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LAMPIRAN

Lampiran 1. *Script* program sensor untuk Arduino

```
#define sensorIR A0
#define turbidpin A1
float vol = 0.0;
unsigned char pinflow = 3;
unsigned long currentTime;
unsigned long cloopTime;
float debit;
int counter = 0;
int turbidity;

void flow () // Interrupt function to increment flow
{
    counter ++;
}

void setup(){
    Serial.begin(9600);
    pinMode(pinflow, INPUT);
    digitalWrite(pinflow, HIGH); // Optional Internal Pull-Up
    attachInterrupt(digitalPinToInterrupt(pinflow), flow,
RISING); // Setup Interrupt

    currentTime = millis();
    cloopTime = currentTime;
}

void loop(){
//Sensor SharpIR
    float sensorValue = analogRead(sensorIR);
    float height = ((10650.08*pow(sensorValue,-0.935))-
12)/100;
```

```

float m = 1 - height;
float tinggi_air = 0,995*m + 0,5846; // setelah
dikalibrasi

//Sensor Turbidity
float NTU = -1.977105112*sensorValue + 1549.508363;
float kekeruhan_air = NTU - 0,00000000005; //setelah
dikalibrasi

//Sensor YF-S201
currentTime = millis();
// Setiap detik akan menghitung dan menampilkan liter/jam
if(currentTime >= (cloopTime + 1000)) // 1000 = 1 detik
{
    cloopTime = currentTime; // Updates cloopTime
    if(counter != 0)
    {
        float debit_min = (counter / 7.5); // debit dalam
L/min
        debit = debit_min / 60 + 0.0000453609; // debit dalam
L/s
        float debit_air = 1,0139debit - 0,0002; // setelah
dikalibrasi
    }
    counter = 0; // Reset Counter
}
Serial.print(tinggi_air);Serial.print(",");
Serial.print(debit_air, DEC);Serial.print(",");
Serial.println(kekeruhan_air);
delay(1000);
}

```


Lampiran 2. Tabel data hasil pengujian sensor YF-S201

Pembanding (<i>Water Meter</i>)			Sensor		Error (%)
Volum (L)	Waktu (s)	Debit(L/s)	Volum (L)	Debit (L/s)	
1	6	0,16667	0,99	0,16449	1,30612
1	9	0,11111	0,99	0,10992	1,07029
1	14	0,07143	0,99	0,07100	0,60317
1	20	0,05000	0,99	0,04949	1,02039
1	23	0,04348	0,99	0,04285	1,45123
1	27	0,03704	1,00	0,03692	0,32197
1	32	0,03125	0,98	0,03074	1,63262
1	37	0,02703	0,99	0,02665	1,38772
1	42	0,02381	1,00	0,02385	0,19051
1	48	0,02083	1,00	0,02092	0,43995
1	54	0,01852	1,00	0,01861	0,46716
1	60	0,01667	0,99	0,01666	0,06682
Rata-Rata					0,82983

Lampiran 3. Tabel data hasil pengujian sensor GP2Y0A02YK0F

Meteran (cm)	Sensor		Error (%)
	Jarak (cm)	ADC	
20	21	486	3,80
21	21	475	2,24
22	22	463	1,27
23	23	445	0,00
24	24	436	1,08
25	25	424	0,88
26	27	407	2,58
27	27	401	0,78
28	28	392	0,18
29	29	379	1,17

30	30	368	1,63
31	31	360	1,19
32	32	351	1,28
33	33	343	1,15
34	34	335	1,15
35	35	329	0,51
36	36	320	1,17
37	37	314	0,78
38	38	308	0,47
39	40	297	2,36
40	41	293	1,45
41	42	286	1,90
42	42	283	0,76
43	43	287	0,74
44	44	272	0,84
45	46	265	1,69
46	47	261	1,28
47	48	255	1,85
48	48	254	0,19
49	49	248	0,92
50	51	242	1,76
51	51	240	0,73
52	53	235	1,21
53	54	231	1,30
54	54	229	0,39
55	55	226	0,05
56	57	220	1,32
57	57	219	0,05
58	58	215	0,40
59	59	211	0,80

60	60	208	0,73
61	61	206	0,15
62	62	202	0,73
63	64	199	0,79
64	65	195	1,47
65	65	194	0,48
66	66	192	0,11
67	67	189	0,33
68	68	187	0,03
69	68	186	0,84
70	69	184	1,09
Rata-Rata			1,02

Lampiran 4. Tabel data hasil pengujian sensor TS-300B

Sampel	Pembanding (NTU)	Sensor		Error (%)
		NTU	ADC	
1	49,2	48,99	759	0,43
2	45,6	45,02	761	1,27
3	40,3	41,05	763	1,87
4	36,4	37,09	765	1,88
5	29,5	29,15	769	1,18
6	24,6	25,18	771	2,37
7	20,5	19,23	774	6,18
8	15,7	15,27	776	2,77
9	10,9	11,30	778	3,65
10	4,92	5,35	781	8,67
Rata-Rata				3,03

Lampiran 5. Pengujian sistem pemantauan di lapangan



Pengujian sistem pemantauan pada saluran terbuka IPA II PDAM Kota Makassar

Lampiran 6. Tabel data hasil pengukuran debit air oleh sensor per-10 menit

Waktu	Debit Sensor (L/s)		
	11/03/2022	15/03/2022	16/03/2022
09:00	0,00560	0,00711	0,00746
09:10	0,00586	0,00713	0,00777
09:20	0,00587	0,00689	0,00776
09:30	0,00615	0,00709	0,00755
09:40	0,00602	0,00708	0,00746
09:50	0,00598	0,00709	0,00757
10:00	0,00606	0,00690	0,00748
10:10	0,00615	0,00694	0,00767
10:20	0,00586	0,00680	0,00739
10:30	0,00587	0,00661	0,00738
10:40	0,00565	0,00632	0,00745
10:50	0,00543	0,00625	0,00740
11:00	0,00526	0,00640	0,00726
11:10	0,00524	0,00651	0,00715
11:20	0,00516	0,00650	0,00706
11:30	0,00535	0,00624	0,00707
11:40	0,00506	0,00619	0,00685
11:50	0,00510	0,00593	0,00706
12:00	0,00507	0,00601	0,00681
12:10	0,00487	0,00610	0,00686
12:20	0,00517	0,00635	0,00710
12:30	0,00495	0,00638	0,00717
12:40	0,00501	0,00615	0,00689
12:50	0,00468	0,00602	0,00699
13:00	0,00479	0,00603	0,00690
13:10	0,00450	0,00614	0,00720
13:20	0,00450	0,00591	0,00731
13:30	0,00424	0,00586	0,00713
13:40	0,00431	0,00571	0,00733
13:50	0,00424	0,00570	0,00729
14:00	0,00437	0,00567	0,00749
14:10	0,00445	0,00581	0,00765
14:20	0,00455	0,00582	0,00771

14:30	0,00450	0,00594	0,00771
14:40	0,00458	0,00610	0,00785
14:50	0,00446	0,00633	0,00810
15:00	0,00466	0,00619	0,00822
15:10	0,00480	0,00632	0,00840
15:20	0,00478	0,00666	0,00869
15:30	0,00502	0,00686	0,00866
15:40	0,00496	0,00697	0,00876
15:50	0,00488	0,00690	0,00858
16:00	0,00500	0,00682	0,00869
16:10	0,00514	0,00673	0,00888
16:20	0,00516	0,00677	0,00894
16:30	0,00548	0,00690	0,00868
16:40	0,00540	0,00694	0,00869
16:50	0,00556	0,00683	0,00886
17:00	0,00569	0,00709	0,00864
17:10	0,00567	0,00701	0,00915
17:20	0,00544	0,00685	0,00917
17:30	0,00565	0,00669	0,00940
17:40	0,00551	0,00655	0,00946
17:50	0,00575	0,00672	0,00961
18:00	0,00587	0,00677	0,00973
Rata-Rata	0,00519	0,00648	0,00788

Lampiran 7. Tabel data hasil pengukuran debit air pada saluran terbuka per-10 menit

Waktu	Debit Saluran Terbuka (L/s)		
	11/03/2022	15/03/2022	16/03/2022
09:00	157,24	208,59	237,96
09:10	164,25	208,73	250,94
09:20	164,51	201,49	251,57
09:30	171,33	206,36	245,57
09:40	168,77	206,07	241,48
09:50	167,89	206,10	244,17
10:00	170,13	200,62	240,25
10:10	173,52	201,81	248,82

