

**Assignment 2 Report**

CSC 302: Net Centric Computing

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1. **Implementation**
   1. **Client Side (index.htm)**

In the index.htm file, the html document contains the order form where the user can input his name, number of fruits he/she can order, and his/her mode of payment.

Aside from the html code, Javascript codes are implemented to check for invalid input, form completion and calculating the expected amount the user may pay.

ChkQty1, chkQty2, and chkQty3 are used to check if the user’s input is valid. Num.value.search(/^\d+$/) is used to check whether there are non-numeric characters in the quantity fields. If they exist, it checks first whether the string contains a negative value, and returns a message prompting the user to put in a positive value. Otherwise, the program returns an error message that his/her input is invalid. Both errors will display “NaN” in the total amount text box which is onblur.

ComputeBill is used to give the user the expected amount that he/she has to pay in the transaction. Before computing for the total value, the function checks if at least one of the three fields contains a negative value, and if one of them does, the total amount text box will display “NaN.”

IsEmpty is used to check if all fields are complete, and if one of the fields are incomplete, the program returns an error message saying that all fields must be completed, and the server side denies the form from being processed.

* 1. **Server Side (submit.php)**

Submit.php is triggered when the user submits the form, and only processes the form if all fields are completed otherwise the program returns an error message. When the form is processed, an html document serving as a receipt is generated containing the details of the transaction including a computation of the total amount that the user has to pay.

For the tally function of the program, the PHP code checks first whether the file exists. If it does not, then fopen($file,"c+") creates the file. If it does, then fgets reads each line of the code and store it in an array until the end of file (feof). Afterwards, substr() function captures the total number of each fruit being sold and stores it in the $inv*[fruit]* variables. Those variables are updated whenever the user has a successful transaction. After each successful transaction, the file is rewritten with the updated information with the use of the c function of fopen, and during that process, the file is locked so that other processes cannot access it.

As an added measure in case the user disables Javascript or the user’s browser does not use Javascript, the server side has its own checks for incomplete fields, and invalid inputs.

1. **Source Codes**
   1. **index.htm**

<!DOCTYPE html>

<html>

<head>

<title>Fruit Vendor</title>

<script type = "text/javascript">

function chkQty1() {

var num = document.getElementById("qtyA");//gets string

var x = document.getElementById("qtyA").value;//gets number

var chk = num.value.search(/^\d+$/);

if (chk != 0) {

if(x < 0) {//negative number case

alert("Please input a non-negative digit in the apple text field.");

document.getElementById("bill").value = "NaN";

num.focus();

num.select();

return false;

}

else {//non-numeric character case

alert("Please input a digit in the apple text field.");

document.getElementById("bill").value = "NaN";

num.focus();

num.select();

return false;

}

}

else {

computeBill();

return true;

}

}

function chkQty2() {

var num = document.getElementById("qtyO");

var x = document.getElementById("qtyO").value;

var chk = num.value.search(/^\d+$/);

if (chk != 0) {

if(x < 0) {

alert("Please input a non-negative digit in the orange text field.");

document.getElementById("bill").value = "NaN";

num.focus();

num.select();

return false;

}

else {

alert("Please input a digit in the orange text field.");

document.getElementById("bill").value = "NaN";

num.focus();

num.select();

return false;

}

}

else {

computeBill();

return true;

}

}

function chkQty3() {

var num = document.getElementById("qtyB");

var x = document.getElementById("qtyB").value;

var chk = num.value.search(/^\d+$/);

if (chk < 0) {

if(x < 0) {

alert("Please input a non-negative digit in the banana text field.");

document.getElementById("bill").value = "NaN";

num.focus();

num.select();

return false;

}

else {

alert("Please input a digit in the banana text field.");

document.getElementById("bill").value = "NaN";

num.focus();

num.select();

return false;

}

}

else {

computeBill();

return true;

}

}

function computeBill() {

var a = document.getElementById("qtyA").value;

var o = document.getElementById("qtyO").value;

var b = document.getElementById("qtyB").value;

if (a < 0 || o < 0 || b < 0) //checks if there are negative inputs from other fields

document.getElementById("bill").value = "NaN";

else {

var t = a \* 0.69 + o \* 0.59 + b \* 0.39;

total = t.toFixed(2);

document.getElementById("bill").value = total;

}

}

function isEmpty() {//checks if all fields are complete

if (document.getElementById("qtyA").value == "" || document.getElementById("qtyO").value == "" ||document.getElementById("qtyB").value == "" ||

document.getElementById("name").value == "" || (document.getElementById("visa").checked == false && document.getElementById("master").checked == false && document.getElementById("discover").checked == false)){

alert("Please fill out all fields.");

return false;

}

}

</script>

</head>

<body>

<form action="submit.php" method="post">

<p>Name: <input type="text" name="customer" id="name"></p>

&nbsp;

<table border="border">

<tr>

<th> Product Name </th>

<th> Unit Price (SGD) </th>

<th> Quantity </th>

</tr>

<tr>

<td> Apple </td>

<td> 0.69 </td>

<td> <input type="text" name="apples" id="qtyA"> </td>

</tr>

<tr>

<td> Orange </td>

<td> 0.59 </td>

<td> <input type="text" name="oranges" id="qtyO"> </td>

</tr>

<tr>

<td> Banana </td>

<td> 0.39 </td>

<td> <input type="text" name="bananas" id="qtyB"> </td>

</tr>

</table>

&nbsp;

