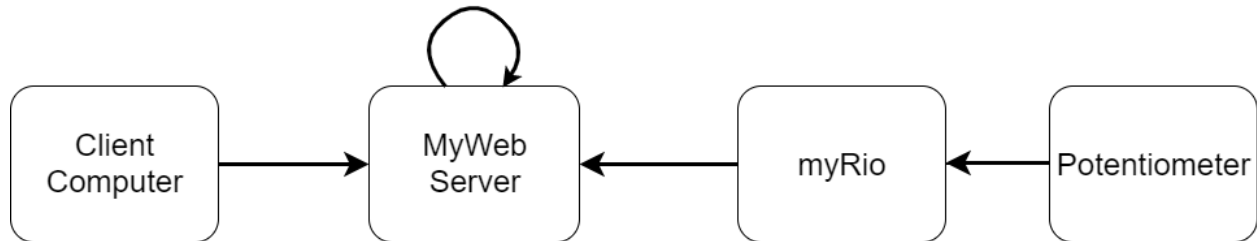
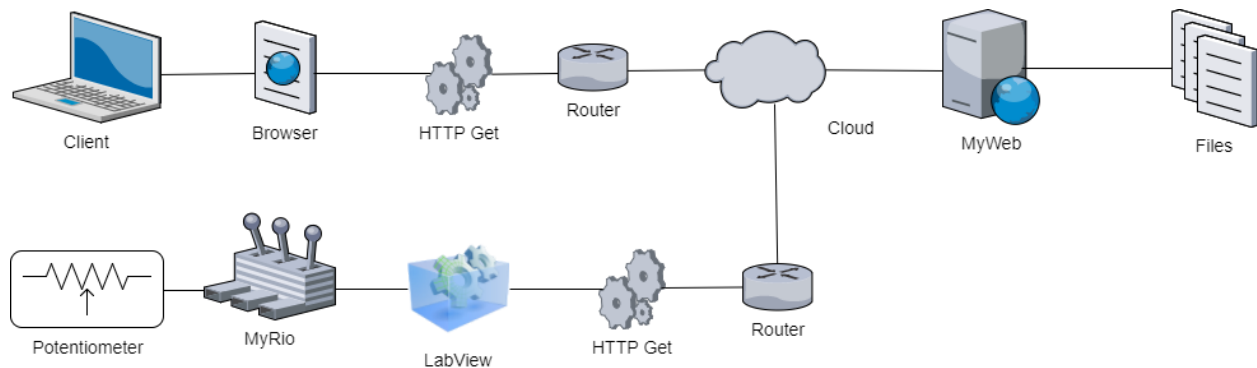


The system is composed of a potentiometer connected to an internet connected myRio device running LabView software. The LabView software and the corresponding program written in the LabView controller read analog input from the potentiometer and write this value to an XML file on the MyWeb server. The XML value is only rewritten when the potentiometer is changed and no longer rounds to the read value.

Hardware Block Diagram



Software/Requests Block Diagram



LabView Front Panel

The LabView Front Panel displays the following elements:

