
26     }
27 }

```

Figure 4.3: Implementation of 'checkNum(event)' in JavaScript

In figure 2.2, the form elements are set to the event handler function. Whenever a 'change' in focus from the element occurs, it will trigger the *checkNum(event)* function to run. The *checkNum(event)* function is shown in figure 2.3, in which it checks that the value passed is a number. In the case of figure 2.1, since the input is not a number, an alert will be prompted to ask user to re-input a valid number by re-focusing and selecting the invalid field.

### 3) Calculation of total cost

```

29 //calculate total cost
30 function setTotal() {
31     apple_value = appleNode.value;
32     orange_value = orangeNode.value;
33     banana_value = bananaNode.value;
34     if (appleNode.value == '') apple_value = '0';
35     if (orangeNode.value == '') orange_value = '0';
36     if (bananaNode.value == '') banana_value = '0';
37     total = document.getElementById("total");
38     var tot = (parseFloat(apple_value) * 69.0 + parseFloat(orange_value) *
39         59.0 + parseFloat(banana_value) * 39.0) / 100.0;
40     total.value = "$ " + parseFloat(tot);
41
42     if(isNaN(tot)){
43         return false;
44     }
45     else return true;
46 }

```

Figure 3.1: Implementation of 'setTotal()' in JavaScript

```

<tr>
  <td align = "center" style="background-color:red"> Apple </td>
  <td align = "center"> $0.69 </td>
  <td align = "center">
    <input type="text" name="apple" id="apple" size="11" onchange="setTotal();" />
  </td>
</tr>
<tr>
  <td align = "center" style="background-color:orange"> Orange </td>
  <td align = "center"> $0.59 </td>
  <td align = "center">
    <input type="text" name="orange" id="orange" size="11" onchange="setTotal();" />
  </td>
</tr>
<tr>
  <td align = "center" style="background-color:yellow"> Banana </td>
  <td align = "center"> $0.39 </td>
  <td align = "center">
    <input type="text" name="banana" id="banana" size="11" onchange="setTotal();" />
  </td>
</tr>

```

Figure 3.2: Implementation of 'onchange="setTotal()"' in html

The total cost of all the fruits are calculated based on the function *setTotal()*, as shown in figure 3.1. The function takes in the values of the orange, apple and banana objects, multiply each

value with its corresponding price and sums up the results to get the total cost of all the fruits. To dynamically update the total cost of the fruits, the `onchange = "setTotal()"` property is added in each of the input elements of each fruit as shown in figure 3.2. Whenever there is a change in input value of the quantity of each fruit, the new value of the total cost will be calculated.

#### 4) Validation on submission of form

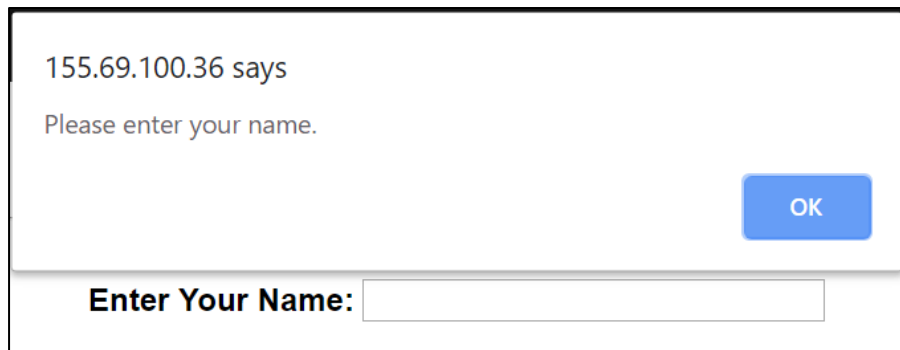


Figure 4.1: Javascript alert – name field is empty

```
70 <form id="myForm" action = "http://155.69.100.36/ts2u6/as2/fruitstall.php"
71   onsubmit="return validate();" method = "post">
```

Figure 4.2: Implementation of “onsubmit = return validate()” in html