10:20	165,76	195,97	237,64
10:30	162,61	189,88	237,50
10:40	155,99	182,32	237,42
10:50	150,53	178,22	234,87
11:00	144,88	183,54	229,75
11:10	144,35	185,59	225,81
11:20	142,15	184,73	222,69
11:30	147,56	176,33	220,66
11:40	139,95	175,01	214,36
11:50	140,67	167,31	219,95
12:00	140,65	168,72	212,18
12:10	133,86	172,56	213,96
12:20	141,74	179,76	222,16
12:30	135,98	180,72	225,14
12:40	137,61	172,65	216,05
12:50	128,79	169,94	219,48
13:00	131,55	169,39	216,18
13:10	122,73	173,35	226,37
13:20	122,93	166,53	230,32
13:30	116,06	165,48	224,87
13:40	118,02	161,57	230,98
13:50	115,79	162,92	231,21
14:00	118,61	161,90	240,34
14:10	121,48	166,76	246,56
14:20	123,95	165,99	250,71
14:30	124,09	170,59	252,44
14:40	114,18	174,91	258,27
14:50	121,17	181,93	267,60
15:00	126,41	178,32	271,30
15:10	130,56	181,72	276,63
15:20	129,37	192,39	288,08
15:30	136,15	199,66	289,52
15:40	134,09	203,37	294,01
15:50	132,40	203,73	288,34
16:00	136,23	200,78	293,99
16:10	139,39	197,41	300,02

16:20	140,19	198,30	301,77
16:30	148,18	202,03	295,45
16:40	146,11	203,86	296,12
16:50	151,46	201,31	303,03
17:00	154,22	211,61	294,99
17:10	153,03	206,75	312,27
17:20	148,28	201,54	314,33
17:30	153,23	196,05	321,72
17:40	148,94	192,94	326,71
17:50	155,94	198,46	332,08
18:00	159,97	198,78	337,48
Rata-Rata	142,28	187,15	257,53

Lampiran 8. Tabel data ketinggian air saluran terbuka

Waktu	Ketinggian Air (m)		
	11/03/2022	15/03/2022	16/03/2022
09:00	0,44	0,46	0,49
09:10	0,44	0,46	0,50
09:20	0,44	0,46	0,50
09:30	0,44	0,46	0,50
09:40	0,44	0,46	0,50
09:50	0,44	0,46	0,50
10:00	0,44	0,46	0,49
10:10	0,44	0,46	0,50
10:20	0,44	0,45	0,49
10:30	0,43	0,45	0,49
10:40	0,43	0,45	0,49
10:50	0,43	0,45	0,49
11:00	0,43	0,45	0,49
11:10	0,43	0,45	0,49
11:20	0,43	0,45	0,48
11:30	0,43	0,44	0,48
11:40	0,43	0,44	0,48
11:50	0,43	0,44	0,48
12:00	0,43	0,44	0,48
12:10	0,43	0,44	0,48

12:20	0,43	0,44	0,48
12:30	0,43	0,45	0,48
12:40	0,43	0,44	0,48
12:50	0,43	0,44	0,48
13:00	0,43	0,44	0,48
13:10	0,43	0,44	0,48
13:20	0,43	0,44	0,48
13:30	0,43	0,44	0,48
13:40	0,43	0,44	0,48
13:50	0,43	0,45	0,49
14:00	0,42	0,45	0,49
14:10	0,43	0,45	0,50
14:20	0,43	0,45	0,50
14:30	0,42	0,45	0,50
14:40	0,42	0,45	0,51
14:50	0,42	0,45	0,51
15:00	0,43	0,45	0,51
15:10	0,43	0,45	0,51
15:20	0,42	0,45	0,51
15:30	0,42	0,46	0,51
15:40	0,42	0,46	0,52
15:50	0,42	0,46	0,52
16:00	0,43	0,46	0,52
16:10	0,42	0,46	0,52
16:20	0,42	0,46	0,52
16:30	0,42	0,46	0,52
16:40	0,42	0,46	0,52
16:50	0,43	0,46	0,53
17:00	0,42	0,47	0,52
17:10	0,42	0,46	0,53
17:20	0,42	0,46	0,53
17:30	0,43	0,46	0,53
17:40	0,42	0,46	0,53
17:50	0,42	0,46	0,53
18:00	0,43	0,46	0,53
Rata-Rata	0,43	0,45	0,50

Lampiran 9. Tabel data hasil pengukuran kekeruhan air oleh sensor per-10 menit

Waktu	Kekeruhan Air (m)		
	11/03/2022	15/03/2022	16/03/2022
09:00	185,5	201,3	248,0
09:10	183,4	203,9	242,1
09:20	187,9	209,3	244,4
09:30	184,7	208,0	247,5
09:40	185,8	210,4	250,9
09:50	181,8	206,2	250,1
10:00	184,5	208,2	251,6
10:10	184,5	205,3	248,2
10:20	189,9	206,6	248,7
10:30	189,5	209,4	251,8
10:40	192,4	212,6	248,3
10:50	196,0	217,2	251,7
11:00	196,5	217,7	252,7
11:10	194,0	216,4	250,4
11:20	193,2	216,1	254,8
11:30	194,6	221,4	257,5
11:40	197,0	218,1	260,4
11:50	196,0	219,2	261,6
12:00	192,0	225,2	262,8
12:10	186,0	216,9	256,4
12:20	184,4	218,3	256,5
12:30	182,5	218,1	261,4
12:40	180,3	213,6	264,7
12:50	176,9	217,1	267,3
13:00	174,6	220,8	268,8
13:10	177,1	218,5	268,9
13:20	177,7	224,3	273,0
13:30	176,0	227,7	269,4
13:40	181,2	231,0	266,6
13:50	182,8	226,2	270,3
14:00	185,0	222,6	274,7
14:10	183,2	223,2	272,2
14:20	182,5	223,4	275,9

14:30	183,5	227,4	278,1
14:40	184,6	222,7	275,2
14:50	186,6	223,7	274,8
15:00	188,2	224,4	278,1
15:10	187,1	223,4	277,7
15:20	185,2	227,6	278,8
15:30	182,2	234,3	275,9
15:40	184,1	239,1	276,0
15:50	188,9	236,0	274,7
16:00	193,5	240,1	275,3
16:10	194,3	239,4	276,6
16:20	196,0	240,4	280,2
16:30	201,4	237,4	281,0
16:40	197,4	240,2	280,7
16:50	193,9	237,0	279,8
17:00	194,3	232,8	280,1
17:10	195,9	231,4	281,7
17:20	193,1	233,6	281,0
17:30	194,6	231,9	278,4
17:40	191,0	233,8	271,7
17:50	189,8	233,0	277,2
18:00	192,4	231,3	276,5
Rata-Rata	187,9	222,8	266,2

Lampiran 10. Script program pengiriman data pada Raspberry Pi

```
import MySQLdb
import serial
import datetime
import statistics

def ambil_data(ser):
    return waktu, data

def data_permenit(tanggal_input, ketinggian_m, debit_m,
kekeruhan_m):
    sql = """INSERT INTO ProjectAPP_datasensor_permenit
(tanggal, ketinggian, debit, kekeruhan)
VALUE (%s,%s,%s,%s)"""
    value = tuple((tanggal_input, ketinggian_m, debit_m,
kekeruhan_m))
```

```

        cursor.execute(sql,value)
        database.commit()

def data_perjam(tanggal_input, ketinggian_j, debit_j,
kekeruhan_j):
    sql = """INSERT INTO ProjectAPP_datasensor_perjam
            (tanggal, ketinggian, debit, kekeruhan)
            VALUE (%s,%s,%s,%s)"""
    value = tuple((tanggal_input, ketinggian_j, debit_j,
kekeruhan_j))
    cursor.execute(sql,value)
    database.commit()

if __name__ == '__main__':
    koneksi = serial.Serial(port = 'COM4', baudrate = 9600, timeout
= 10.0)
    # koneksi = serial.Serial(port='/dev/ttyUSB0', baudrate = 9600,
timeout = 10.0)
    database = MySQLdb.connect(db = 'mydatabase', user = '*****',
passwd = '*****', host='103.247.11.169', port=3306)
    cursor = database.cursor()

    while True:
        ketinggian_j = []
        debit_j = []
        kekeruhan_j = []
        for i in range(60):
            ketinggian_m = []
            debit_m = []
            kekeruhan_m = []
            for i in range(60):
                # waktu, data = ambil_data(koneksi)
                waktu = str(datetime.datetime.now())
                data = str(koneksi.readline().strip())[2:-
2].split(',')
                print(data)
                sql = """INSERT INTO ProjectAPP_datasensor
                        (tanggal, ketinggian, debit, kekeruhan)
                        VALUE (%s,%s,%s,%s)"""
                value = tuple((waktu,data[0],data[1],data[2]))
                cursor.execute(sql,value)
                database.commit()
                ketinggian_m.append(float(data[0]))
                debit_m.append(float(data[2]))
                kekeruhan_m.append(float(data[1]))
            ketinggian_m = round(statistics.mean(ketinggian_m),1)
            debit_m = round(statistics.mean(debit_m),1)
            kekeruhan_m = round(statistics.mean(kekeruhan_m),1)
            data_permit(waktu, ketinggian_m, debit_m, kekeruhan_m)

