

DAFTAR ISI

LEMBAR PERSETUJUAN.....	Error! Bookmark not defined.
LEMBAR PENGESAHAN	Error! Bookmark not defined.
LEMBAR PERNYATAAN.....	Error! Bookmark not defined.
KATA PENGANTAR	Error! Bookmark not defined.
ABSTRAK.....	Error! Bookmark not defined.
<i>ABSTRACT</i>	Error! Bookmark not defined.
DAFTAR ISI.....	1
DAFTAR TABEL.....	3
DAFTAR GAMBAR	3
DAFTAR LAMPIRAN.....	4
BAB I PENDAHULUAN.....	Error! Bookmark not defined.
1.1. Latar Belakang.....	Error! Bookmark not defined.
1.2. Rumusan Masalah.....	Error! Bookmark not defined.
1.3. Tujuan Penelitian.....	Error! Bookmark not defined.
1.4. Manfaat	Error! Bookmark not defined.
BAB II TINJAUAN PUSTAKA.....	Error! Bookmark not defined.
2.1. Ikan Hias Mas Koki.....	Error! Bookmark not defined.
2.2. Pemeliharaan Ikan Mas Koki.....	Error! Bookmark not defined.
2.3. <i>Internet of Things</i>	Error! Bookmark not defined.
2.4. Arduino	Error! Bookmark not defined.
2.5. Sensor.....	Error! Bookmark not defined.
2.5.1. Sensor <i>Ultrasonic</i> HC – SR04	Error! Bookmark not defined.
2.5.2. Sensor Turbidity	Error! Bookmark not defined.
2.5.3. Sensor Suhu DS18B20.....	Error! Bookmark not defined.
2.6. Modul.....	Error! Bookmark not defined.
2.6.1. ESP8266.....	Error! Bookmark not defined.
2.6.2. LCD (<i>Liquid Crystal Display</i>)	Error! Bookmark not defined.
2.6.3. <i>Relay</i> (Sakelar Otomatis)	Error! Bookmark not defined.
2.6.4. <i>Mini Submersible Water Pump</i>	Error! Bookmark not defined.
2.6.5. <i>Real Time Clock</i> (RTC)	Error! Bookmark not defined.
2.7. <i>Motor Servo</i>	Error! Bookmark not defined.

2.8.	<i>Fuzzy Logic</i>	Error! Bookmark not defined.
2.9.	Tabel Penelitian Terkait	Error! Bookmark not defined.
BAB III METODE PENELITIAN		Error! Bookmark not defined.
3.1.	Bahan Penelitian	Error! Bookmark not defined.
3.2.	Peralatan Penelitian	Error! Bookmark not defined.
3.3.	Lokasi Penelitian dan Waktu Penelitian	Error! Bookmark not defined.
3.4.	Prosedur Penelitian	Error! Bookmark not defined.
3.5.	Analisis Data	Error! Bookmark not defined.
3.5.1.	Tahap Persiapan	Error! Bookmark not defined.
3.5.2.	Tahap Perancangan	Error! Bookmark not defined.
3.5.3.	Tahap Pembuatan Program	Error! Bookmark not defined.
3.5.4.	Tahap Penerapan <i>Fuzzy Logic</i>	Error! Bookmark not defined.
3.5.5.	Tahap Pengujian	Error! Bookmark not defined.
BAB IV HASIL DAN PEMBAHASAN		Error! Bookmark not defined.
4.1.	Tahap Persiapan	Error! Bookmark not defined.
4.4.1.	Persiapan Peralatan	Error! Bookmark not defined.
4.4.2.	Tahap Persiapan Pengujian Sensor	Error! Bookmark not defined.
4.2.	Perancangan	Error! Bookmark not defined.
4.3.	Tahap Pembuatan Program	Error! Bookmark not defined.
4.3.1.	Pembuatan Program Arduino	Error! Bookmark not defined.
4.3.2.	Pembuatan Program <i>Web</i>	Error! Bookmark not defined.
4.4.	Tahap Penerapan Metode <i>Fuzzy Logic</i>	Error! Bookmark not defined.
4.4.1.	Perhitungan <i>Fuzzy Logic</i>	Error! Bookmark not defined.
4.5.	Pengujian Alat	Error! Bookmark not defined.
BAB V KESIMPULAN DAN SARAN		Error! Bookmark not defined.
5.1	Kesimpulan	Error! Bookmark not defined.
5.2.	Saran	Error! Bookmark not defined.
DAFTAR PUSTAKA		Error! Bookmark not defined.
LAMPIRAN		Error! Bookmark not defined.
RIWAYAT PENULIS		Error! Bookmark not defined.

DAFTAR TABEL

Tabel 2.1 Spesifikasi Pin LCD 16×2	Error! Bookmark not defined.
Tabel 2.2 Tabel Penelitian Terkait	Error! Bookmark not defined.
Tabel 3.1 Tabel Perincian Pelaksanaan Penelitian.....	Error! Bookmark not defined.
Tabel 4.1 Tegangan Sensor DS18B20	Error! Bookmark not defined.
Tabel 4.2 Hasil Pengukuran Suhu DS18B20	Error! Bookmark not defined.
Tabel 4.3 Hasil Pengujian Tegangan Sensor Ultrasonik.....	Error! Bookmark not defined.
Tabel 4.4 Hasil Pengukuran Sensor Ketinggian Air	Error! Bookmark not defined.
Tabel 4.5 Hasil Pengujian Tegangan Sensor Kekeruhan	Error! Bookmark not defined.
Tabel 4.6 Spesifikasi Ikan	Error! Bookmark not defined.
Tabel 4.7 Anggaran Biaya Rancangan.....	Error! Bookmark not defined.
Tabel 4.8 Hasil Pengukuran Sensor Kekeruhan.....	Error! Bookmark not defined.
Tabel 4.9 Hasil Pengujian Tegangan <i>Output</i> Sensor	Error! Bookmark not defined.
Tabel 4.10 Hasil Perhitungan Pengubah Analog ke Digital	Error! Bookmark not defined.
Tabel 4.11 Pengujian Kinerja Kuras Air.....	Error! Bookmark not defined.
Tabel 4.12 Pengujian Pakan Ikan.....	Error! Bookmark not defined.