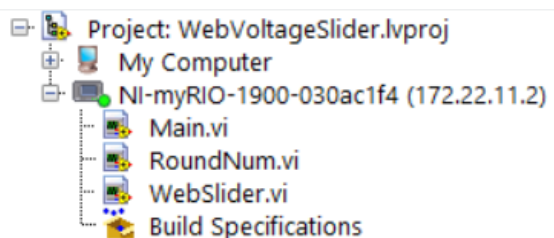
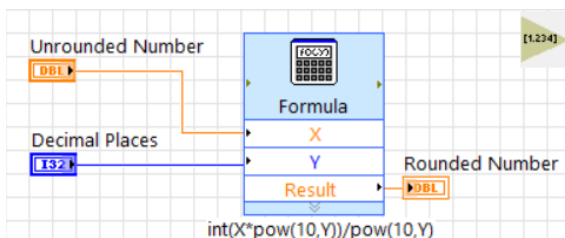
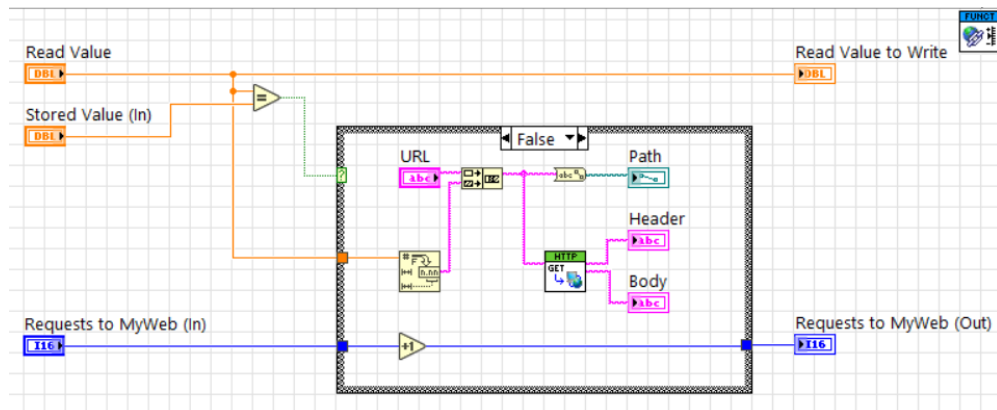
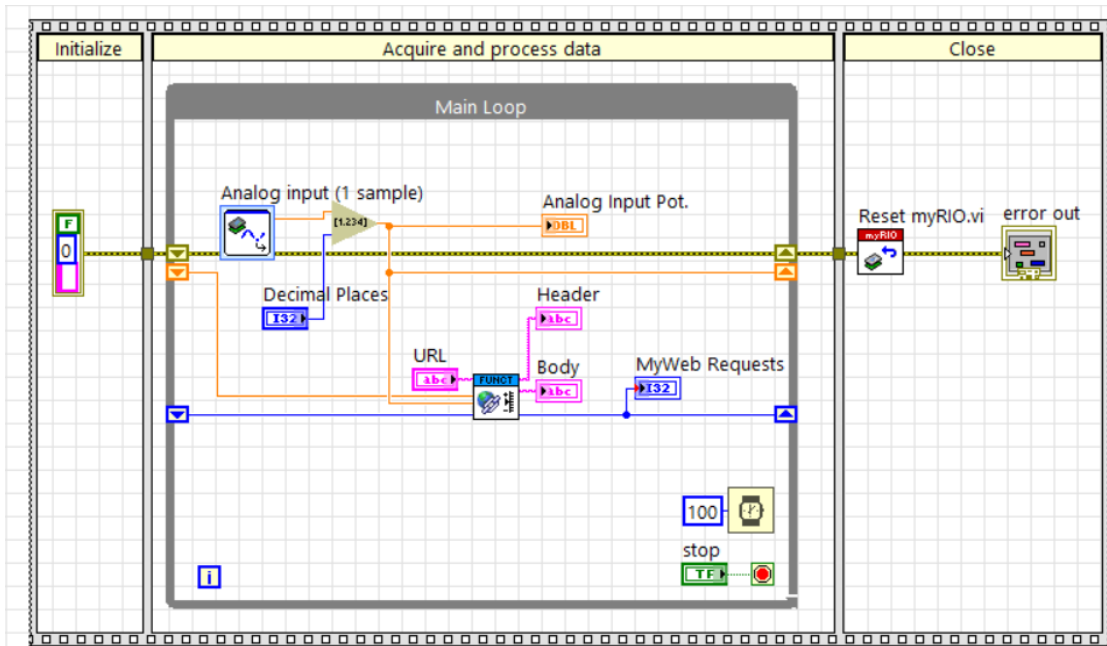
- URL:** `http://myweb.wit.edu/bennetts4/ELEC3800/Lab11/writeVal.php?wrVal=`
- MyWeb Requests:** A numeric input field showing `85`.
- Decimal Places:** A numeric input field showing `1`.
- Analog Input Pot.:** A horizontal slider bar ranging from 0 to 5, with a blue bar indicating the current value of approximately 4.0.
- Header:** A text box containing the following information:

```
HTTP/1.1 200 OK
Connection: close
Date: Tue, 21 Nov 2017 18:13:52 GMT
Server: Microsoft-IIS/6.0
MicrosoftOfficeWebServer: 5.0_Pub
X-Powered-By: ASP.NET
X-Powered-By: PHP/5.2.5
```
- Body:** A text box containing the following HTML code:

```
<html>
<head>
  <title>Write a passed in value to a file</title>
</head>
<body>
  <p> Write Value 4.000000 that is being passed in
to a file </p> <p> Wrote 8 bytes to store
4.000000 in the file C:\WINDOWS\Temp\
TempBennett.tmp </p> </body>
```
- error out:** A section with a status indicator (green dot), a code field showing `0`, and a source field.
- STOP:** A red button labeled `STOP`.

