

DAFTAR ISI

| | |
|---------------------------------------------------------|-------------|
| LEMBAR PENGESAHAN | i |
| LEMBAR PERNYATAAN ORISINALITAS | ii |
| SURAT KETERANGAN PERSETUJUAN PUBLIKASI | ii |
| ABSTRAK | iii |
| KATA PENGANTAR | v |
| DAFTAR ISI | vi |
| DAFTAR GAMBAR | viii |
| DAFTAR TABEL | ix |
| I PENDAHULUAN | 1 |
| 1.1 Latar Belakang | 1 |
| 1.2 Maksud dan Tujuan | 1 |
| 1.3 Batasan Masalah | 2 |
| 1.4 Metodologi Penelitian | 2 |
| 1.5 Sistematika Penulisan | 3 |
| II TINJAUAN PUSTAKA | 4 |
| 2.1 Internet of Things(IoT) | 4 |
| 2.2 Sistem Operasi Android | 4 |
| 2.2.1 Java Development kit | 5 |
| 2.2.2 Android SDK | 5 |
| 2.2.3 Android Studio | 5 |
| 2.2.4 Kotlin | 5 |
| 2.3 Arduino Mega | 6 |
| 2.4 Sensor | 6 |
| 2.4.1 Sensor Turbidity | 6 |
| 2.4.1.1 Tingkat kekeruhan untuk air | 7 |
| 2.4.2 Sensor Waterlevel | 8 |

| | | |
|-------------------------------------------|---------------------------------------------|-----------|
| 2.5 | ESP01 | 9 |
| 2.6 | <i>Protocol MQTT</i> | 9 |
| 2.7 | Visual Studio Code | 10 |
| 2.7.1 | Java Script | 10 |
| III PERANCANGAN APLIKASI | | 11 |
| 3.1 | Tahapan Penelitian | 14 |
| 3.2 | Analisis kebutuhan sistem | 14 |
| 3.2.1 | Analisis Kebutuhan Non-Fungsional | 15 |
| 3.2.2 | Analisis kebutuhan Fungsional | 15 |
| 3.2.2.1 | <i>Use Case Diagram</i> | 15 |
| 3.2.2.2 | <i>Activity Diagram</i> | 17 |
| 3.2.2.3 | <i>Sequence Diagram</i> | 20 |
| 3.3 | Perancangan Sistem | 22 |
| 3.3.1 | Perancangan Antarmuka | 22 |
| IV PEMBAHASAN DAN HASIL | | 24 |
| 4.1 | Pengujian Alpha | 24 |
| 4.2 | Pengujian Penjadwalan | 25 |
| 4.2.1 | Tabel Pengujian | 26 |
| 4.2.2 | Tampilan Database | 26 |
| 4.3 | Hasil Analisa | 27 |
| V KESIMPULAN DAN SARAN | | 28 |
| 5.1 | Kesimpulan | 28 |
| 5.2 | Saran | 28 |
| DAFTAR PUSTAKA | | |