```

```

    ketinggian_j.append(ketinggian_m)
    debit_j.append(debit_m)
    kekeruhan_j.append(kekeruhan_m)
    ketinggian_j = statistics.mean(ketinggian_j)
    debit_j = round(statistics.mean(debit_j),1)
    kekeruhan_j = round(statistics.mean(kekeruhan_j),1)
    data_perjam(waktu, ketinggian_j, debit_j, kekeruhan_j)

```

Lampiran 11. Script program halaman beranda.html pada website

```

<!DOCTYPE html>
{% load static %}
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1, maximum-scale=1, user-scalable=0">
    <title>MONITORING KONDISI AIR</title>
    <!-- <link rel="stylesheet" href="{% static
'/css/stylewebsite001.css' %}"> -->
    <link rel="stylesheet"
href="/static/css/stylewebsite001.css?{% now "U" %}">
    <link
href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.1.3/dist/css/bootst
rap.min.css" rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3"
crossorigin="anonymous">    <script
src="https://cdn.plot.ly/plotly-2.4.1.min.js"></script>
    <script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@5.1.3/dist/js/bootstra
p.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmtz2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p"
crossorigin="anonymous"></script>
    <script src="https://cdn.plot.ly/plotly-
2.4.1.min.js"></script>
  </head>
  <body>

<!-- ===== HEADER ===== -->
<!-- ===== NAVIGASI BAR ===== -->
<nav class="nav fixed-top">
  <div class="container">
    <div class="row">
      <div class="col mt-3">
        <ul class="nav">
          <li class="nav-item">
            <a class="nav-link" aria-current="page"
href=" ../beranda">Beranda</a>
          </li>

```

```

        <li class="nav-item">
            <a class="nav-link" href="../sensor">Sensor</a>
        </li>
    </ul>
</div>
<div class="col mt-2">
    <ul class="nav justify-content-center">
        <a href="http://www.phys.sci.unhas.ac.id/en/"
target="_blank">
            </a>
    </ul>
</div>
<div class="col mt-3">
    <ul class="nav justify-content-end">
        <li class="nav-item">
            <a class="nav-link" href="../garfik">Grafik</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="../tabel">Tabel</a>
        </li>
    </ul>
</div>
</div>
</div>
</nav>

<!-- === BACKGROUND === -->
<!-- <div class="d-flex flex-column justify-content-center w-100
h-100">
</div> -->
<!-- === OPENING === -->
<section>
    <div class="container glassbackground">
        <div class="page1">
            <div class="opening">
                <h1>SELAMAT DATANG</h1>
                <p>
                    Portal Pemantauan Kondisi Air Saluran Terbuka <br>
                    Instalasi Pengolahan Air (IPA) II Panaikang <br>
                    Perusahaan Daerah Air Minum (PDAM) Kota Makassar
                </p>
                <a href="../data-pengukuran" class="btn-1"
role="button">Data Pengukuran</a>
            </div>

            <!-- === DISPLAY CLOCK === -->
            <script type="text/javascript">
                window.onload = setInterval(clock,1000);

```

```

function clock()
{
    var d = new Date();
    var date = d.getDate();
    var month = d.getMonth();
    var montharr =
["Januari", "Februari", "Maret", "April", "Mei", "Juni", "Juli", "Agustus
", "September", "Oktober", "November", "Desember"];
    month = montharr[month];

    var year = (d.getFullYear() + " -");

    var day = d.getDay();
    var dayarr
=["Minggu", "Senin", "Selasa", "Rabu", "Kamis", "Jumat", "Sabtu, "]
;
    day = dayarr[day];
    var hour = ('0' + d.getHours()).slice(-2);
    var min = ('0' + d.getMinutes()).slice(-2);
    var sec = (('0' + d.getSeconds()).slice(-2) + ' WITA');
    document.getElementById("date").innerHTML=day + " " + date
+ " " + month + " " + year;
    document.getElementById("time").innerHTML=hour + ":" + min
+ ":" + sec;
}
</script>

<h6 class="clock">
    <p id="date"></p>
    <p id="time"></p>
</h6>

<div class="data-dashboard">
    <div class="row justify-content-md-center">

        <div class="data-coll col-lg-2">
            <h4>Tinggi Air</h4>
            <h3 id='dataAkselerometer'>000.00</h3>
            <script type="text/javascript">
                if(typeof(EventSource) !== "undefined"){
                    var source = new EventSource('beranda/page1/');
                    source.onmessage = function(event){
                        var getData = event.data;
                        console.log(getData)
                        var data = getData.split(',')
                            document.getElementById('debit').innerHTML =
data[0];
                    }
                }
            </script>
        </div>
    </div>
</div>

```

```

        else{
            document.getElementById('debit').innerHTML
="000.00";
        }
    </script>
    <p>cm</p>
</div>

<div class="data-col1 col-lg-2">
    <h4>Debit Air</h4>
    <h3 id='dataVelocity'>000.00</h3>
    <script type="text/javascript">
        if(typeof(EventSource) !== "undefined"){
            var source = new EventSource('website/page1/');
            source.onmessage = function(event){
                var getData = event.data;
                console.log(getData)
                var data = getData.split(',')

document.getElementById('dataVelocity').innerHTML = data[1];
            }
        }
        else{
            document.getElementById('dataVelocity').innerHTML
="000.00";
        }
    </script>
    <p>Liter/menit</p>
</div>

<div class="data-col2 col-lg-2">
    <h4>Kekeruhan</h4>
    <h3 id='dataPerpindahan'>000.00</h3>
    <script type="text/javascript">
        if(typeof(EventSource) !== "undefined"){
            var source = new EventSource('/beranda/page1/');
            source.onmessage = function(event){
                var getData = event.data;
                console.log(getData)
                var data = getData.split(',')

document.getElementById('dataPerpindahan').innerHTML = data[2];
            }
        }
        else{

document.getElementById('dataPerpindahan').innerHTML ="000.00";
        }
    </script>

```



```

        <p>NTU</p>
    </div>
</div>
</div>

<!-- === PROFILE === -->

<h3 class="line"></h3>
<h2 class="latarbelakang">LATAR BELAKANG</h2>

<div id="profil">
    <div class="row">
        <div class="col">
            <p class="sepatahkata">Air bersih yang digunakan
masyarakat Kota Makassar umumnya berasal dari air baku Bendung
Leko Pancing yang telah diolah oleh PDAM (Perusahaan Daerah Air
Minum). Air bendungan ditransmisikan melalui saluran terbuka
sepanjang 22,66 km; siphon sepanjang 4,52 km dan terowongan
sepanjang 0,73 km. Tinggi, debit air dan kekeruhan air pada
saluran terbuka dapat mempengaruhi ketersediaan air pada
<i>intake</i> pengolahan air PDAM. Kondisi air yang berubah-ubah
memerlukan pemantauan yang lebih fleksibel serta dapat melakukan
pemantauan jarak jauh secara <i>real time</i>. Oleh karena itu,
website ini dikembangkan untuk mempermudah pemantauan kondisi air
saluran terbuka menuju instalasi pengolahan air.</p>
        </div>
        <div class="col">
            <!--  -->
            <div id="carouselExampleInterval" class="carousel slide
w-75 gambar" data-bs-ride="carousel">
                <div class="carousel-inner">
                    <div class="carousel-item active" data-bs-
interval="3000">
                        
                    </div>
                    <div class="carousel-item" data-bs-interval="3000">
                        
                    </div>
                    <div class="carousel-item" data-bs-interval="3000">
                        
                    </div>
                </div>
                <button class="carousel-control-prev" type="button"
data-bs-target="#carouselExampleInterval" data-bs-slide="prev">

