

DAFTAR ISI

| | |
|---|-------------|
| LEMBAR PENGESAHAN..... | i |
| LEMBAR PERNYATAAN | ii |
| SURAT KETERANGAN PERSETUJUAN PUBLIKASI..... | iii |
| ABSTRAK..... | iv |
| ABSTRACT | v |
| KATA PENGANTAR..... | vi |
| DAFTAR ISI | viii |
| DAFTAR GAMBAR..... | xi |
| DAFTAR TABEL | xiii |
| BAB I PENDAHULUAN | 1 |
| 1.1 Latar Belakang..... | 1 |
| 1.2 Maksud dan Tujuan..... | 2 |
| 1.3 Batasan Masalah | 2 |
| 1.4 Metode Penelitian | 3 |
| 1.5 Sistematika Penulisan | 3 |
| BAB II TINJAUAN PUSTAKA | 5 |
| 2.1 MD 5 (<i>Message Digest Algorithm 5</i>)..... | 5 |
| 2.1.1 Cara Kerja | 5 |
| 2.2 Sensor Fingerprint..... | 10 |
| 2.3 <i>NodeMCU ESP8622</i> | 12 |
| 2.4 <i>Solenoid Door Lock</i> | 14 |
| 2.5 <i>UML (Unified Modeling Language)</i> | 14 |
| 2.6 <i>PHP (Personal Home Page)</i> | 17 |
| 2.7 <i>MySQL</i> | 18 |
| BAB III ANALISIS DAN PERENCANGAN..... | 19 |
| 3.1 Perancangan Sistem | 19 |
| 3.1.1 Fungsi Masing – Masing Blok | 19 |
| 3.1.2 Fungsi Prinsip Kerja | 20 |
| 3.2 Perancangan Perangkat keras | 20 |
| 3.2.1 Perancangan Sensor Fingerprint..... | 20 |
| 3.2.2 Perancangan <i>Solenoid Door Lock</i> | 21 |

| | | |
|---|--|-----------|
| 3.2.3 | Perancangan Perangkat Keras Keseluruhan..... | 21 |
| 3.3 | Perancangan Perangkat Lunak..... | 23 |
| 3.3.1 | Use Case Diagram..... | 23 |
| 3.3.2 | Activity Diagram..... | 28 |
| 3.3.3 | <i>Sequence Diagram</i> | 32 |
| 3.4 | Perancangan MD5..... | 34 |
| 3.5 | Perancangan Antarmuka | 35 |
| 3.5.1 | Tampilan Login..... | 35 |
| 3.5.2 | Tampilan Dashboard | 35 |
| 3.5.3 | List Member | 36 |
| 3.5.4 | Register | 37 |
| 3.5.5 | Tabel Data..... | 38 |
| 3.5.6 | Tabel Fail | 38 |
| 3.6 | Rangkaian Mekanik | 39 |
| 3.7 | Skematik Alat | 40 |
| 3.8 | <i>Flowchart</i> | 40 |
| BAB IV IMPLEMENTASI DAN PENGUJIAN SISTEM | | 42 |
| 4.1 | Pengujian Perangkat Keras..... | 42 |
| 4.1.1 | Pengujian Rangkaian ZFM-20..... | 42 |
| 4.2 | Pengujian Perangkat Lunak..... | 49 |
| 4.2.1 | Pengujian Alpha | 49 |
| 4.2.2 | Hasil Pengujian | 51 |
| 4.3 | Pengujian Antarmuka..... | 56 |
| 4.3.1 | Pengujian Tampilan login Admin | 56 |
| 4.3.2 | Pengujian Tambah Pengguna..... | 57 |
| 4.3.3 | Pengujian Edit Data..... | 57 |
| 4.3.4 | Pengujian Hapus Data | 58 |
| 4.4 | Pengujian MD5..... | 59 |
| 4.5 | Analisa..... | 60 |
| BAB V KESIMPULAN DAN SARAN | | 62 |
| 5.1 | Kesimpulan..... | 62 |
| 5.2 | Saran..... | 62 |

DAFTAR PUSTAKA.....63
LAMPIRAN65