

DAFTAR ISI

| | |
|--|------|
| LEMBAR PENGESAHAN..... | ii |
| LEMBAR PERNYATAAN ORISINALITAS..... | iii |
| KATA PENGANTAR..... | iv |
| UCAPAN TERIMA KASIH..... | v |
| ABSTRAK | vii |
| <i>ABSTRAC</i> | viii |
| DAFTAR ISI..... | ix |
| DAFTAR GAMBAR | xii |
| DAFTAR TABEL..... | xiii |
| DAFTAR PERSAMAAN | xiv |
| DAFTAR SINGKATAN..... | xv |
| DAFTAR ISTILAH | xvi |
| BAB I | 1 |
| PENDAHULUAN | 1 |
| 1.1 Latar Belakang..... | 1 |
| 1.2 Tujuan..... | 2 |
| 1.3 Rumusan Masalah | 2 |
| 1.4 Batasan Masalah..... | 2 |
| 1.5 Metodologi Penelitian | 3 |
| 1.6 Sistematika Penulisan..... | 4 |
| BAB II..... | 5 |
| DASAR TEORI..... | 5 |
| 2.1 Intelligent Transport System | 5 |
| 2.2 Pengolahan Citra | 5 |
| 2.2.1 Citra..... | 5 |
| 2.2.2 PIKSEL | 6 |
| 2.2.3 Grayscale Citra | 6 |
| 2.3 VIDEO DIGITAL | 8 |
| 2.3.1 Resolusi..... | 8 |
| 2.3.2 Kuantisasi..... | 8 |
| 2.3.3 Frame Rate | 9 |

| | | |
|---|---|----|
| 2.4 | Represetasi Warna Pada Video Digital | 9 |
| 2.4.1 | Sistem Warna RGB | 10 |
| 2.4.2 | Sistem Warna YUV | 11 |
| 2.4.3 | Sistem Warna Greyscale..... | 12 |
| 2.5 | Sistem Deteksi Gerakan | 13 |
| 2.5.1 | <i>Frame Difference Method</i> | 13 |
| 2.5.2 | Algoritma Pengurangan | 14 |
| 2.5.3 | Algoritma Penjumlahan (Sum Of Absolut Difference) | 14 |
| 2.6 | ANDROID..... | 14 |
| 2.6.1 | Pengembangan Android | 15 |
| 2.6.2 | Perkembangan Versi Android | 15 |
| 2.7 | Android Studio | 16 |
| BAB III..... | | 18 |
| PERANCANGAN DAN IMPLEMENTASI SISTEM | | 18 |
| 3.1 | Gambaran Umum Sistem | 18 |
| 3.2 | Perancangan Sistem..... | 19 |
| 3.3 | Pre-Processing | 20 |
| 3.4 | Blok Frame Difference | 24 |
| 3.5 | Penentuan Threshold..... | 26 |
| 3.6 | State..... | 30 |
| 3.7 | Teori Perancangan Pada Sistem..... | 31 |
| 3.8 | Model Aplikasi | 34 |
| 3.9 | Performansi Sistem..... | 35 |
| 3.10 | Proses Penanaman Software ke Android..... | 36 |
| BAB IV | | 37 |
| PENGUJIAN DAN ANALISIS SISTEM..... | | 37 |
| 4.1 | Identifikasi Kebutuhan Sistem | 37 |
| 4.1.1 | Spesifikasi Perangkat Keras | 37 |
| 4.1.2 | Spesifikasi Perangkat Lunak | 37 |
| 4.1.3 | Spesifikasi <i>Device</i> | 37 |
| 4.2 | Pengujian Sistem | 37 |
| 4.3 | Tahap Pengujian Sistem | 38 |
| 4.4 | Hasil Pengujian..... | 38 |

| | | |
|----------------------|-------------------------|----|
| 4.4.1 | Hasil Pengujian 1 | 38 |
| 4.4.2 | Hasil Pengujian 2 | 39 |
| 4.4.3 | Hasil Pengujian 3 | 40 |
| 4.4.4 | Hasil Pengujian 4 | 41 |
| BAB 5 | | 42 |
| KESIMPULAN DAN SARAN | | 42 |
| 5.1 | Kesimpulan..... | 42 |
| 5.2 | Saran | 42 |
| DAFTAR PUSTAKA | | 44 |
| LAMPIRAN | | 46 |