```



```

    <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootst
rap.min.css" rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhF1dvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3"
crossorigin="anonymous">    <script
src="https://cdn.plot.ly/plotly-2.4.1.min.js"></script>
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstra
p.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmtz2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p"
crossorigin="anonymous"></script>
    <script src="https://cdn.plot.ly/plotly-
2.8.3.min.js"></script>
    <!-- <script src="https://cdn.plot.ly/plotly-
latest.min.js"></script> -->
    <!-- <script src="plotly-2.8.3.min.js"></script> -->
    <style media="screen">
    </style>
</head>

<body>
<!-- === HEADER === -->
<!-- === NAVIGASI BAR === -->

<nav class="nav fixed-top">
  <div class="container">
    <div class="row">

      <div class="col mt-3">
        <ul class="nav">
          <li class="nav-item">
            <a class="nav-link" aria-current="page"
href=" ../beranda">Beranda</a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href=" ../sensor">Sensor</a>
          </li>
        </ul>
      </div>

      <div class="col mt-2">
        <ul class="nav justify-content-center">
          <a href="http://www.phys.sci.unhas.ac.id/en/"
target="_blank">
            </a>
          </ul>
        </div>

```

```

        <div class="col mt-3">
            <ul class="nav justify-content-end">
                <li class="nav-item">
                    <a class="nav-link" href="../data-
pengukuran">Grafik</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="../unduh">Tabel</a>
                </li>
            </ul>
        </div>

    </div>
</div>
</nav>

<!-- === OPENING === -->
<section>
    <div class="container glassbackground" style="padding-
bottom:60px">

        <nav style="--bs-breadcrumb-divider:
url(&#34;data:image/svg+xml,%3Csvg
xmlns='http://www.w3.org/2000/svg' width='8' height='8'%3E%3Cpath
d='M2.5 0L1 1.5 3.5 4 1 6.5 2.5 8l4-4-4-4z'
fill='currentColor'/%3E%3C/svg%3E&#34;);" aria-label="breadcrumb">
            <ol class="breadcrumb" style="padding-top:10px;">
                <li class="breadcrumb-item beranda"><a href="../beranda/"
style="color:black; text-decoration:none">Beranda</a></li>
                <li class="breadcrumb-item active" aria-
current="page">Data Pengukuran</li>
            </ol>
        </nav>

        <h2 style="text-align: center; margin-top: 30px; margin-
bottom: 10px; font-weight:bolder;">GRAFIK DATA PENGUKURAN</h2>

        <!-- === DISPLAY CLOCK === -->
        <script type="text/javascript">
            window.onload = setInterval(clock,1000);
            function clock()
            {
                var d = new Date();
                var date = d.getDate();
                var month = d.getMonth();
                var montharr =
["Januari","Februari","Maret","April","Mei","Juni","Juli","Agustus
","September","Oktober","November","Desember"];
                month = montharr[month];

```

```

        var year = (d.getFullYear() + " -");

        var day = d.getDay();
        var dayarr
=["Minggu,","Senin,","Selasa,","Rabu,","Kamis,","Jumat,","Sabtu,"]
;

        day = dayarr[day];

        var hour = ('0' + d.getHours()).slice(-2);
        var min = ('0' + d.getMinutes()).slice(-2);
        var sec = (('0' + d.getSeconds()).slice(-2) + '
WITA');

        document.getElementById("date").innerHTML=day + " " +
date + " " + month + " " + year;

document.getElementById("time").innerHTML=hour+":"+min+":"+sec;
    }
</script>

<!--      <h6 class="clock" style="font-size:16px; color:#333333;
margin-top:20px;">
        <p id="date"></p>
        <p id="time"></p>
</h6>--!>
<!-- === GRAPHIC === -->

<div class="container" style="margin-top:30px">
    <div class="row">
        <div class="col-1">
            <div class="dropdown">
                <button class="btn btn-secondary dropdown-toggle"
type="button" id="dropdownMenu2" data-bs-toggle="dropdown" aria-
haspopup="true" aria-expanded="false">
                    Grafik
                </button>
                <ul class="dropdown-menu" aria-
labelledby="dropdownMenu2">
                    <li><button class="dropdown-item" type="button"
onclick="setgrafik(0)">Debit Air</button></li>
                    <li><button class="dropdown-item" type="button"
onclick="setgrafik(1)">Tinggi Air</button></li>
                    <li><button class="dropdown-item" type="button"
onclick="setgrafik(2)">Kekeruhan</button></li>
                </ul>
            </div>
        </div>
    </div>
</div>
<div class="col">

```

```

        <p style="margin-top:7px;font-size:12pt">Pilih grafik
yang ingin ditampilkan</p>
    </div>
    <div class="col">
        <h6 class="clock" style="font-size:16px;
color:#333333;margin-top:10px; text-align:right">
            <p id="date"></p>
            <p id="time"></p>
        </h6>
    </div>
</div>
</div>
</div>

<div id="chart" style="display: auto; width:1100px;
height:380px; margin: auto; margin-top:10px; box-shadow: 0 4px 8px
0 rgba(0, 0, 0, 0.1), 0 6px 20px 0
rgba(0, 0, 0, 0.1);">
    </div>

<h5 style="margin-left:10px; margin-top: 30px">Data
Terukur</h5>
<div class="" style="margin-left:40px">
    <p id="sensor1"></p>
    <p id="sensor2"></p>
    <p id="sensor3"></p>
</div>

<script type="text/javascript">
    $(document).ready(function(){
        $('.dropdown-toggle').dropdown();
    })
</script>

<script>
    showgrafik(0);
    function setgrafik(pilih){
        try{
            stop();
            showgrafik(pilih);
            // dataFDB();
        }
        catch(e){
            console.log(e);
        }
    }
    function showgrafik(pilih){
        var jenis = ["DEBIT AIR", "TINGGI AIR", "KEKERUHAN"];
        var keterangan = ["Liter/Detik", "Meter", "NTU"];
        var jenis1 = jenis[pilih].toString();

```

```

var keterangan1 = keterangan[pilih].toString();
var layout = {
  paper_bgcolor: 'rgba(255,255,255,0.2)',
  plot_bgcolor: 'rgba(255,255,255,0.1)',
  title: jenis1.bold(),
  titlefont: {
    family: 'segoe ui',
    size: 21,
    color: 'black'
  },
  margin: {
    t: 80
  },
  xaxis: {
    title: '<b>Waktu</b>',
    titlefont: {
      family: 'segoe ui',
      color: 'black'
    },
    tickangle: 15,
    nticks: 25,
    tickcolor: '#000',
    linecolor: '#b0b7b8',
    tickfont: {
      size: 11,
      color: 'black'
    },
  },
  yaxis: {
    title: keterangan1.bold(),
    titlefont: {
      color: 'black',
      family: 'segoe ui',
    },
    nticks: 10,
    tickcolor: '#000',
    linecolor: '#b0b7b8'
  }
};

var time = new Date();
var data = [{
  x: [time],
  y: [0],
  mode: 'lines',
  line: {color: '#81e6c7'}
}]
Plotly.newPlot('chart', data, layout);
updategrafik(pilih)

```

```

    }

    function updategrafik(pilih){
        if(typeof(EventSource) !== "undefined"){
            var source = new EventSource("/data-
pengukuran/page1");
            source.onmessage = function(event){
                var dataGrafik = event.data;
                var pixGrafik = dataGrafik.split(",");
                var format = new Date();
                var time = new Date(pixGrafik[0]);
                console.log(time)
                var update = {
                    x: [[format]],
                    y: [[pixGrafik[pilih+1]]]
                }
                var olderTime =
format.setMinutes(format.getMinutes() - 1);
                var futureTime =
format.setMinutes(format.getMinutes() + 1);
                var minuteView = {
                    xaxis:{
                        type: 'date',
                        range: [olderTime,futureTime]
                    }
                };
                Plotly.relayout('chart',minuteView);
                Plotly.extendTraces('chart', update, [0]);
                document.getElementById("sensor1").innerHTML =
"Debit Air : " + pixGrafik[1] + "Liter/Detik";
                document.getElementById("sensor2").innerHTML =
"Tinggi Air : " + pixGrafik[2] + " Meter";
                document.getElementById("sensor3").innerHTML =
"Kekeruhan : " + pixGrafik[3] + " NTU";
            }
        }
        else {
            document.getElementById("sensor1").innerHTML =
"Sorry, your browser does not support server-sent events!";
        }
        function stop(){
            source.close();
        }
    }
}
</script>
</div>
</div>
</section>

