

## DAFTAR PUSTAKA

- Budiharto, Widodo.(2009). Kendali Cerdas Berbasis SMS/Web/TCP-IP. Penerbit Elexmedia Komputindo.
- E. Sazonov, H. Li, D. Curry, P. Pillay, *Self-powered sensors for monitoring of highway bridges.*, *IEEE*, Vol. 9. (2009). hlm 1.422-1.429
- Fiade, Andrew. (2006). Pemrograman Aplikasi Jaringan. Bahan Ajar. Universitas Mercubuana: Program S1 Informatika.
- Filippo Bastianini, Sahra Sedigh and Nestore Galati. (2010). *An Autonomous Networked Wireless device For Structural Health Monitoring*, Department of Electrical and Computer Engineering, University of Missouri.
- H.A. Nababan, Poltak. (2008). *Structural Health Monitoring System Alat Bantu Mempertahankan Usia Teknis Jembatan*.
- Inge, Martina,Ir. (2002). Pemrograman Internet dengan Delphi. Hal. 266, Penerbit Elexmedia komputindo.
- Kristanto, A, (2008), Perancangan Sistem Informasi dan Aplikasinya. Penerbit Gava Media, Yogyakarta.
- Pressman, Roger S. Ph.D. (2002). Rekayasa Perangkat lunak Pendekatan Praktisi, Hal. 497. Penerbit Andi Publisher.
- Winoto, Ardi. (2010). Mikrokontroler AVR ATmega8/32/16/8535 dan Pemrogramannya dengan Bahasa C pada WinAVR. Penerbit Informatika.
- Susilo, Deddy. (2009). 48 Jam Kupas Tuntas Mikrokontroler MCS51 & AVR, Hal 79. Penerbit Andi Yogyakarta.
- Setiawan, Iwan. (2009). Sensor dan Transduser. Bahan Ajar. Universitas Diponegoro: Program S1 Sistem Komputer.

Yong Xu, Zhixiang Zhou, Benniu Zhang. (2010) .*Electrical and Mechanical Character of Smart Film for Crack Monitoring of Concrete Bridges*, 1. Southwest Jiaotong University, Chengdu 610031,China; 2. Chongqing Jiaotong University, Chongqing, 400074. China.

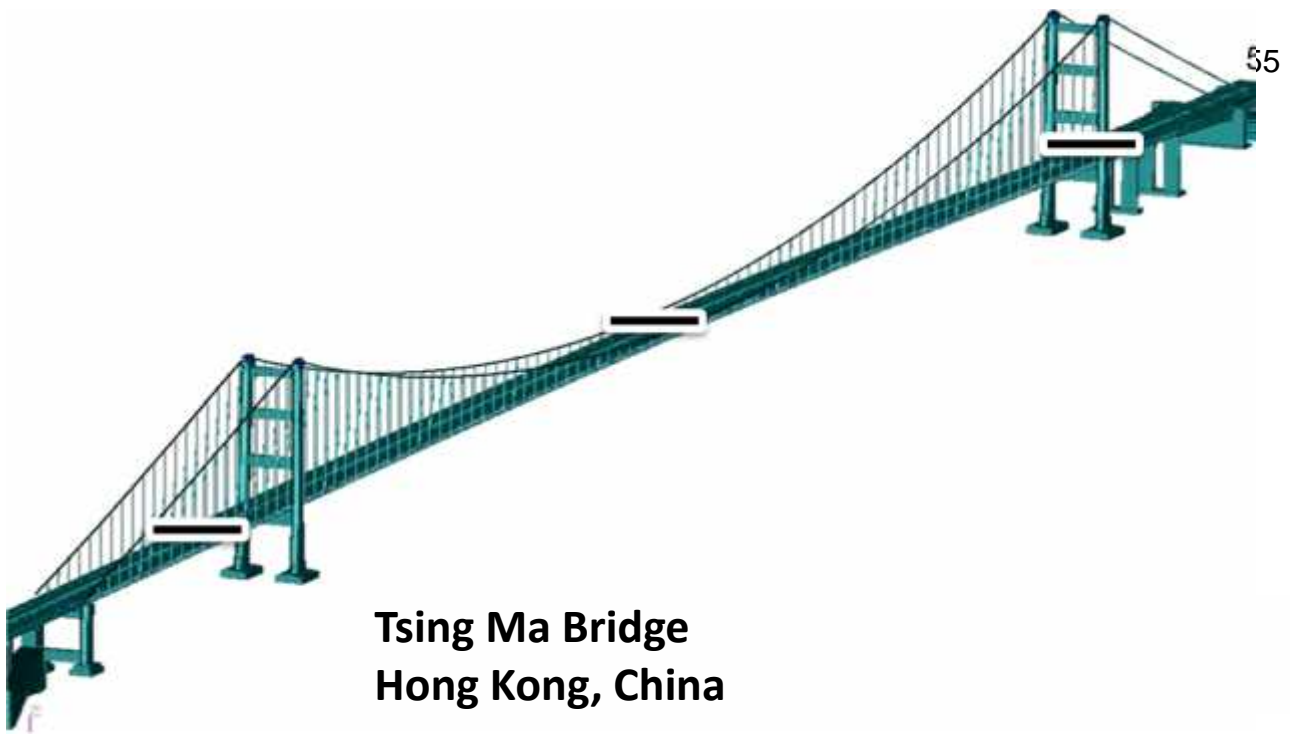
Zainuri, Ach. Muhib. (2008). Kekuatan Bahan (*Strenght Of Materials*), Hal 63. Penerbit Andi Publisher.