# LabView Block Diagram

(Custom SubVI's shown below with icon representation in upper right corner.)



## Meter.html

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Sensor Value</title>
5 </head>
6 <body>
7   <h1>Sensor Value</h1>
8   <meter id="meterBar" value="0" min="0" max="5"
9   style="height:50px; width:300px">Meter Value</meter>
10  <p>Sensor Value is <span id="sensorValTxt"> 0 </span></p>
11
12  <script src="Lab11_Meter_Bennett.js"></script>
13 </body>
14 </html>
```

## Lab11\_Meter\_Bennett.js

```
1 // Global Variables
2 var URL_strg = "http://myweb.wit.edu/bennetts4/ELEC3800/Lab11/readVal.php";
3 var timerDuration = 100; // How long to wait before refresh value (in ms)
4 var intervalTimer; // handle pointer to timer
5
6 // HTML DOM Element Variables
7 var meterBar;
8 var sensorValTxt
9
10 // Functions
11 function init(){
12   meterBar = document.getElementById("meterBar");
13   sensorValTxt = document.getElementById("sensorValTxt");
14   // Call doHttpRequestForSensorVal after every timerDuration number of ms
15   intervalTimer = setInterval( doHttpRequestForSensorVal, timerDuration );
16 }
17
18 function doHttpRequestForSensorVal (){
19   console.log("Timer done. Callback function called. Now prepare to send HTTP Get\n" );
20   var reqW = new XMLHttpRequest(); // Make object to do this HTTP request
21   reqW.onreadystatechange = cbHttpReqListenerGetSensorValAndDisplay;
22   reqW.open("get", URL_strg, true); // Open HTTP Get for URL_strg
23   reqW.send(); // Send HTTP Request
24 }
25
26 function cbHttpReqListenerGetSensorValAndDisplay () {
27   // Wait until HTTP request is completed
28   if( (this.readyState == 4) ){
29     console.log("HTTP request completed. Status is " + this.status );
30     var newValAsStrg = findValueInResponseXML(this.responseText);
31     var newSensorVal = Number( newValAsStrg );
32     console.log(" New Sensor Value is " + newSensorVal );
33     meterBar.value = newSensorVal;
34     sensorValTxt.innerHTML = newValAsStrg;
35   }
36 }
37
```

```

38- function findValueInResponseXML(msg){
39     var sV0 = "<Value>";
40     var sV1 = "</Value>";
41     return( msg.slice( (msg.indexOf(sV0)) + (sV0.length), msg.indexOf(sV1) ) );
42 }
43
44 // Function Calls
45 window.onload = init;

```

### readVal.php

```

1- <html>
2- <head>
3   <title>Read Value that had been stored in file</title>
4 </head>
5- <body>
6 <?php
7   // Use the same filepath as in the writeVal.php file
8   $filePath = "C:\WINDOWS\Temp\TempBennett.tmp";
9
10  // Get the old count value
11  $fileDataLst = file($filePath);
12  $count = (float) $fileDataLst[0];
13  printf("<p><xml><Value> %f </Value><xml></p>", $count);
14 ?>
15
16 </body>
17 </html>
18- <html>
19- <head>
20   <title>Write a passed in value to a file</title>
21 </head>
22- <body>

```

### writeVal.php

```

1- <html>
2- <head>
3   <title>Write a passed in value to a file</title>
4 </head>
5- <body>
6 <?php
7   $wrVal=$_GET["wrVal"]; // get the value passed into this HTTP GET request
8   printf("<p> Write Value %f that is being passed in to a file </p>", $wrVal);
9   // Set the filepath and filename of file on the server to save the data in
10  $filePath = "C:\WINDOWS\Temp\TempBennett.tmp"; // Fixed path on server
11
12  // Write a value to the file
13  $bytesWrote = file_put_contents( $filePath, $wrVal);
14
15  printf("<p> Wrote %d bytes to store %f in the file %s </p>", $bytesWrote, $wrVal, $filePath );
16 ?>
17 </body>
18 </html>

```