```



```

<div class="container-fluid copyright">
  <div class="row">
    <div class="col">
      <p class="copyrighttext"> Copyright <b>Trisna Elma
Danti</b>. All Rights Reserved.</p>
    </div>
    <div class="col">
      <a href="https://www.linkedin.com/in/trisna-elma-danti-
40270b119/" target="_blank">
        <img class="img-linkedin" src= "{% static
"img/likedin.png" %}" alt="linkedin.png" width="20px"></a>
      </div>
    </div>
  </div>
</body>
</html>

```

Lampiran 13. Script program halaman sensor pada *website*

```

<!DOCTYPE html>
{% load static %}
<html lang="en" dir="ltr">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1, maximum-scale=1, user-scalable=0">
    <title>MONITORING KONDISI AIR</title>
    <!-- <link rel="stylesheet" href="{% static
'/css/stylewebsite001.css' %}" --> -->
    <link rel="stylesheet"
href="/static/css/stylewebsite001.css?{% now "U" %}">
    <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootst
rap.min.css" rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhF1dvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3"
crossorigin="anonymous">    <script
src="https://cdn.plot.ly/plotly-2.4.1.min.js"></script>
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstra
p.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmtz2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p"
crossorigin="anonymous"></script>

    <style media="screen">
      .accordion {
        margin: 20px;
        padding-bottom: 60px;
      }

```

```

    @supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
      .accordion-button {
        color: black;
        -webkit-backdrop-filter: blur(10px);
        backdrop-filter: blur(10px);
        background-color: rgba(159, 237, 230, 10%);
      }
    }
    .accordion-button:hover {
      box-shadow: 0 4px 8px 0 rgba(0, 125, 163, 0.2), 0 6px 20px 0
rgba(189, 249, 255, 0.19);
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
      .accordion-button:hover {
        -webkit-backdrop-filter: blur(10px);
        backdrop-filter: blur(10px);
        color: #1f9c91;
        background-color: rgba(0, 125, 163, 10%);
      }
    }
    .accordion-button:active {
      color: #007da3;
      box-shadow: 0 4px 8px 0 rgba(0, 156, 204, 0.2), 0 6px 20px 0
rgba(0, 119, 156, 0.19);
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
      .accordion-button:active {
        -webkit-backdrop-filter: blur(10px);
        backdrop-filter: blur(10px);
        background-color: rgba(109, 214, 205, 10%);
      }
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
      .accordion-item {
        -webkit-backdrop-filter: blur(10px);
        backdrop-filter: blur(10px);
        background-color: rgba(255, 255, 255, 5%);
      }
    }
    .sensor {
      text-align: center;
      font-weight: bolder;
      margin-top: 50px;
    }
    .intro {

```

```

        text-align: center;
        margin: 50px;
    }
    .teks {
        margin-top: auto;
        margin-bottom: auto;
        margin-right: 30px;
        text-align: justify;
    }
    .sensor-img {
        margin-left: 20px;
        margin-top: -10px;
    }
</style>
</head>

<body>
<!-- === HEADER === -->
<!-- === NAVIGASI BAR === -->

<nav class="nav fixed-top">
    <div class="container">
        <div class="row">

            <div class="col mt-3">
                <ul class="nav">
                    <li class="nav-item">
                        <a class="nav-link" aria-current="page"
href=" ../beranda">Beranda</a>
                    </li>
                    <li class="nav-item">
                        <a class="nav-link" href=" ../sensor">Sensor</a>
                    </li>
                </ul>
            </div>

            <div class="col mt-2">
                <ul class="nav justify-content-center">
                    <a href="http://www.phys.sci.unhas.ac.id/en/"
target="_blank">
                        <img class="img-nav" src= "{% static "img/1200px-
Logo_UH.png" %}" alt="Logo_Unhas.png" width="45px"></a>
                </ul>
            </div>

            <div class="col mt-3">
                <ul class="nav justify-content-end">
                    <li class="nav-item">
                        <a class="nav-link" href=" ../grafik">Grafik</a>

```

```

        </li>
        <li class="nav-item">
            <a class="nav-link" href="../tabel">Tabel</a>
        </li>
    </ul>
</div>

</div>
</div>
</nav>

<!-- === BACKGROUND === -->

<!-- <div class="d-flex flex-column justify-content-center w-100
h-100">
</div> -->
<!-- === OPENING === -->
<div class="container glassbackground">

    <nav style="--bs-breadcrumb-divider:
url(&#34;data:image/svg+xml,%3Csvg
xmlns='http://www.w3.org/2000/svg' width='8' height='8'%3E%3Cpath
d='M2.5 0L1 1.5 3.5 4 1 6.5 2.5 8l4-4-4-4z'
fill='currentColor'/%3E%3C/svg%3E&#34;);" aria-label="breadcrumb">
        <ol class="breadcrumb" style="padding-top:10px;">
            <li class="breadcrumb-item beranda"><a href="../beranda/"
style="color:black; text-decoration:none">Beranda</a></li>
            <li class="breadcrumb-item active" aria-
current="page">Sensor</li>
        </ol>
    </nav>

    <h2 class="sensor">SENSOR</h2>
    <p class="intro"> Sistem pemantauan debit, ketinggian dan
kekeruhan air dibangun menggunakan 3 jenis sensor yang dikontrol
menggunakan mikrokontroler Arduino Uno. Data yang terukur kemudian
dikirim ke mikrokomputer Raspberry Pi secara <i>wireless</i>
melalui modul XBee. Data akan diunggah ke <i>database</i> hingga dapat
diakses oleh user melalui jaringan internet.</p>

    <div class="accordion" id="accordionPanelsStayOpenExample">
    <div class="accordion-item">
        <h2 class="accordion-header" id="panelsStayOpen-headingOne">
            <button class="accordion-button collapsed" type="button"
data-bs-toggle="collapse" data-bs-target="#panelsStayOpen-
collapseOne" aria-expanded="false" aria-controls="panelsStayOpen-
collapseOne">
                Sensor Flow Meter YF-S201
            </button>

```

```

</h2>
<div id="panelsStayOpen-collapseOne" class="accordion-collapse
collapse" aria-labelledby="panelsStayOpen-headingOne">
  <div class="accordion-body">
    <div class="row">
      <div class="col-3">
        
      </div>
      <div class="col teks">
        <strong>Sensor aliran air YF-S201</strong> dapat
mengukur debit air 1-30 liter/menit dalam tekanan kurang dari 1,75
MPa dengan tegangan kerja sebesar 5 Volt. Selain itu, sensor YF-
S201 tersusun dari kerangka yang terbuat dari plastik, rotor
dengan baling-baling, dan sensor efek Hall. Kecepatan putaran
rotor berubah seiring semakin cepatnya aliran air yang melewati
sensor.
      </div>
    </div>
  </div>
</div>
<div class="accordion-item">
  <h2 class="accordion-header" id="panelsStayOpen-headingTwo">
    <button class="accordion-button collapsed" type="button"
data-bs-toggle="collapse" data-bs-target="#panelsStayOpen-
collapseTwo" aria-expanded="false" aria-controls="panelsStayOpen-
collapseTwo">
      Sensor Inframerah GP2Y0A02YK0F
    </button>
  </h2>
  <div id="panelsStayOpen-collapseTwo" class="accordion-collapse
collapse" aria-labelledby="panelsStayOpen-headingTwo">
    <div class="accordion-body">
      <div class="row">
        <div class="col-3">
          
        </div>
        <div class="col teks">
          <strong>Sensor GP2Y0A02YK0F</strong> merupakan salah
satu jenis sensor sinar inframerah yang berfungsi untuk mengukur
jarak. Sensor dapat melakukan pengukuran jarak dengan rentang 20
hingga 150 cm dan mengonsumsi tegangan sebesar 4,5 hingga 5,5
Volt. Panjang gelombang sinar inframerah yang dipancarkan sensor
sekitar 850 ± 70 nm.
        </div>
      </div>
    </div>
  </div>