[http://www.wiznet.co.uk/WIZ110SR\\_User\\_Manual\\_V1.0.0.hal](http://www.wiznet.co.uk/WIZ110SR_User_Manual_V1.0.0.hal) 7. 2007  
[Diakses 7 Maret 2013]

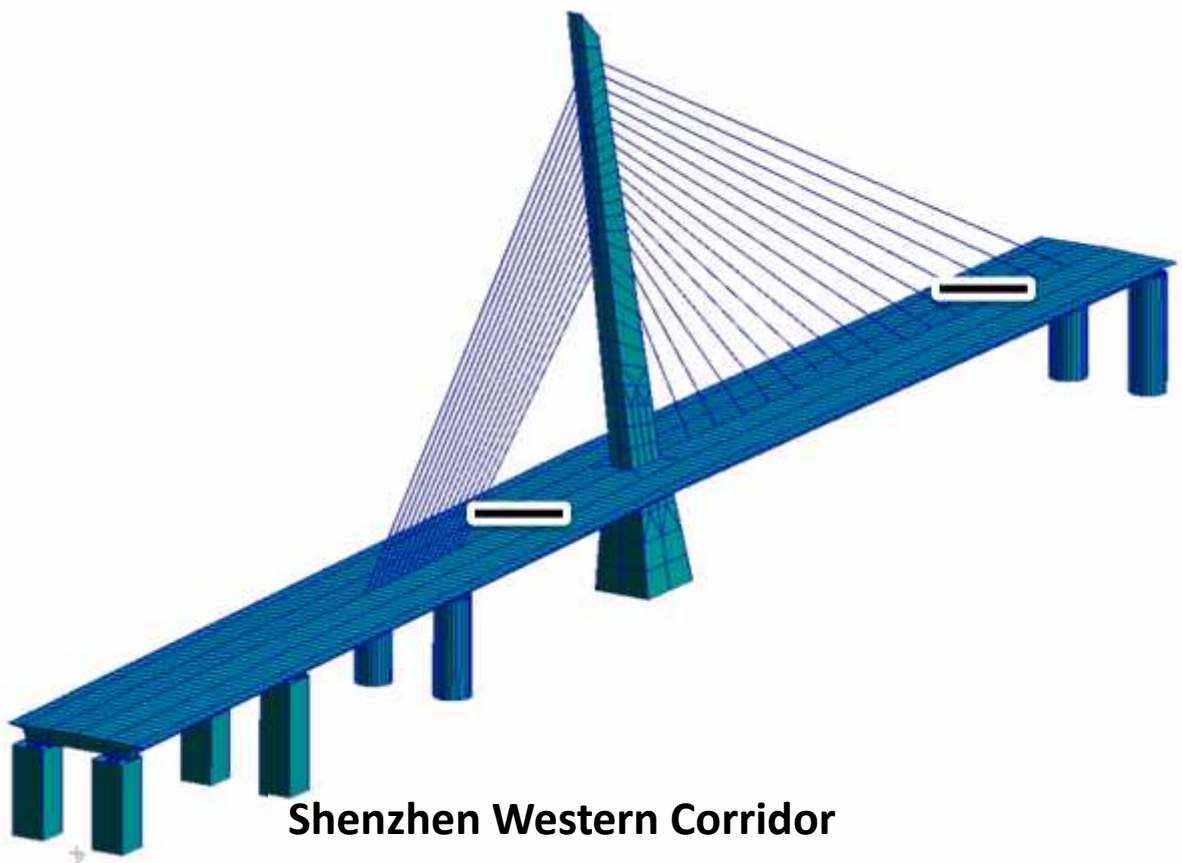
## LAMPIRAN 1

Beberapa contoh penempatan sensor strain pada jembatan, sebagai berikut :