```
//validate if name field is empty
function validate() {
    // check if name field is filled up
    nameNode = document.getElementById("custName");
    if (nameNode.value == "") {
        alert("Please enter your name.");
        nameNode.focus();
        return false;
    }
    // check if user has input invalid numbers
    if (!setTotal()){
        alert("Please enter valid quantity!");
        return false;
    }
    return true;
}
```

Figure 4.3: Implementation of validate() function in JavaScript

An alert will be prompted if user tries to submit the form without entering their name or with a “NaN” total cost value. This is implemented by setting `onsubmit="return validate()"` in the form element shown in figure 4.2. The function `validate()` is shown in figure 4.3 in JavaScript, whereby it checks if the name value is empty and also checks if the total cost is “NaN”. Whenever one of them is true, an alert will be prompted, and user will be unable to submit the form.

## Description of PHP

### 1) Read and writing new values into the file

```
//open file and get contents
$filename = 'order.txt';
$file = fopen($filename, 'r+');
$file_contents = file_get_contents($filename);
$cur_apple=0;
$cur_orange=0;
$cur_banana=0;
if ($file_contents != ""){
    preg_match("/Total number of apples: (\d+)/", $file_contents, $cur_apple);
    preg_match("/Total number of oranges: (\d+)/", $file_contents, $cur_orange);
    preg_match("/Total number of bananas: (\d+)/", $file_contents, $cur_banana);
    $cur_apple = intval($cur_apple[1]);
    $cur_orange = intval($cur_orange[1]);
    $cur_banana = intval($cur_banana[1]);
}

//need to start writing from beginning of file
fseek($file,0);

//set new value as a sum of previous value with current value
$next_apple = $cur_apple + $apple;
$next_orange = $cur_orange + $orange;
$next_banana = $cur_banana + $banana;

//append new values into file
$str = "Total number of apples: $next_apple\nTotal number of oranges: $next_orange\nTotal number of bananas: $next_banana";

//write into, and then close the file to save
fwrite($file, $str);
fclose($file);
```

Figure 5.1: PHP implementation of modifying file

As shown clearly in figure 5.1, the file 'order.txt' is opened and its contents are fetched and assign to the respective pointers cur\_apple, cur\_orange and cur\_banana. These values are summed with the new values and the sum is stored in the respective pointers next\_apple next\_orange and next\_banana. These updated sum of each total number of fruits will be appended into the file by overwriting all the original values in the file.

```
//get form data values
$custName = $_POST["custName"];
$apple = $_POST["apple"];
$orange = $_POST["orange"];
$banana = $_POST["banana"];
$payment = $_POST["payment"];

//if quantity is blank, set value to zero
if ($apple == "") $apple = 0;
if ($orange == "") $orange = 0;
if ($banana == "") $banana = 0;

//Calculate total cost
$apple_cost = 0.69 * $apple;
$orange_cost = 0.59 * $orange;
$banana_cost = 0.39 * $banana;
$total = $apple_cost + $orange_cost + $banana_cost;
$total_items = $apple + $orange + $banana;
```

Figure 5.1: PHP implementation of calculating total cost

The figure above shows the implementation of getting the values from the html form and using them to calculate the total cost of all fruits. If any of the values are empty, a value of '0' is set.

## Listing all source files

### 1) fruitstall.html

