

Lampiran 1

LEMBAR BIMBINGAN SKRIPSI

Nama : Wahyu Indah Amalia
NIM : 2016.69.04.0035
Jurusan : Teknik Informatika
Konsentrasi : Mobile
Judul : SISTEM MONITORING BAK AIR SECARA
REALTIME BERBASIS INTERNET OF
THINGS

Hari	Tanggal	BAB	Materi Bimbingan	T.Tangan Pembimbing
Senin	06-04-2020		Pengajuan Judul	
Minggu	12-04-2020		Revisi Judul	
Minggu	19-04-2020	1	Pengajuan Bab 1	
Sabtu	25-04-2020	2	Pengajuan Bab 2	
Minggu	03-05-2020	1 & 2	Revisi Bab 1 & 2	
Selasa	12-05-2020	3	Pengajuan Bab 3	
Senin	29-05-2020	3	Revisi Bab 3	
Sabtu	18-06-2020	4	Pengajuan Bab 4	
Rabu	22-06-2020		Pembuatan Alat	
Sabtu	25-06-2020	5	Pengajuan Bab 5	
Selasa	28-06-2020	4 & 5	Revisi Bab 4 & 5	
Sabtu	01-06-2020		Pengecekan	

Pasuruan, 13 Agustus 2020
Pembimbing,

(Arif Faizin, M.Kom)
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Lampiran 2

KARTU SEMINAR

Nama : WAHYU IHDIAH AMALIA
 Nim : 2016090035
 Prodi : T. INFORMATIKA
 Fakultas : TEKNIK

NO	Tanggal	Judul Seminar yang diikuti	Dosen Pendamping	Tanda Tangan	Keterangan
1	20/04	Peramalan Cuaca menggunakan ANFIS	Rahmad zainal Abidin, M.kom		
2	20/04	Identifikasi jenis buah mangga menggunakan algoritma k-NN dg ekstraksi fitur histogram	Rahmad zainal Abidin, M.kom		
3	20/04	Audit tata kelola TI pd proses Pengelolaan ssm bidang TI pd PT Duta Beton dg frame work cobit 4	Rahmad zainal Abidin, M.kom		
4	18/04	Penerapan metode Support-Vector Machine & penerapan teknik seleksi fitur utk klasifikasi-penyakit	Arif faizin, M.kom		Amiruddin fabli
5	18/04	Pembelajaran Poinca Tiberia koheren menggunakan augmented reality (AR) berbasis android	Arif faizin, M.kom		M. burhanuddin Syahputra
6	18/04	Prediksi stok obat menggunakan metode radial basis function neural network shifit kasus gubang samudra ket. pua raja	Arif faizin, M.kom		M. Saiful Arif
7	18/04	Prediksi pengendalian lalu lalang menggunakan jaringan syaraf tiruan backproporion pd pt. Mision. Mision. Makmur	Arif faizin, M.kom		Giti Aisyah
8	19/04	Prediksi produksi kasur menggunakan fuzzy inference system Mambani & Sugeno	Arif Tri Arsanah, Mm		Muhammad Rizqi
9	19/04	Klasifikasi tumor otak jinak (benigna) & ganas (maligna) menggunakan ekstraksi fitur gray level cooccurrence matrix & Support Vector machine	Arif tri Arsanah, Mm		Rohmawati
10	19/04	Aplikasi Pembelajaran bahasa arab utk anak usia dini berbasis android menggunakan speech Recognition	Arif tri Arsanah, Mm		Ahmad Yunes.

Catatan : kartu ini digandakan dan di lampirkan sebagai syarat ujian skripsi
 Syarat ujian skripsi Minimal Mengikuti 5 kali Seminar

Lampiran 3 Upload Source Code Arduino IDE



```
File Edit Sketch Tools Help

sensor_keruh

#include <ESP8266WiFi.h>
#include <FirebaseArduino.h> //jika error maka Downgrade "Arduinjson by Ben"
// Set these to run example.
#define FIREBASE_HOST "arduinoyp.firebaseio.com"
#define FIREBASE_AUTH "I4ypeVlhhiElxSk4JBwUB8qWP33Zcp5GsEmlvloi"
#define WIFI_SSID "ARDUINOINDAH"
#define WIFI_PASSWORD "123456789"

#define SENSOR_A0
float voltage,turbidity;

int air;
void setup()
{
  //Serial.begin(9600);
  pinMode(D2, INPUT);
  pinMode(14, OUTPUT); //14=D5
  //digitalWrite(14, HIGH);

  // connect to wifi.
  WiFi.begin(WIFI_SSID, WIFI_PASSWORD);
  while (WiFi.status() != WL_CONNECTED) {
    delay(1000);
  }
  Firebase.begin(FIREBASE_HOST, FIREBASE_AUTH);
}

void loop()
```

```

void loop()
{
  voltage=0.004888*analogRead(SENSOR); //in V
  turbidity=-1120.4*voltage*voltage+5742.3*voltage-4352.9; //in NTU
  //Serial.println("Voltage="+String(voltage)+" V Turbidity="+String(turbidity)+" NTU");

  air=digitalRead(D2);//tinggi air
  if (air==0){digitalWrite(14, LOW);} //14=D5
  else {digitalWrite(14, HIGH);}
  //digitalWrite(14, HIGH); // turn the LED on (HIGH is the voltage level)
  // delay(1000); // wait for a second
  //digitalWrite(14, LOW); // turn the LED off by making the voltage LOW
  //delay(1000);
  Firebase.setString("sensorkeruh", String(voltage)+"|" +String(turbidity)+"|" +String(air));

  delay(1500);
}