1. Tsing Ma Bridge, Hongkong, China ( Sumber SUHENDRO-PAPER-SHMS-SURAMADU-2010 Halaman 65 )
2. Shenzhen Western Corridor, Cable Stayed Bridge Hongkong, (Sumber SUHENDRO-PAPER-SHMS-SURAMADU-2010 Halaman 66)



**Tsing Ma Bridge**  
**Hong Kong, China**



**Shenzhen Western Corridor**

**Cable Stayed Bridge (Hong Kong Side)**

## LAMPIRAN 2

**PERANGKAT KERAS**

## //LISTING PROGRAM BAHASA C MIKROKONTROLER

```
$regfile = "m16def.dat"           ' pustaka untuk AT89c55
$crystal = 4000000                 ' gunakan kristal 12 MHz
$baud = 9600
$lib "lcd4busy.lbx"
```

```
Dim S As String * 10
Config Lcd = 16 * 2
Const _lcdport = Portb
Const _lcdaddr = Ddrb
Const _lcdin = Pinb
Const _lcd_e = 2
Const _lcd_rw = 1
Const _lcd_rs = 0
```

```
Config Adc = Single , Prescaler = Auto , Reference = Avcc
'config ADC
Config Portc = Output
Portc = 0
Declare Sub Strain1
Declare Sub Strain2
'Config Serialout = Buffered , Size = 3
Start Adc
```

```
Dim W As Word , Perc As Word , Volt As Word , Volt_d As
Byte , , Volt1 As Word , Volt_d1 As Byte , Channel As
Byte , I As Byte , Cols As Byte , Cols_d As Byte
Dim Data1 As String * 6
Dim Data2 As String * 6
Dim A As Byte
Dim B As Byte
'Mybaud = 19200
```

```
Utama:
```

```
Do
```

```
cls
```

```
    Portc.6 = 0
```

```
    Portc.7 = 1
```

```

W = Getadc(0)
Volt = W * 5
Volt = Volt / 10
Data1 = Str(volt)
Data1 = Format(data1 , "000")

W = Getadc(1)
Volt1 = W * 10
Volt1 = Volt1 / 10
Data2 = Str(volt1)
Data2 = Format(data2 , "000")

If Volt > 100 Then
Portc.6 = 1
Portc.7 = 0
End If
If Volt1 > 100 Then
Portc.6 = 1
Portc.7 = 0
End If
Print Data1 ; "t" ; Data2 ; "s";
' ; Chr(13)                                'Chr(44)
' Volt1 ;                                ' ; "t";
'Print ; "hello1" ; Chr(13)
Locate 1 , 1
Lcd ; "Strain1 = " ; Volt
Locate 2 , 1
Lcd ; "Strain2 = " ; Volt1
' Waitms 500

' Print Data1 ; "t" ; Data2 ; "s";
Waitms 500
'Return
'End Sub

'A = Inkey()
'If A = "s" Then
'Call Strain1
'Waitms 200
' Call Strain2
' Waitms 200
'End If
'If A = "t" Then

```

```

' Call Strain2
' Waitms 100
' Call Strain1
'End If

'Waitms 100
Loop

Sub Strain1()
  Cls
  W = Getadc(0)
  Volt = W * 5
  Volt = Volt / 10

  W = Getadc(1)
  Volt1 = W * 10
  Volt1 = Volt1 / 10

  If Volt > 100 Then
    Portc.6 = 1
    Portc.7 = 0
  End If
  If Volt1 > 100 Then
    Portc.6 = 1
    Portc.7 = 0
  End If

  Print Volt ; Volt1
'; "s";
  'Print ; "hello"; Chr(13)
  Lcd ; "Strain1 = " ; Volt
  Locate 2 , 1
  Lcd ; "Strain2 = " ; Volt1
  Waitms 100
End Sub

'Sub Strain2()
Strain:
  Cls
  W = Getadc(1)
  Volt1 = W * 10
  Volt1 = Volt1 / 10