```
13 <script type = "text/javascript">
14 <!--
15 // Event Handlers
16
17 //Alert if input NaN
18 function checkNum(event){
19     //set myNum to the current Node;
20     var myNum = event.currentTarget;
21     var pos = isNaN(myNum.value);
22     if (pos!=0){
23         alert(myNum.value+" is not a number. Please enter a number!");
24         myNum.focus();
25         myNum.select();
26     }
27 }
28
29 //calculate total cost
30 function setTotal() {
31     apple_value = appleNode.value;
32     orange_value = orangeNode.value;
33     banana_value = bananaNode.value;
34     if (appleNode.value == '') apple_value = '0';
35     if (orangeNode.value == '') orange_value = '0';
36     if (bananaNode.value == '') banana_value = '0';
37     total = document.getElementById("total");
38     var tot = (parseFloat(apple_value) * 69.0 + parseFloat(orange_value) *
39         59.0 + parseFloat(banana_value) * 39.0) / 100.0;
40     total.value = "$ " + parseFloat(tot);
41
42     if(isNaN(tot)){
43         return false;
44     }
45     else return true;
46 }
47
48 //validate if name field is empty
49 function validate() {
50     // check if name field is filled up
51     nameNode = document.getElementById("custName");
52     if (nameNode.value == "") {
53         alert("Please enter your name.");
54         nameNode.focus();
55         return false;
56     }
57     // check if user has input invalid numbers
58     if (!setTotal()){
59         alert("Please enter valid quantity!");
60         return false;
61     }
62     return true;
63 }
```

```

67 </head>
68 <body align="center" style="background-image: url(https://www.healthhub.sg/sites/assets/Assets/Pr
69 <font face="Arial">
70 <form id="myForm" action = "http://155.69.100.36/ts2u6/as2/fruitstall.php"
71     onsubmit="return validate();" method = "post">
72
73     <h2> Welcome to SCSE's Online Fruit Stall </h2><hr><br>
74
75     <!-- Input user name-->
76     <table align="center">
77         <tr>
78             <td><b>Enter Your Name: </b></td>
79             <td><input type="text" id= "custName" name="custName" size="30"/> </td>
80         </tr>
81     </table>
82     <br>
83
84     <!-- Order Table-->
85     <table border = "5" align="center" style="background-color: #E1F5FE">
86     <caption><b>Enter your quantity for each fruit:</b></caption>
87     <tr>
88         <th width="100"> Fruit </th>
89         <th width="100"> Price </th>
90         <th width="100"> Quantity </th>
91     </tr>
92     <tr>
93         <td align = "center" style="background-color:red"> Apple </td>
94         <td align = "center"> $0.69 </td>
95         <td align = "center">
96             <input type="text" name="apple" id="apple" size="11" onchange="setTotal();" />
97         </td>
98     </tr>
99     <tr>
100        <td align = "center" style="background-color:orange"> Orange </td>
101        <td align = "center"> $0.59 </td>
102        <td align = "center">
103            <input type="text" name="orange" id="orange" size="11" onchange="setTotal();" />
104        </td>
105    </tr>
106    <tr>
107        <td align = "center" style="background-color:yellow"> Banana </td>
108        <td align = "center"> $0.39 </td>
109        <td align = "center">
110            <input type="text" name="banana" id="banana" size="11" onchange="setTotal();" />
111        </td>
112    </tr>
113 </table>
114 <p />
115
116 <!-- Total Cost display-->
117 <tr>
118     <th><b>Total cost:</b></th>
119     <th>
120         <!-- blur field to prevent user input-->
121         <input type="text" name="total" id="total" placeholder="0" onfocus = "this.blur();" />
122     </th>
123 </tr>
124
125 <!-- The radio buttons for the payment method -->
126 <h3> Payment Method </h3>
127 <p>
128     <input type = "radio" name = "payment" value = "Visa"
129         checked = "checked" /> Visa <br />
130     <input type = "radio" name = "payment" value = "MasterCard" />
131         Master Card <br />
132     <input type = "radio" name = "payment" value = "Discover" />
133         Discover <br /><br>
134
135     <!-- The submit and reset buttons -->
136     <input type = "submit" value = "Submit Order" />
137     <input type = "reset" value = "Clear Order Form" />
138 </p>
139 </form>
140 <script type = "text/javascript">
141 <!--
142 // Set form element object properties to the event handler function
143 var appleNode = document.getElementById("apple");
144 var orangeNode = document.getElementById("orange");
145 var bananaNode = document.getElementById("banana");
146 appleNode.addEventListener("change", checkNum, false);
147 orangeNode.addEventListener("change", checkNum, false);
148 bananaNode.addEventListener("change", checkNum, false);
149 </script>
150 </font>
151 </body>
152 </html>
153

```

## 2) fruitstall.php