```

```

        </div>
    </div>
</div>
<div class="accordion-item">
    <h2 class="accordion-header" id="panelsStayOpen-headingThree">
        <button class="accordion-button collapsed" type="button"
data-bs-toggle="collapse" data-bs-target="#panelsStayOpen-
collapseThree" aria-expanded="false" aria-
controls="panelsStayOpen-collapseThree">
            Sensor Turbidity TS-300B
        </button>
    </h2>
    <div id="panelsStayOpen-collapseThree" class="accordion-
collapse collapse" aria-labelledby="panelsStayOpen-headingThree">
        <div class="accordion-body">
            <div class="row">
                <div class="col-3">
                    
                </div>
                <div class="col teks">
                    <strong>Sensor Turbidity TS-300B</strong> dapat
digunakan untuk mengukur kekeruhan air dengan rentang 0-1000 NTU.
Sensor menggunakan tegangan 5 V untuk bekerja. Prinsip kerja
sensor memancarkan sinar inframerah melalui fotodiode IR kemudian
ditangkap oleh fototransistor IR. Tingkat kekeruhan ditandai
dengan berkurangnya sinar inframerah yang diterima oleh IR
fototransistor akibat adanya hamburan atau penyerapan sinar IR
oleh partikel. Nilai toleransi hasil pengukuran sensor sebesar  $\pm 2$ 
NTU untuk kekeruhan di bawah 25 NTU dan  $\pm 5$  NTU untuk kekeruhan di
atas 25 NTU.
                </div>
            </div>
        </div>
    </div>
</div>
</div>
</div>
</div>
<div class="container-fluid copyright">
    <div class="row">
        <div class="col">
            <p class="copyrighttext">© Copyright <b>Trisna Elma
Danti</b>. All Rights Reserved.</p>
        </div>
        <div class="col">
            <a href="https://www.linkedin.com/in/trisna-elma-danti-
40270b119/" target="_blank">

```

```

                <img class="img-linkedin" src= "{% static
"img/linkedin.png" %}" alt="linkedin.png" width="20px"></a>
            </div>
        </div>
    </div>
</body>
</html>

```

Lampiran 14. Script program halaman tabel data pada *website*

```

<!DOCTYPE html>
{% load static %}
<html lang="en" dir="ltr">
    <head>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-
scale=1, maximum-scale=1, user-scalable=0">
        <title>MONITORING KONDISI AIR</title>
        <!-- <link rel="stylesheet" href="{% static
'/css/stylewebsite001.css' %}"> -->
        <link rel="stylesheet"
href="/static/css/stylewebsite001.css?{% now "U" %}">
        <link
href="https://cdn.jsdelivrivr.net/npm/bootstrap@5.1.3/dist/css/bootst
rap.min.css" rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3"
crossorigin="anonymous">
        <script
src="https://cdn.plot.ly/plotly-2.4.1.min.js"></script>
        <script
src="https://cdn.jsdelivrivr.net/npm/bootstrap@5.1.3/dist/js/bootstra
p.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmtz2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+lp"
crossorigin="anonymous"></script>
        <script src="https://cdn.plot.ly/plotly-
2.8.3.min.js"></script>
        <script
src="https://cdnjs.cloudflare.com/ajax/libs/moment.js/2.24.0/momen
t.min.js"></script>
        <script src="https://cdnjs.cloudflare.com/ajax/libs/bootstrap-
datetimepicker/4.17.47/js/bootstrap-
datetimepicker.min.js"></script>
        <!-- <script src="https://cdn.plot.ly/plotly-
latest.min.js"></script> -->
        <!-- <script src="plotly-2.8.3.min.js"></script> -->
        <style media="screen">
            .btn {
                margin-left: 60px;
                border-radius: 10px;
                border: none;

```

```

        font-weight: bolder;
        color: #007da3;
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-
filter: none) {
        .btn {
            -webkit-backdrop-filter: blur(10px);
            backdrop-filter: blur(10px);
            background-color: rgba(255, 255, 255, 60%);
        }
    }
    .btn:hover {
        color: #bbf4fa;
        box-shadow: 0 4px 8px 0 rgba(0, 125, 163, 0.2), 0 6px 20px
0 rgba(189, 249, 255, 0.19);
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-
filter: none) {
        .btn:hover {
            -webkit-backdrop-filter: blur(10px);
            backdrop-filter: blur(10px);
            background-color: rgba(0, 125, 163, 100%);
        }
    }
    .btn:active {
        color: #007da3;
        box-shadow: 0 4px 8px 0 rgba(0, 156, 204, 0.2), 0 6px
20px 0 rgba(0, 119, 156, 0.19);
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-
filter: none) {
        .btn:active {
            -webkit-backdrop-filter: blur(10px);
            backdrop-filter: blur(10px);
            background-color: rgba(0, 156, 204, 20%);
        }
    }
</style>
</head>
<body>

<!-- === HEADER === -->
<!-- === NAVIGASI BAR === -->

<nav class="nav fixed-top">
    <div class="container">
        <div class="row">
            <div class="col mt-3">
                <ul class="nav">

```



```

        <li class="nav-item">
            <a class="nav-link" aria-current="page"
href="../beranda">Beranda</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="../sensor">Sensor</a>
        </li>
    </ul>
</div>
<div class="col mt-2">
    <ul class="nav justify-content-center">
        <a href="http://www.phys.sci.unhas.ac.id/en/"
target="_blank">
            </a>
        </ul>
    </div>
<div class="col mt-3">
    <ul class="nav justify-content-end">
        <li class="nav-item">
            <a class="nav-link" href="../grafik">Grafik</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="../tabel">Tabel</a>
        </li>
    </ul>
</div>
</div>
</div>
</nav>

<!-- === OPENING === -->
<section>
    <div class="container glassbackground" style="padding-
bottom:50px">

        <nav style="--bs-breadcrumb-divider:
url(&#34;data:image/svg+xml,%3Csvg
xmlns='http://www.w3.org/2000/svg' width='8' height='8'%3E%3Cpath
d='M2.5 0L1 1.5 3.5 4 1 6.5 2.5 8l4-4-4-4z'
fill='currentColor'%3E%3C/svg%3E&#34;);" aria-label="breadcrumb">
            <ol class="breadcrumb" style="padding-top:10px;">
                <li class="breadcrumb-item beranda"><a href="../beranda/"
style="color:black; text-decoration:none">Beranda</a></li>
                <li class="breadcrumb-item active" aria-
current="page">Unduh</li>
            </ol>
        </nav>

```

```

<h2 style="text-align: center; margin-top: 40px; margin-
bottom: 10px; font-weight:bold;">TABEL DATA PENGUKURAN</h2>
<div class="container">

  <div class="container" style="margin-top:50px">
    <!-- <div class="row" method="get" id="getdata"> -->
    <form class="row gx-3 gy-2" method="get" id="getdata">
      <div class="btn-toolbar mb-2 mb-md-0" style="text-
align:left; align-items:center;">
        <div class="col-4" style="text-align:left;">
          <label for="from" style="margin-left:
20px"><strong>Dari:</strong></label>
          <input type="datetime-local" id="from" name="from"
value="required">
        </div>
        <div class="col-4">
          <label for="from"><strong>Sampai:</strong></label>
          <input type="datetime-local" id="to" name="to"
value="required">
        </div>
        <div class="col-2.5">
          <label for="rentang"><strong>Rentang:</strong></label>
          <select class="custom-select ml-2" id="rentang"
name="rentang" value="required">
            <option value="menit">Data Permenit</option>
            <option value="jam">Data Perjam</option>
          </select>
        </div>
        <div class="col-1" style="text-align:center">
          <input type="submit" name="" value="submit" class="btn
btn-primary align-items-left">
        </div>
      </div>
    </form>
  </div>

  <!-- <main role="main" class="col-md-9 ml-sm-auto col-lg-10
px-md-4" id="mymain"> -->
  <!-- <div class="d-flex justify-content-between flex-wrap
flex-md-nowrap alignitems-center pt-3 pb-2 mb-3 border-bottom">
    <h1 class="h2">Data Pengukuran</h1>
    <div class="btn-toolbar mb-2 mb-md-0">
      <form class="row gx-3 gy-2 align-items-center"
method="get" id="getdata">
        <div class="col-sm">
          <label for="from"> <strong>Dari: </strong></label>
          <input type="datetime-local" id="from" name="from"
value="required">
        </div>

```

```

        <div class="col-sm">
            <label for="from">Sampai :</label>
            <input type="datetime-local" id="to" name="to"
value="required">
        </div>
        <div class="col-sm-4">
            <label for="rentang">Rentang :</label>
            <select class="custom-select mr-sm-2" id="rentang"
name="rentang" value="required">
                <option value="menit">Data Permenit</option>
                <option value="jam">Data Perjam</option>
                <option value="hari"> Data Perhari</option>
            </select>
        </div>
        <input type="submit" name="" value="submit" class="btn
btnprimary">
    </form>
</div>
</div> -->