```

```

W = Getadc(0)
Volt = W * 5
Volt = Volt / 10
If Volt > 100 Then
Portc.6 = 1
Portc.7 = 0
End If
If Volt1 > 100 Then
Portc.6 = 1
Portc.7 = 0
End If

Print Volt ; Volt1
'; "t";
'Print ; "hello1" ; Chr(13)
Locate 1 , 1
Lcd ; "Strain1 = " ; Volt
Locate 2 , 1
Lcd ; "Strain2 = " ; Volt1
Waitms 200
Return
'End Sub

End

```



## LAMPIRAN 3

**LISTING PROGRAM PERANGKAT LUNAK WINSOCK**

```

Option Explicit
Dim strData As String
Dim buff As String, Strain1 As String, Strain2 As String
Dim FlagReq As Boolean 'false by default
Dim Looping As Integer

Dim conn As MYSQL_CONNECTION
Dim server As String
Dim user As String
Dim pass As String
Dim dbase As String
Private Declare Function ShellExecute Lib "shell32.dll"
Alias "ShellExecuteA" (ByVal hWnd As Long, ByVal
lpOperation As String, ByVal lpFile As String, ByVal
lpParameters As String, ByVal lpDirectory As String,
ByVal nShowCmd As Long) As Long
Const SW_SHOW = 5
Dim Receive_Count As Integer
Dim dd As String, mm As String, yy As String
Dim hh As String, mi As String

Private Sub Command1_Click()
On Error GoTo ErrHandler

If Winsock1.State = sckClosed Then
Winsock1.RemoteHost = txtIP.Text
Winsock1.RemotePort = txtPort.Text
Winsock1.Connect
Command1.Caption = "Disconnect"
txtIP.Enabled = False
txtPort.Enabled = False
txtIP.BackColor = &H8000000F
txtPort.BackColor = &H8000000F
Timer1.Enabled = True
Else
Winsock1.Close
Command1.Caption = "Connect"
txtIP.Enabled = True
txtPort.Enabled = True
txtIP.BackColor = &H80000005

```

```

        txtPort.BackColor = &H80000005
        Timer1.Enabled = False
        FlagReq = False
        buff = ""
        txtStrain1.Text = ""
        txtStrain2.Text = ""
    End If

    ErrHandler:
        Select Case Err.Number
            Case 13
                MsgBox "Masukkan IP dan Port yang digunakan",
0, "Server"
            End Select
        End Sub

    Private Sub Form_Load()
        server = "localhost"
        user = "root"
        pass = ""
        dbase = "sgage"
        Set conn = New MYSQL_CONNECTION
        conn.OpenConnection server, user, pass, dbase
    End Sub

    Private Sub Form_MouseMove(Button As Integer, Shift As
Integer, X As Single, Y As Single)
        Screen.MousePointer = vbDefault
        Receive_Count = 0
    End Sub

    Private Sub Form_Unload(Cancel As Integer)
        Winsock1.Close
    End Sub

    Private Sub TerimaData()
        If FlagReq = True Then
            Strain1 = buff

        Else
            Strain2 = buff

```

```

End If

If Receive_Count = 2 Then
    Receive_Count = 0
    txtStrain1.Text = Strain1
    txtStrain2.Text = Strain2

End If

buff = ""
Timer1.Enabled = True
End Sub

Private Sub txtStrain1_Change()
    Text1.Text = Format(Now, "hh:mm")
    dd = Format(Now, "dd")
    mm = Format(Now, "MM")
    yy = Format(Now, "yy")
    hh = Left(Text1.Text, 2)
    mi = Right(Text1.Text, 2)
    conn.Execute "insert into strain (dd, mm, yy, hh, mi,
sg1, sg2) values ('" & dd & "', '" & mm & "', '" & yy &
'", '" & hh & "', '" & mi & "', '" & Strain1 & "', '" &
strain2 & "')"
End Sub

Private Sub txtStrain2_Change()
    Text1.Text = Format(Now, "hh:mm")
    dd = Format(Now, "dd")
    mm = Format(Now, "MM")
    yy = Format(Now, "yy")
    hh = Left(Text1.Text, 2)
    mi = Right(Text1.Text, 2)
    conn.Execute "insert into strain (dd, mm, yy, hh, mi,
sg1, sg2) values ('" & dd & "', '" & mm & "', '" & yy &
'", '" & hh & "', '" & mi & "', '" & Strain1 & "', '" &
Strain2 & "')"
End Sub

Private Sub Winsock1_Close()
    Winsock1.Close
End Sub