```
17 //get form data values
18 $custName = $_POST["custName"];
19 $apple = $_POST["apple"];
20 $orange = $_POST["orange"];
21 $banana = $_POST["banana"];
22 $payment = $_POST["payment"];
23
24 //if quantity is blank, set value to zero
25 if ($apple == "") $apple = 0;
26 if ($orange == "") $orange = 0;
27 if ($banana == "") $banana = 0;
28
29 //Calculate total cost
30 $apple_cost = 0.69 * $apple;
31 $orange_cost = 0.59 * $orange;
32 $banana_cost = 0.39 * $banana;
33 $total = $apple_cost + $orange_cost + $banana_cost;
34 $total_items = $apple + $orange + $banana;
35
36 //open file and get contents
37 $filename = 'order.txt';
38 $file = fopen($filename, 'r+');
39 $file_contents = file_get_contents($filename);
40 $cur_apple=0;
41 $cur_orange=0;
42 $cur_banana=0;
43 if ($file_contents != ""){
44     preg_match("/Total number of apples: (\d+)/", $file_contents, $cur_apple);
45     preg_match("/Total number of oranges: (\d+)/", $file_contents, $cur_orange);
46     preg_match("/Total number of bananas: (\d+)/", $file_contents, $cur_banana);
47     $cur_apple = intval($cur_apple[1]);
48     $cur_orange = intval($cur_orange[1]);
49     $cur_banana = intval($cur_banana[1]);
50 }
51 //need to start writing from beginning of file
52 fseek($file,0);
53
54 //set new value as a sum of previous value with current value
55 $next_apple = $cur_apple + $apple;
56 $next_orange = $cur_orange + $orange;
57 $next_banana = $cur_banana + $banana;
58
59 //append new values into file
60 $str = "Total number of apples: $next_apple\nTotal number of oranges: $next_orange\nTotal number of bananas: $next_banana";
61
62 //write into, and then close the file to save
63 fwrite($file, $str);
64 fclose($file);
```



```

68 <h3>-----RECEIPT-----</h3>
69
70 <table align="center" border = "border" style="background-color: white">
71   <caption> Order Information </caption>
72   <tr>
73     <th width="100"> Fruit </th>
74     <th width="100"> Unit Price </th>
75     <th width="100"> Quantity Ordered </th>
76     <th width="100"> Item Cost </th>
77   </tr>
78   <tr align = "center">
79     <td style="background-color:red"> Apple </td>
80     <td> $0.69 </td>
81     <td> <?php print ("{$apple}"); ?> </td>
82     <td> <?php printf ("$ %4.2f", $apple_cost); ?>
83     </td>
84   </tr>
85   <tr align = "center">
86     <td style="background-color:orange"> Orange </td>
87     <td> $0.59 </td>
88     <td> <?php print ("{$orange}"); ?> </td>
89     <td> <?php printf ("$ %4.2f", $orange_cost); ?>
90     </td>
91   </tr>
92   <tr align = "center">
93     <td style="background-color:yellow"> Banana </td>
94     <td> $0.39 </td>
95     <td> <?php print ("{$banana}"); ?> </td>
96     <td> <?php printf ("$ %4.2f", $banana_cost); ?>
97     </td>
98   </tr>
99 </table>
100 <p /> <p />
101
102 <?php
103   print ("Name: <b>{$custName} </b><br />");
104   print ("Total fruits: <b>{$total_items}</b> <br />");
105   printf ("Total bill: <b> $ %5.2f </b><br />", $total);
106   print ("Payment Method:<b> $payment </b> <br />");
107   print ("<br>Thank you and hope to see you again!");
108   ?>
109
110 </body>
111 </html>

```