```

```

<!-- pagenator -->
<div>
    {% if datas != 'empty' %}
    <!-- <h4 style="text-align:center;">Tabel data pengukuran
    {{dari}} sampai {{sampai}} dengan rentang data per{{rentang}}</h4>
    -->

```

```

    <table class="table table-bordered table-sm" style="text-
align: center; vertical-align: middle; margin:auto">
        <thead class="table-light">
            <tr>
                <th scope="col" style="width:40px">NO</th>
                <th scope="col" style="width:150px">WAKTU</th>
                <th scope="col" style="width:150px">DEBIT</th>
                <th scope="col" style="width:150px">KETINGGIAN AIR</th>
                <th scope="col" style="width:150px">KEKERUHAN</th>
            </tr>
        </thead>
        <tbody>
            {% for data in datas %}
            <tr>
                <th scope="row">{{data.id}}</th>
                <td>{{data.tanggal}}</td>
                <td>{{data.debit}}</td>
                <td>{{data.ketinggian}}</td>
                <td>{{data.kekeruhan}}</td>
            </tr>
            {% endfor %}
        </tbody>
    </table>

```

```

<!-- <table class="table">
  <thead>
    <tr>
      <th scope="col">NO</th>
      <th scope="col">TANGGAL</th>
      <th scope="col">DEBIT</th>
      <th scope="col">KETINGGIAN AIR</th>
      <th scope="col">KEKERUHAN</th>
    </tr>
  </thead>
  <tbody>
    {% for data in datas %}
    <tr>
      <th scope="row">{{data.id}}</th>
      <td>{{data.tanggal}}</td>
      <td>{{data.curah_hujan}}</td>
    </tr>
    {% endfor %}
  </tbody>
</table>

{% if datas.has_other_pages %}
<ul class="pagination">
  {% if datas.has_previous %}
  <li>
    <a
href="?page={{datas.previous_page_number}}&from={{dari}}&to={{samp
ai}}&rentang={{rentang}}">&laquo;</a>
  </li>
  {% else %}
  <li class="disabled">
    <span>&laquo;</span>
  </li>
  {% endif %}
  {% for i in datas.paginator.page_range %}
  {% if datas.number == i %}
  <li class="active">
    <span>{{i}}<span class="sr-only">(current)</span></span>
  </li>
  {% else %}
  <li>
    <a
href="?page={{i}}&from={{dari}}&to={{sampai}}&rentang={{rentang}}"
>{{i}}</a>
  </li>
  {% endif %}
  {% endfor %}

```

```

        {% if datas.has_next %}
        <li>
            <a href="?page={{
datas.next_page_number}}&from={{dari}}&to={{sampai}}&rentang={{ren
tang}}">&raquo;</a>
        </li>
        {% else %}
        <li class="disabled"><span>&raquo;</span></li>
        {% endif %}
    </ul>
    {% endif %}
    {% endif %}
</div> -->
<!-- </main> -->
</div>
</section>

<div class="container-fluid copyright">
    <div class="row">
        <div class="col">
            <p class="copyrighttext">© Copyright <b>Trisna Elma
Danti</b>. All Rights Reserved.</p>
        </div>
        <div class="col">
            <a href="https://www.linkedin.com/in/trisna-elma-danti-
40270b119/" target="_blank">
                </a>
            </div>
        </div>
    </div>
</div>
</body>
</html>

```

Lampiran 15. Script program CSS untuk *website*

```

body {
    background: linear-gradient(-45deg, #118b99, #cdf2c4, #b1dbe3,
#1f2f98);
    background-size: 400% 250%;
    animation: gradient 15s ease infinite;
}

@keyframes gradient {
    0% {
        background-position: 0% 50%;
    }
    50% {
        background-position: 100% 50%;
    }
}

```

```

    }
    100% {
        background-position: 0% 50%;
    }
}
@font-face {
    font-family: 'digital-7';
    src: local('digital-7'), url('/static/fonts/digital-7.ttf')
format('truetype');
}

/* === NAVBAR === */
.nav {
    background: #0b5370;
    padding-bottom: 4px;
}
.img-nav:hover {
    filter: drop-shadow(0 4px 5px rgba(0, 0, 0, 0.2));
}
.nav-item {
    font-size: 14px;
    font-weight: bold;
    text-transform: uppercase;
}
.nav-link{
    color: #d4effa !important;
}
.nav-link:hover {
    color: #7dd4e3 !important;
    text-shadow: 0 3px 2px rgba(204, 248, 252, 0.2);
}
.nav-link:active {
    color: #04c4c4 !important;
    text-shadow: 0 3px 2px rgba(0, 0, 0, 0.2);
}

/* === BACKGROUND === */
.glassbackground {
    width: 85%;
    margin-left: auto;
    margin-right: auto;
    margin-top: 80px;
    box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0 rgba(0, 0, 0, 0.19);
    border-radius: 15px;
}
@supports (-webkit-backdrop-filter: none) or (backdrop-filter: none) {
    .glassbackground {

```

```

        -webkit-backdrop-filter: blur(10px);
        backdrop-filter: blur(10px);
        background-color: rgba(255, 255, 255, 30%);
    }
}
/* === BREADCRUMB === */
.breadcrumb {
    margin-left: 10px;
    font-size: 14px;
}
.beranda:hover {
    text-decoration: underline;
}

/* === HALAMAN BERANDA === */
/* === OPENING === */

.page1 {
    padding-top: 70px;
}
.opening {
    text-align: center;
    text-decoration: none;
    color: #333333;
}
.opening h1 {
    font-weight: bold;
    font-size: 48px;
}
.opening p {
    line-height: 20px;
}
.btn-1 {
    border-radius: 50px;
    background: white;
    padding: 10px 30px;
    min-width: 170px;
    font-size: 14px;
    text-transform: uppercase;
    margin-top: 15px;
    display: inline-block;
    transition: all 0.5s eaase-in;
    text-decoration: none;
    color: #333333;
    font-weight: bold;
    box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0 rgba(0,
0, 0, 0.19);
}

```

```

@supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
  .btn-1 {
    -webkit-backdrop-filter: blur(10px);
    backdrop-filter: blur(10px);
    background-color: rgba(255, 255, 255, 60%);
  }
}
.btn-1:hover {
  color: #bbf4fa;
  box-shadow: 0 4px 8px 0 rgba(0, 125, 163, 0.2), 0 6px 20px 0
rgba(189, 249, 255, 0.19);
}
@supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
  .btn-1:hover {
    -webkit-backdrop-filter: blur(10px);
    backdrop-filter: blur(10px);
    background-color: rgba(0, 125, 163, 100%);
  }
}
.btn-1:active {
  color: #007da3;
  box-shadow: 0 4px 8px 0 rgba(0, 156, 204, 0.2), 0 6px 20px 0
rgba(0, 119, 156, 0.19);
}
@supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
  .btn-1:active {
    -webkit-backdrop-filter: blur(10px);
    backdrop-filter: blur(10px);
    background-color: rgba(0, 156, 204, 20%);
  }
}

/* === CLOCK === */
.clock {
  line-height: 10px;
  text-align: center;
  font-family: digital-7;
  font-size:14px;
  font-weight: 600;
  position: relative;
  color: #black;
  letter-spacing: 1px;
  opacity: 0.8;
  margin-top: 40px;
}
#date {

```



```

    text-transform: uppercase;
    display: inline;
}
#time {
    display: inline;
}

/* === DATA ON DASHBOARD === */
.data-dashboard {
    margin-top: 40px;
    text-align: center;
    padding-right: 10px;
}
.data-dashboard h4{
    text-transform: uppercase;
    font-weight: bolder;
    font-stretch: semi-condensed;
    font-size: 16px;
    margin-top: 15px;
}
.data-dashboard h3{
    font-weight: bolder;
    font-stretch: semi-condensed;
    font-size: 42px;
}
.data-dashboard p{
    font-size: 16px;
    margin-bottom: 13px;
}
.data-coll {
    margin-right: 50px;
    border-radius: 15px;
    background: #ffffff;
    padding: 10px 10px;
    min-width: 130px;
    grid-column-gap: 50px;
    box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0
    rgba(0, 0, 0, 0.19);
}
@supports (-webkit-backdrop-filter: none) or (backdrop-filter:
none) {
    .data-coll {
        -webkit-backdrop-filter: blur(10px);
        backdrop-filter: blur(10px);
        background-color: rgba(255, 255, 255, 0.19);
    }
}
.data-col2 {
    border-radius: 15px;
}