```

```
Private Sub Winsock1_DataArrival(ByVal bytesTotal As
Long)
    Timer1.Enabled = False
    Winsock1.GetData strData
    If strData = "s" Or strData = "t" Then
        Receive_Count = Receive_Count + 1
        Call TerimaData
    Else
        buff = buff + strData
    End If
    If strData = "s" Then
        FlagReq = True
    ElseIf strData = "t" Then
        FlagReq = False
    End If
End Sub

Public Sub OpenWebsite(URL As String)
    Dim ret&
    ret& = ShellExecute(Me.hWnd, "Open", URL,
vbNullString, vbNullString, SW_SHOW)
End Sub
```

## LAMPIRAN 4

## LISTING PROGRAM PERANGKAT LUNAK PEMROGRAMAN PHP PERANCANGAN PERANGKAT LUNAK PEMROGRAMAN PHP

### 3.1 Form Login (Index.php)

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Login Form</title>
<link href="loginmodule.css" rel="stylesheet" type="text/css" />
<link rel="shortcut icon" href="images/unhas.gif"/>
</head>
<body>
<div class="borderlogin">
<p>&nbsp;&nbsp;&nbsp;</p>
<form id="loginForm" name="loginForm" method="post" action="login-exec.php">
  <table width="300" border="1" align="center" cellpadding="2" cellspacing="2">
    <tr>
      <td width="70" style="padding: 5px;"><b>Login</b></td>
      <td width="150" style="padding: 5px;"><input name="login" type="text" class="textfield"
id="login" value='Insert User Name !' onfocus="this.value = '";" /></td>
    </tr>
    <tr>
      <td style="padding: 5px;"><b>Password</b></td>
      <td style="padding: 5px;"><input name="password" type="password" class="textfield"
id="password" /></td>
    </tr>
    <tr>
      <td style="padding: 5px;" colspan="2" align="right"><?php if(isset($_GET['val'])) { echo
"<font color='red'><blink>Invalid login, please try
again</blink></font>";} ?>&nbsp;&nbsp;&nbsp;&nbsp;<input type="submit" name="Submit" value="L
o g i n" class="button"/></td>
    </tr>
  </table>
</form>
</div>
</body> </html>
```

### 3.2 Login Exec

```
<?php
    //Start session
    session_start();
    //Include database connection details
    require_once('config.php');
    //Array to store validation errors
    $errmsg_arr = array();

    //Validation error flag
    $errflag = false;
```

```

//Connect to mysql server
$link = mysql_connect(DB_HOST, DB_USER, DB_PASSWORD);
if(!$link) {
    die('Failed to connect to server: ' . mysql_error());
}

//Select database
$db = mysql_select_db(DB_DATABASE);
if(!$db) {
    die("Unable to select database");
}

//Function to sanitize values received from the form. Prevents SQL injection
function clean($str) {
    $str = @trim($str);
    if(get_magic_quotes_gpc()) {
        $str = stripslashes($str);
    }
    return mysql_real_escape_string($str);
}

//Sanitize the POST values
$login = clean($_POST['login']);
$password = clean($_POST['password']);

//Input Validations
if($login == "") {
    $errmsg_arr[] = 'Login ID missing';
    $errflag = true;
}
if($password == "") {
    $errmsg_arr[] = 'Password missing';
    $errflag = true;
}

//If there are input validations, redirect back to the login form
if($errflag) {
    $_SESSION['ERRMSG_ARR'] = $errmsg_arr;
    session_write_close();
    header("location: index.php");
    exit();
}

//Create query
$qry="SELECT * FROM members WHERE login='$login' AND
passwd='".md5($_POST['password']).'";
$result=mysql_query($qry);

//Check whether the query was successful or not
if($result) {

```

```

        if(mysql_num_rows($result) == 1) {
            //Login Successful
            session_regenerate_id();
            $member = mysql_fetch_assoc($result);
            $_SESSION['SESS_MEMBER_ID'] = $member['member_id'];
            $_SESSION['SESS_FIRST_NAME'] = $member['firstname'];
            $_SESSION['SESS_LAST_NAME'] = $member['lastname'];
            session_write_close();
            header("location: member-index.php");
            exit();
        }else {
            //Login failed
            header("location: index.php?val=false");
            exit();
        }
    }else {
        die("Query failed");
    }
?>

```

### 3.3 Auth.php