```

Berikut adalah penjelasan dari Source Code dari Arduino IDE di atas:

1. Source Code Sensor Water Level.

```

int air;
void setup()
{
  //Serial.begin(9600);
  pinMode(D2,INPUT);
  pinMode(14,OUTPUT);//14=D5
  digitalWrite(14, HIGH);

```

2. Source Code Sensor Turbidity

```

void loop()
{
  voltage=0.004888*analogRead(SENSOR); //in V
  turbidity=-
  1120.4*voltage*voltage+5742.3*voltage-4352.9;
  //in NTU
  //Serial.println("Voltage="+String(voltage)+"VT
  urbidity="+String(turbidity)+" NTU");

```

3. Source Code Koneksi Wifi

```
#define WIFI_SSID "ARDUINOINDAH"  
#define WIFI_PASSWORD "123456789"  
  
WiFi.begin(WIFI_SSID, WIFI_PASSWORD);  
  
while (WiFi.status() != WL_CONNECTED) {  
  
  delay(1000);  
  
}
```

4. Source Code pompa air otomatis

```
air=digitalRead(D2);//tinggi air  
if(air==0){digitalWrite(14, LOW);} //14=D5  
else {digitalWrite(14, HIGH);}  
//digitalWrite(14, HIGH); // turn the LED on  
(HIGH is the voltage level)  
//delay(1000); // wait for a second  
//digitalWrite(14, LOW); // turn the LED off  
by making the voltage LOW  
//delay(1000);  
Firebase.setString("sensorkeuh",  
String(voltage)+"|"+String(turbidity)+"|"+String(  
air));  
  
delay(1500);  
}
```

Lampiran 3 Input Kode App Inventor

The image displays a collection of App Inventor code blocks for a water level sensor application. The code is organized into several functional sections:

- Exit Functionality:** A block for "when exit - Click" with a "do" block containing "close screen".
- Initialization:** An "initialize global" block for "sensor2" set to "create empty list".
- Firestore Data Retrieval:** A "when FirebaseDB1 - GotValue" block that:
 - Retrieves a "value" and splits it into "keruh" (index 2) and "air" (index 3).
 - Checks if "keruh" is less than "acuan".
 - Triggers "Player2" vibration (1000 ms) and a notification titled "Sensor Keruh" with text "nilai keruh=" and "Sensor".
 - Checks if "air" is equal to 0. If true, sets "air" text to "Air Rendah", triggers "Player1" vibration (1000 ms), and a notification titled "Sensor Tinggi air" with text "nilai air=" and "Sensor".
 - Else if "air" is equal to 1, sets "air" text to "Air Tinggi".
- Timer Functionality:** A "when Clock1 - Timer" block that calls "FirebaseDB1 - GetValue" with tag "nilai" and value "3000".
- Button Interactions:**
 - "onpompa - Click" block: Calls "FirebaseDB1 - StoreValue" with tag "pompa" and value "1".
 - "offpompa - Click" block: Calls "FirebaseDB1 - StoreValue" with tag "pompa" and value "0".

Lampiran 4

DAFTAR RIWAYAT HIDUP

DATA PRIBADI	
Nama	: Wahyu Indah Amalia
Tempat, Tanggal lahir	: Pasuruan, 20 April 1998
Jenis Kelamin	: Perempuan
Kebangsaan	: WNI
Agama	: Islam
Status	: Belum Nikah
Perguruan Tinggi	: Universitas Yudharta Pasuruan
Fakultas	: Teknik
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RIWAYAT PENDIDIKAN	
SDN Tawangrejo 1	: 2004 – 2010 (berijazah)
SMPN 1 Pandaan	: 2010 – 2013 (berijazah)
SMKN 1 Gempol	: 2013 – 2016 (berijazah)



Universitas Yudharta Pasuruan	: 2016 – 2020 (berijazah)
PENGALAMAN AKADEMIK	
Himpunan Mahasiswa Informatika (HUMANIKA)	2018 – 2019
PKPT IPNU IPPNU Universitas Yudharta Pasuruan	2018 – 2019

Demikian daftar riwayat hidup ini saya buat berdasarkan hal yang sebenarnya. Atas perhatiannya saya mengucapkan terima kasih.

Hormat Saya

Wahyu Indah Amalia