```

```

        background: #ffffff;
        padding: 10px 10px;
        min-width: 130px;
        box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0
        rgba(0, 0, 0, 0.19);
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-filter:
    none) {
        .data-col2 {
            -webkit-backdrop-filter: blur(10px);
            backdrop-filter: blur(10px);
            background-color: rgba(255, 255, 255, 0.19);
        }
    }
    .data-col3 {
        /* margin-left: 50px; */
        border-radius: 15px;
        background: #ffffff;
        padding: 10px 10px;
        min-width: 130px;
        box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0
        rgba(0, 0, 0, 0.19);
    }
    @supports (-webkit-backdrop-filter: none) or (backdrop-filter:
    none) {
        .data-col3 {
            -webkit-backdrop-filter: blur(10px);
            backdrop-filter: blur(10px);
            background-color: rgba(255, 255, 255, 0.19);
        }
    }
    }

    .line {
        content: "";
        flex: 1 1;
        border-bottom: 2px solid #828d8f;
        margin-top: 90px;
        margin-left: auto;
        margin-right: auto;
        width: 250px;
    }
    .latarbelakang {
        text-align: center;
        margin-top: 70px;
        font-weight: bolder;
    }
    #profil {
        margin-top: 70px;
        padding-bottom: 65px;
    }

```

```

}
.sepatahkata {
    margin-left: 50px;
    text-align: justify;
}
.gambar {
    margin: auto;
    margin-top: 10px;
}
.gambar-kanal {
    background: #e6e6e6;
    padding:12px;
    box-shadow: 0 4px 4px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0 rgba(0,
0, 0, 0.19);
}

/* === SENSOR PAGE === */
/* === FOOTER === */
.copyright {
    margin-top: 15px;
    background: #0b5370;
    padding-top: 15px;
    box-shadow: 0 4px 4px 4px rgba(0, 0, 0, 20%), 0 6px 20px 6px
rgba(0, 0, 0, 20%);
}
.copyrighttext {
    font-size: 10pt;
    margin-left: 20px;
    color: #d4effa;
}
}
.img-linkedin {
    float: right;
    margin-right: 70px;
}
}

```

Lampiran 16. Script program settings.py Django

```

"""
Django settings for PROJECT10 project.

Generated by 'django-admin startproject' using Django 3.1.6.

For more information on this file, see
https://docs.djangoproject.com/en/3.1/topics/settings/

For the full list of settings and their values, see
https://docs.djangoproject.com/en/3.1/ref/settings/
"""

```

```

from pathlib import Path
import os
# Build paths inside the project like this: BASE_DIR / 'subdir'.
BASE_DIR = Path(__file__).resolve().parent.parent
TEMPLATE_DIR = os.path.join(BASE_DIR, 'template')
STATIC_DIR = os.path.join(BASE_DIR, 'static')

# Quick-start development settings - unsuitable for production
# See
https://docs.djangoproject.com/en/3.1/howto/deployment/checklist/

# SECURITY WARNING: keep the secret key used in production secret!
SECRET_KEY = 'x+@2bamui5-ov4li0o%x%gs#f0@#=#ui$0qhrxrhxavy=7p%*@'

# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True

ALLOWED_HOSTS = []

# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'ProjectAPP',
]

MIDDLEWARE = [
    'django.middleware.security.SecurityMiddleware',
    'django.contrib.sessions.middleware.SessionMiddleware',
    'django.middleware.common.CommonMiddleware',
    'django.middleware.csrf.CsrfViewMiddleware',
    'django.contrib.auth.middleware.AuthenticationMiddleware',
    'django.contrib.messages.middleware.MessageMiddleware',
    'django.middleware.clickjacking.XFrameOptionsMiddleware',
]

ROOT_URLCONF = 'PROJECT10.urls'

TEMPLATES = [
    {
        'BACKEND':
'django.template.backends.django.DjangoTemplates',
        'DIRS': [TEMPLATE_DIR],
        'APP_DIRS': True,
    }
]

```

```

        'OPTIONS': {
            'context_processors': [
                'django.template.context_processors.debug',
                'django.template.context_processors.request',
                'django.contrib.auth.context_processors.auth',

'django.contrib.messages.context_processors.messages',
            ],
        },
    },
]

WSGI_APPLICATION = 'PROJECT10.wsgi.application'

# Database
# https://docs.djangoproject.com/en/3.1/ref/settings/#databases

DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.mysql',
        'NAME': 'django',
        'USER': 'Trisure',
        'PASSWORD': '*****',
        'HOST': 'localhost',
        'PORT': 3306,
    }
}

# Password validation
# https://docs.djangoproject.com/en/3.1/ref/settings/#auth-
password-validators

AUTH_PASSWORD_VALIDATORS = [
    {
        'NAME':
'django.contrib.auth.password_validation.UserAttributeSimilarityVa
lidator',
    },
    {
        'NAME':
'django.contrib.auth.password_validation.MinimumLengthValidator',
    },
    {
        'NAME':
'django.contrib.auth.password_validation.CommonPasswordValidator',
    },
    {

```

```

        'NAME':
'django.contrib.auth.password_validation.NumericPasswordValidator'
    },
]

```

```

# Internationalization
# https://docs.djangoproject.com/en/3.1/topics/i18n/

```

```
LANGUAGE_CODE = 'en-us'
```

```
TIME_ZONE = 'UTC'
```

```
USE_I18N = True
```

```
USE_L10N = True
```

```
USE_TZ = True
```

```

# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/3.1/howto/static-files/

```

```

STATIC_URL = '/static/'
STATICFILES_DIRS = [
    STATIC_DIR,
]

```

Lampiran 17. *Script* program urls.py Django

```

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('ProjectAPP.urls')),
]

```

Lampiran 18. *Script* program apps.py Django

```

from django.apps import AppConfig

class ProjectappConfig(AppConfig):
    name = 'ProjectAPP'

```

Lampiran 19. *Script* program models.py Django

```

from django.db import models

# Create your models here.
class DataSensor(models.Model):

```

```

tanggal = models.DateTimeField(auto_now_add=True)
debit = models.CharField(max_length=5)
ketinggian = models.CharField(max_length=5)
kekeruhan = models.CharField(max_length=5)

def __str__(self):
    return str(self.tanggal)
    # return DataSensor.content

```

Lampiran 20. *Script program urls.py halaman website pada Django*

```

from django.urls import path
from ProjectAPP import views

app_name = 'ProjectAPP'

urlpatterns = [
    path('beranda/', views.index, name='beranda'),
    path('beranda/page1', views.page1, name='page1'),
    path('sensor/', views.sensor, name='sensor'),
    path('data-pengukuran/', views.datapengukuran, name='data-
pengukuran'),
    path('unduh/', views.unduh, name='unduh'),
]

```

Lampiran 21. *Script program views.py Django*

```

from django.shortcuts import render
from django.http import StreamingHttpResponse
from ProjectAPP import models
from ProjectAPP import *
from django.core.paginator import Paginator, EmptyPage,
PageNotAnInteger
import time
import datetime

# Create your views here.
def index(request):
    return render(request, 'beranda.html')

def datapengukuran(request):
    return render(request, 'data-pengukuran.html')

def unduh(request):
    return render(request, 'unduh.html')

def sensor(request):
    # page = request.GET.get('page')

```

```

# start = request.GET.get('start')
# end = request.GET.get('end')
# # data = models.DataSensor.objects.all()
# a = "strftime('%Y-%m-%dT%H:%M', tanggal_input) BETWEEN
{waktu}"
# b = a.format(waktu=''' + str(start) + ''' + 'AND' + ''' +
str(end) + '''')
# data = models.DataSensor.objects.extra(where=[b])
# print(data)
# paginator = Paginator(data,15)
# try:
#     datas = paginator.page(page)
# except PageNotAnInteger:
#     datas = paginator.page(1)
# except EmptyPage:
#     datas = paginator.page(paginator.num_pages)
# context = {
#     'start' :start,
#     'end' :end,
#     'datas' :datas,
# }
return render(request, 'sensor.html')

```

```

def pagel(request):
    def event_pagel():
        while True:
            datas = models.DataSensor.objects.latest('id')
            print(datas)
            data = ''
            for i in datas:
                data += str(i) + ","
            time.sleep(1)
            yield 'data: %s\n\n' %data
    return StreamingHttpResponse(event_pagel(),
content_type='text/event-stream')

```