```

<?php
    //Start session
    session_start();

    //Check whether the session variable SESS_MEMBER_ID is present or not
    if(!isset($_SESSION['SESS_MEMBER_ID']) ||
(trim($_SESSION['SESS_MEMBER_ID'] == "")) {
        header("location: access-denied.php");
        exit();
    }
?>

```

### 3.4 Client.Php

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<meta http-equiv="refresh" content="1"/>

</head>
<body>
<?php

require_once('auth.php');
mysql_connect("localhost","root","");
mysql_select_db("sgage");
    //The Client
    error_reporting(E_ALL);

```

```

$address = "192.168.11.2";
$port = 5000;

/* Create a TCP/IP socket. */
$socket = socket_create(AF_INET, SOCK_STREAM, SOL_TCP);
if ($socket === false) {
    echo "socket_create() failed: reason: " .
        socket_strerror(socket_last_error()) . "\n";
} else {
    echo "<br>socket successfully created.\n";
}

echo "<br>Attempting to connect to '$address' on port '$port'...";
$result = socket_connect($socket, $address, $port);
if ($result === false) {
    echo "<br>socket_connect() failed.\nReason: ($result) " .
        socket_strerror(socket_last_error($socket)) . "\n";
} else {
    echo "<br>successfully connected to $address.\n";
}

$msg = "t";
socket_write($socket, $msg, strlen($msg));
$input = socket_read($socket, 2048);
echo "<br>Response from server is: $input ";
echo "<br>Closing socket...";
socket_close($socket);
?>

</body>
</html>

```

### 3.5 Config.php

```

<?php
    define('DB_HOST', 'localhost');
    define('DB_USER', 'root');
    define('DB_PASSWORD', '');
    define('DB_DATABASE', 'sgage');
?>

```

### 3.6 Grafik.php

```

<?php
    require_once('auth.php');
    mysql_connect("localhost", "root", "");
    mysql_select_db("sgage");
?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">

```



```
<head>  
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />  
<title>G r a f i k</title>  
<link href="loginmodule.css" rel="stylesheet" type="text/css" />  
<link href="frame.css" rel="stylesheet" type="text/css" />  
<link rel="shortcut icon" href="images/unhas.gif"/>  
<script type="text/javascript" src="js/jquery-1.8.3.min.js"></script>  
<script type="text/javascript" src="js/twd-menu.js"></script>  
<link rel="stylesheet" href="style.css" />  
</head>  
  
<body>  
<div class="header">  
    <div id="title">  
        <h1>Network Sensor Strain Gage for The Monitoring of Bridge</h1>  
  
        <div class="content">  
            <nav>  
                <ul id="nav">  
                    <li><a href="member-index.php">&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&~ Home&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&~</a></li>  
                        <li><a href="#">&nbsp;&nbsp;&nbsp;&nbsp;&~<?php echo $_SESSION['SESS_FIRST_NAME'];>&nbsp;&nbsp;&~</a>  
                            <ul>  
                                <?php  
                                    if ($_SESSION['SESS_MEMBER_ID'] == 1){  
                                        echo "<li><a href='reg.php'>Registrasi</a></li>";  
                                    }  
                                ?>  
                                <li><a href="logout.php">Logout</a></li>  
                            </ul>  
                        </li>  
                    </ul>  
                </div>  
            </nav> <!-- /Navigation -->  
        </div>  
    </div>  
  
    <div id="slide">  
        <iframe name="slideshow" height="150px" width="500px" frameborder="0"  
src="slide.html">  
        </iframe>  
    </div>  
    </div>  
  
    <div class="mainPage2">  
        <iframe name="slideshow" height="500px" width="960px" frameborder="0"  
src="grafikh.php">  
        </iframe>  
    </div>
```

```

<div class="footer">
  <p><center><br/>Copyright &copy 2013</center></p>
</div>
</body>
</html>