<p>Total Cost: <input type="text" name="total" id="bill"onfocus = "this.blur();"></p>

&nbsp;

<p>

<input type = "radio" name = "mode" value = "Visa" id="visa"/> Visa

<input type = "radio" name = "mode" value = "MasterCard" id="master"/> MasterCard

<input type = "radio" name = "mode" value = "Discover" id="discover"/> Discover

</p>

&nbsp;

<!--checks for incomplete or improperly answered fields.-->

<input type = "submit" value = "Submit" onclick = "isEmpty();chkQty1();chkQty2();chkQty3();"/>

</form>

<script type = "text/javascript">

document.getElementById("qtyA").onchange = chkQty1;

document.getElementById("qtyO").onchange = chkQty2;

document.getElementById("qtyB").onchange = chkQty3;

</script>

</body>

</html>

* 1. **submit.php**

<!DOCTYPE html>

<?php

$file = 'order.txt';

//fix from http://php.net/manual/en/function.fgets.php#92397

//checks if file exists

if(file\_exists($file)){

if($fhandle = fopen($file,"r")){

//tests if at EOF, break if at EOF

while (!feof($fhandle)){

$contents[] = fgets($fhandle);

}

fclose($fhandle);

}

} else {

fopen($file,"c+");//c is create file function in php. Creates file. From: http://php.net/manual/en/function.fopen.php

}

//gets current tally

$invA = substr($contents[0], 24);

$invO = substr($contents[1], 25);

$invB = substr($contents[2], 25);

$name = $\_POST['customer'];

$oranges = $\_POST['oranges'];

$apples = $\_POST['apples'];

$bananas = $\_POST['bananas'];

$card = $\_POST['mode'];

//simpler implementation, form checking code http://stackoverflow.com/a/14251049

$fields = array('customer','oranges','apples','bananas','mode');

$int\_fields = array('oranges','apples','bananas');

$error = false;

foreach($fields AS $fieldname) {

if(!isset($\_POST[$fieldname]) || empty($\_POST[$fieldname])) {

echo "An entry was not filled out. Please check and try again.<br/>" . '<a href="javascript:history.go(-1)">Click here to go back.</a>';

//javascript:history.go(-1) brings the user back to the former page

die();//like break(); in Java

}

}

//checks for negative number and non-numeric input

foreach($int\_fields AS $number) {

if(!is\_numeric($\_POST[$number]) || $\_POST[$number] < 0) {

echo "Please input a positive number. Please check and try again.<br/>" . '<a href="javascript:history.go(-1)">Try again?</a>';

die();

}

}

//updates tally

$invA = $invA + $apples;

$invO = $invO + $oranges;

$invB = $invB + $bananas;

//computes cost

$O = $oranges\*.59;

$totalO = number\_format($O, 2);

$A = $apples\*.69;

$totalA = number\_format($A, 2);

$B = $bananas\*.39;

$totalB = number\_format($B, 2);

$x = $totalO + $totalA + $totalB;

$total = number\_format($x, 2);

?>

<html>

<head>

<title>Receipt</title>

</head>

<body>

<h1>Order Receipt</h1>

&nbsp;

<p>Name: <?php print $\_POST['customer']; ?></p>

&nbsp;

<table border = "border">

<tr>

<th> Item </th>

<th> Quantity </th>

<th> Unit Price (SGD) </th>

<th> Amount (SGD) </th>

</tr>

<tr>

<td> Apple(s) </td>

<td> <?php print $\_POST['apples']; ?> </td>

<td> 0.69 </td>

<td> <?php print $totalA; ?> </td>

</tr>

<tr>

<td> Orange(s) </td>

<td> <?php print $\_POST['oranges']; ?> </td>

<td> 0.59 </td>

<td> <?php print $totalO; ?> </td>

</tr>

<tr>

<td> Banana(s) </td>

<td> <?php print $\_POST['bananas']; ?> </td>

<td> 0.39 </td>

<td> <?php print $totalB; ?> </td>

</tr>

<tr>

<td colspan="4"> Total Payment (SGD): <?php print $total; ?> </td>

</tr>

<tr>

<td colspan="4"> Mode of Payment: <?php print $\_POST['mode']; ?> </td>

</tr>

</table>

&nbsp;

<a href="../Lab2/index.htm">Back to Order Form</a>

</body>

</html>

<?php

/\*

http://php.net/manual/en/function.ftruncate.php#104455

> "If you want to empty a file of it's contents bare in mind that opening a file in w mode truncates the file automatically"

\*/

if (file\_exists($file)) {

$fupdate = fopen("./order.txt", "c");

} else {

echo "File does not exist";

die();

}

if (flock($fupdate, LOCK\_EX)) {

fwrite($fupdate, "Total number of apples: ".$invA."\r\n"); //for flexibility on multiple OS (Mac, Windows, Linux)

fwrite($fupdate, "Total number of oranges: ".$invO."\r\n");

fwrite($fupdate, "Total number of bananas: ".$invB."\r\n");

flock($fupdate, LOCK\_UN);

} else {

echo "Couldn't get the lock!";

die();

}

fclose($fupdate);

?>