

## Sample solution to Ex1

### Question 1

Total 15 marks

a. File Ex1.php

```
<html>
<meta http-equiv="content-type" content="text/html; charset=utf-8"
/>
<head>
<script type="text/javascript">

/*
*Mouseout function to reset innerHTML to an empty string
*@param null
*@return null
*/
function mout(k) {
    //remove image
    document.getElementById("l1messageBACK").innerHTML = "";
}

var xmlhttp = null;

/*
*Mouse over function to create xmlhttprequest object,
*prepare readystate, evoke open() and send()
*@param variable str
*@return null
*/
function movr(str)
{
    if(xmlhttp==null) {
        //create xmlhttp object
        if (window.XMLHttpRequest)
        { // code for IE7+, Firefox, Chrome, Opera, Safari
            try{
                xmlhttp=new XMLHttpRequest();
            }catch(e) {
                xmlhttp = null;
            }
        }
        else
        { // code for IE6, IE5
            try{
                xmlhttp=new ActiveXObject("Microsoft.XMLHTTP");
            }catch(e) {
                xmlhttp = null;
            }
        }
    }

    if(xmlhttp!=null)
    {
        //prepare a function to handle server response
        xmlhttp.onreadystatechange=function()
        {
            if (xmlhttp.readyState==4 && xmlhttp.status==200)
            {
                document.getElementById
```

```

        ("11messageBACK").innerHTML+xmlhttp.responseText;
    }
}
//message to server with URL, async true
xmlhttp.open("GET","imgrecord.php?q="+str,true);
xmlhttp.send(null);
}
else
{
    alert("xmlhttp creation error_0.");
}
}
</script>
</head>

<body>
    <H2>UUU Metropolitan Transportation Authority</H2>
    <H2 align="left"><font color="#820D06">Transportation
        Routes</font></H2>
    <p>
        Route 101:
        <br>
        From Station 1 to Station 8
        <br>
    <?php
        $x=array("1","2","3","4","5","6","7","8");
        $str00 = "<a href=\"#any_URL\" onMouseOver=\"movr(";
        $str01 = ");return true;\" onMouseOut=\"mout(";
        $str02= ");return true;\" onClick=\"return false;\" >Station ";
        $str1 = "</a>&#8594;";
        $str2 = "</a>";
        //Show the stations. Code below can be simplified further
        foreach ($x as $val) {
            if($val!='8') $cmd = $str00.$val.$str01.$val.$str02.$val.str1;
            else $cmd = $str00.$val.$str01.$val.$str02.$val.$str2;
            echo $cmd;
        }
        echo "<br><br>From Station 8 to Station 1<br>";

        foreach ($x as $mval) {
            $val = 9-$mval;
            if($val!='1') $cmd = $str00.$val.$str01.$val.$str02.$val.str1;
            else $cmd = $str00.$val.$str01.$val.$str02.$val.$str2;
            echo $cmd;
        }
    ?>
    </p>
    <span id="11messageBACK"></span>
</body>
</html>

```

(b) File imgrecord.php

```

<?php
    //Send image to client
    if(isset($_GET["q"])) {
        $message = $_GET["q"];
        echo "Street View of Station ".$message."<br>";
        echo "<img src=images/station".$message.".gif width=160

```

```

        height=120>";
    }
?>

```

## Question 2

Testcases (Total 3 marks)

Precondition/setup for the test: Browser Firefox version 7.0.1 and information page

a. GUI layout test

Item number	Execution	Expected results(PASS/FAIL criteria)	Actual result
1	Browser on information page	Should see all items as shown in screen capture 1.	PASS

b. Functional tests for the information page

Item number	Execution	Expected results(PASS/FAIL criteria)	Actual result
1	Mouse icon on station1 string	Image of station1 should appear on the left lower corner of the page	PASS

2	Mouse icon off station1	No image appears on the left lower corner of the page.	PASS
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Ditto the above testcases for station 2 to station 8

PASS

Ditto the above for Route 101: From station 8 to station 1..

PASS

## Question 3

Written summary (Total 2 marks)

Precondition/setup for the test: Browser Firefox

**Summary(250 words):** UUU Metro Transportation Authority web page design summary

**Purpose:** To allow customers to view pictorial information of a station instantly on a browser.

**Web page contents and layout design:**

This one page feature contains the name of the Authority, the route number, a text sequence of the names of station 1 to 8 and a text sequence in the reverse direction.

**Functional requirements:**

1. When the mouse icon is on top of a station name, an image of the station appears at the left-bottom corner.
2. When the mouse icon is off a station name, no image appears.
3. The on and off of an image should happen on the same page.

**Server/client side scripting language used:** PHP/Javascript

Source codes: EX1.php and imgrecord.php

**Algorithms and the internals:**

AJAX for interactive interface is used. Ex1.php generates html text sequences of station names in the forward and reverse routes. Each station text is a hyperlink. On Mouse over the station, javascript function movr() is called to create an xmlhttp object. movr() has an inner function for xmlhttp.onreadystatechange which assigns the xmlhttp.responseText to the innerhtml of the element "l1messageBACK" to show the image. On mouse out, mout() is called. It assigns length zero string to the same innerhtml to remove the image. xmlhttp.open() has parameters "GET" and URL with string "imgrecord.php" to process in the server the mouse request and sends via http the image to the client machine. imgrecord.php handles the image by sending back the image tag with the src assigned to an image file in the server image directory.

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