```

### 3.7 Grafikh.php

```

<?php
require_once('config.php');
mysql_connect("localhost","root","");
mysql_select_db("sgage");
error_reporting(0);
$days = date('j');
$months = date('m');
$years = date('y');
$hours = date('H');
$minutes = date('i');
$zona = date('e');
?>

<html>
<head>
<meta http-equiv="refresh" content="1"/>
<script src="js/jquery.min.js" type="text/javascript"></script>
<script src="js/highcharts.js" type="text/javascript"></script>
<script type="text/javascript">
$(function () {
  var chart;
  $(document).ready(function() {
    chart = new Highcharts.Chart({
      chart: {
        renderTo: 'container', //letakkan grafik di div id container
        //Type grafik, anda bisa ganti menjadi area,bar,column dan
        type: 'line',
        marginRight: 130,
        marginBottom: 25
      },
      title: {
        text: 'Grafik Strain Gage',
        x: -20 //center
      },
      subtitle: {
        text: '<?php echo $pemb;?>',
        x: -20
      },
      xAxis: { //X axis menampilkan menit
        <?php
        $qdata ="select * from strain where dd = '$days' and mm = '$months' and yy =
        '$years' and hh = '$hours'";
        //echo $qdata;

```

```

$hdata = mysql_query($qdata);
$cx = mysql_num_rows($hdata);
$x = 0;
ini_set('display_errors','off');
echo "categories : [";
while($sensor = mysql_fetch_array($hdata))
{

    echo "";
    echo ". ";
    echo "";
    $x++;
    if ($x < $cx)
        echo ", ";
    }
    echo "];
?>
},
yAxis: {
    title: { //label yAxis
        text: 'Strain Value'
    },
    plotLines: [{
        value: 0,
        width: 1,
        color: 'ffffff' //warna dari grafik line
    }]
},
tooltip: {
    //fungsi tooltip, ini opsional, kegunaan dari fungsi ini
    //akan menampilkan data di titik tertentu di grafik saat mouseover
    formatter: function() {
        return '<b>'+ this.series.name + '</b><br/>'+
            'Pukul ' + this.x + ' : ' + this.y + ' %RH' ;
    }
},
legend: {
    layout: 'vertical',
    align: 'right',
    verticalAlign: 'top',
    x: -10,
    y: 100,
    borderWidth: 0
},
//series adalah data yang akan dibuatkan grafiknya,

series: [

{
    name: 'Strain Gage 1',
    <?php

```

```

        $qdata ="select sg1 from strain where dd = '$days' and mm = '$months' and yy =
'$years' and hh = '$hours'";
        $hdata = mysql_query($qdata);
        $cs1 = mysql_num_rows($hdata);
        ini_set('display_errors','off');
        echo "data: [";
        while($sensor = mysql_fetch_array($hdata))
        {
            $s1++;
            echo $sensor['sg1'];
            if ($s1 < $cs1)
                echo ",";

        }
        echo "]";
        ?>

    },

    {
        name: 'Strain Gage 2',
        <?php
        $qdata2 ="select sg2 from strain where dd = '$days' and mm = '$months' and yy =
'$years' and hh = '$hours'";
        $hdata2 = mysql_query($qdata2);
        $cs12 = mysql_num_rows($hdata2);
        ini_set('display_errors','off');
        echo "data: [";
        while($sensor2 = mysql_fetch_array($hdata2))
        {
            $s12++;
            echo $sensor2['sg2'];
            if ($s12 < $cs12)
                echo ",";

        }
        echo "]";
        ?>

    }

    ]
    });
});

});

</script>
</head>
<body>
    <div id='container'></div>

</body>
</html>
3.8 Logout.php
<?php

```





```

<?php
    require_once('auth.php');
    mysql_connect("localhost","root","");
    mysql_select_db("sgage");
?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<meta http-equiv="refresh" content="1"/>
<title>Monitoring</title>
<link href="loginmodule.css" rel="stylesheet" type="text/css" />
<link href="frame.css" rel="stylesheet" type="text/css" />

</head>
<body>
<?php
    $query = "SELECT * FROM 'strain' order by 'data_id' desc";
    $hasil = mysql_query($query);
    $data = mysql_fetch_array($hasil);
    $view = mysql_num_rows($hasil);
    echo "Strain Gage 1 : ";
    echo $data['sg1'];
    if ($data['sg1'] >= '100'){
        echo "<blink> &nbsp; &nbsp; &nbsp; Overstrain!!!</blink>";
    }
    echo "<br>";
    echo "<br>";
    echo "Strain Gage 2 : ";
    echo $data['sg2'];
    if ($data['sg2'] >= '100'){
        echo "<blink> &nbsp; &nbsp; &nbsp; Overstrain!!!</blink>";
    }
    echo "<br>";
?>
</body>

</html>