DAFTAR GAMBAR

Gambar 2.1 Ikan Mas Koki.....	Error! Bookmark not defined.
Gambar 2.2 Akuarium Ikan Mas Koki.....	Error! Bookmark not defined.
Gambar 2.3 Arduino.....	Error! Bookmark not defined.
Gambar 2.4 Sensor <i>Ultrasonic</i> HR – SR04	Error! Bookmark not defined.
Gambar 2.5 Sensor Turbidity	Error! Bookmark not defined.
Gambar 2.6 Sensor Suhu DS18B20	Error! Bookmark not defined.
Gambar 2.7 ESP8266	Error! Bookmark not defined.

Gambar 2.8 LCD (Liquid Crystal Display).....	Error! Bookmark not defined.
Gambar 2.9 <i>Relay Chanel</i>	Error! Bookmark not defined.
Gambar 2.10 <i>Mini Submersible Water Pump</i>	Error! Bookmark not defined.
Gambar 2.11 <i>Real Time Clock (RTC)</i>	Error! Bookmark not defined.
Gambar 2.12 <i>Motor Servo</i>	Error! Bookmark not defined.
Gambar 2.13 Representasi Linear Naik	Error! Bookmark not defined.
Gambar 2.14 Representasi Linier Turun.....	Error! Bookmark not defined.
Gambar 2.15 Representasi Kurva Segitiga	Error! Bookmark not defined.
Gambar 3.1 <i>Flowchart</i> Penelitian	Error! Bookmark not defined.
Gambar 3.2 Skema Perancangan Pakan Ikan dan Penggantian Air.....	Error! Bookmark not defined.
Gambar 3.3 <i>Flowchart</i> Perancangan <i>Fuzzy Set</i>	Error! Bookmark not defined.
Gambar 4.1 <i>Flowchart</i> Alur Pengujian Sistem.....	Error! Bookmark not defined.
Gambar 4.2 Pengujian Rancangan Tegangan Sensor DS18B20.	Error! Bookmark not defined.
Gambar 4.3 Pengujian Tegangan Sensor <i>Ultrasonic</i>	Error! Bookmark not defined.
Gambar 4.4 Skema Perancangan.....	Error! Bookmark not defined.
Gambar 4.5 Ikan Mas Koki.....	Error! Bookmark not defined.
Gambar 4.6 Rancangan Prototype.....	Error! Bookmark not defined.
Gambar 4.7 <i>Source Code Library</i> Program	Error! Bookmark not defined.
Gambar 4.8 <i>Source Code</i> Fuzzifikasi Kekeruhan Air.....	Error! Bookmark not defined.
Gambar 4.9 <i>Source Code</i> Keanggotaan Air Jernih	Error! Bookmark not defined.
Gambar 4.10 <i>Source Code</i> Keanggotaan Air Keruh.....	Error! Bookmark not defined.
Gambar 4.11 <i>Source Code</i> Keanggotaan Air Keruh Pekat..	Error! Bookmark not defined.
Gambar 4.12 <i>Source Code</i> Keanggotaan Kecepatan Motor	Error! Bookmark not defined.
Gambar 4.13 <i>Source Code</i> Rule Keanggotaan Kecepatan Motor.....	Error! Bookmark not defined.

Gambar 4.14 Source Code Sensor Turbidity mendeteksi Air Keruh..... **Error! Bookmark not defined.**

Gambar 4.15 *Source Code* Ketinggian Minimum $\geq 5\text{cm}$ **Error! Bookmark not defined.**

Gambar 4.16 *Source Code* Motor Isi Air**Error! Bookmark not defined.**

Gambar 4.17 *Source Code* Ketinggian air full $\leq 5\text{cm}$ **Error! Bookmark not defined.**

Gambar 4.18 *Source Code* Mengirim Data Sensor ke *Web*. **Error! Bookmark not defined.**

Gambar 4.19 Grafik Fungsi Keanggotaan Kekeruhan..... **Error! Bookmark not defined.**

Gambar 4.20 Keanggotaan Tingkat Kecepatan Motor **Error! Bookmark not defined.**



DAFTAR LAMPIRAN

Lampiran 1 Data Tabel Pengujian.....**Error! Bookmark not defined.**

Lampiran 2 *Code* Program Arduino IDE.....**Error! Bookmark not defined.**

Lampiran 3 *Code* Program WEB.....**Error! Bookmark not defined.**

Lampiran 4 Lembar Kartu Bimbingan TA DP 1 Dan DP 2. **Error! Bookmark not defined.**

Lampiran 5 Lembar Kartu Ketua Sidang**Error! Bookmark not defined.**

Lampiran 6 Lembar Perbaikan Penguji 1.....**Error! Bookmark not defined.**

Lampiran 7 Lembar Perbaikan Penguji 2.....**Error! Bookmark not defined.**