```

### 3.11 Reg.php

```

<?php
    require_once('auth.php');
    mysql_connect("localhost","root","");
    mysql_select_db("sgage");
?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>

```





```

else
{
    $fname = $_POST['fname'];
    $lname = $_POST['lname'];
    $user = $_POST['user'];
    $hp = $_POST['hp'];
    $pwd = $_POST['passwd'];
    $qreg = "INSERT INTO 'members' ('firstname', 'lastname', 'login', 'passwd', 'hp') VALUES
    ('$fname', '$lname', '$user', md5('$pwd'), '$hp')";
    $sqlreg = mysql_query($qreg);

    header('location: reg.php');
    echo "<script>alert('User berhasil ditambahkan !');</script>";

}
}

$warnaGenap = "#ccc"; // warna abu-abu
$warnaGanjil = "#fff"; // warna putih
$warnaHeading = "#25E"; // warna merah untuk heading tabel
echo "<fieldset style='border-radius: 5px;'><legend><fieldset style='border-radius:
5px;'>Registered User</fieldset> </legend><br />";
$query = "SELECT * FROM 'members' WHERE 'member_id' != '1' LIMIT 0 , 10";
$hasil = mysql_query($query);
$view = mysql_num_rows($hasil);
//tabel 1
echo "<table border='1' cellpadding='3' cellspacing='0' style='margin : auto;'>";
echo "<tr bgcolor='". $warnaHeading. "'>
    <td align='center' width='180' ><b>N a m a</b></td>
    <td align='center' width='100'><b>User Login</b></td>
    <td align='center' width='120' ><b>No. HP</b></td>
</tr>";

$counter = 1;

while($data = mysql_fetch_array($hasil))
{
    // cek apakah counternya ganjil atau genap

    if ($counter % 2 == 0) $warna = $warnaGenap;
    else $warna = $warnaGanjil;
    echo "<tr bgcolor='". $warna. "'><td>";
    echo $data['firstname']. " ". $data['lastname'];
    echo "</td><td>". $data['login']. "</td>";
    echo "</td><td>". $data['hp']. "</td></tr>";
    $counter++; // menambah counter
}
echo "</table>";
echo "</fieldset>";
?>

```

```
</fieldset>
```

```
</html>
```

### 3.12 Server.php

```
<?php
//The Server
error_reporting(E_ALL);
$address = "127.0.0.1";
$port = 1000;

/* create a socket in the AF_INET family, using SOCK_STREAM for TCP
connection */

$mysock = socket_create(AF_INET, SOCK_STREAM, 0);

// if socket is uses, we reuse it
if (!socket_set_option($mysock, SOL_SOCKET, SO_REUSEADDR, 1)) {
echo socket_strerror(socket_last_error($mysock));
exit;
}
socket_bind($mysock, $address, $port);
socket_listen($mysock, 5);
$client = socket_accept($mysock);
socket_set_nonblock($client);
$status = 1;

$i = 0;
while (1)
{
$input = "";

if($status == 0)
{
$client = socket_accept($mysock);
socket_set_nonblock($client);
$status = 1;
}

else if ($status == 1)
{
socket_write($client, "hello!\n", 3);
$input = socket_read($client, 2048, 1);
if($input != "")
{
$i++;
echo "Sending $i to client.\n";
socket_write($client, $i, strlen($i));

echo "Response from client is: $input\n";
socket_close($client);
$status = 0;
}
```

```

    }
  }
}
socket_close($mysock);

```

```
?>
```

### 3.13 Sock server.php

```
<?php
```

```

$host = "192.168.11.2";
$port = 5000;
$message = "IP : " . $_SERVER['REMOTE_ADDR'];
$socket = socket_create(AF_INET,SOCK_STREAM,0) or die("[".date('Y-m-d H:i:s')."]from
client: Could not create socket\n");
$result = socket_connect($socket,$host,$port) or die ("[".date('Y-m-d H:i:s')."]from client:
Unable to connect to server\n");
socket_write($socket,$message,strlen($message)) or die ("from client : Could not end
session \n");
$result = socket_read($socket,1024) or die("from client : could not read response from server
\n");
socket_write($socket,"END",3) or die("from client: Could not end session \n");
socket_close($socket);
$result = trim($result);
echo "\n Message returned : ".$result;
?>

```