Daftar Isi

LEMBAR PERNYATAAN i

LEMBAR PENGESAHAN ii

Abstrak 1

Abstract 2

Kata Pengantar 3

Ucapan Terima Kasih 4

Daftar Isi 6

Daftar Persamaan 10

Daftar Gambar 11

Daftar Tabel dan Grafik 12

Daftar Istilah 13

1. Pendahuluan 14

1.1 Latar Belakang 14

1.2 Perumusan Masalah 15

1.3 Batasan Masalah 15

1.4 Tujuan 16

1.5 Hipotesa 16

1.6 Metodologi Penyelesaian Masalah 17

1.6.1 Identifikasi Masalah 17

1.6.2 Studi Literatur 17

1.6.3 Perancangan Sistem 17

1.6.4 Studi Pengembangan Sistem 17

1.6.5 Analisa Performansi 17

1.6.6 Pengambilan Kesimpulan 17
1.7 Sistematika Penulisan 18
2. Tinjauan Pustaka 19
2.1 Resume Referensi 19
2.1.1 ∑ - Δ *background* subtraction and the Zipf law," in Progress in Pattern Recognition, *Image* Analysis and Applications. 19
2.1.2 *Real-time People Counting System* using *Curve analysis* Method 19
2.1.3 *Learning* MATLAB7 19
2.1.4 Toward a Robust Solution To *People Counting* 19
2.1.5 *Real-time people counting* using multiple lines 19
2.1.6 *Real-time* Vision-based *people counting system* for security door 20
2.1.7 ViBe: A universal *background* subtraction algorithm for *video* sequences 20
2.1.8 *Background* Modeling and Subtraction Based *People Counting* for Real Time *Video Surveillance* 20
2.1.9 Moving object *detection* in spatial domain using *background* removal techniques – State-of-art 20
2.1.10 A Computer Vision Approach To Object Tracking and *Counting* 20
2.1.11 *People* Counter 20
2.1.12 Analisis dan Implementasi Metode *Curve analysis* pada *People Counting System* Berbasis *Color Intensity* 20
2.2 Citra Digital 21
2.3 *Video* Digital 21
2.3.1 Resolusi 22
2.3.2 Frame Rate 22
2.4 Warna 23

2.4.1 *Color Models* 23
2.4.2 *Color Intensity* 23
2.4.3 RGB 24
2.4.4 *Grayscale* 24
2.5 *Background Substraction* 26
2.5.1 ViBe (*Visual Background Extractor)* 27
2.6 Kurva 27
2.7 *Curve analysis* 28
3. Perancangan Sistem 31
3.1 Gambaran Umum Sistem 31
3.1.1 Analisis Kebutuhan 31
3.2 Deskripsi Kerja Sistem 34
3.2.1 Inisialisasi 34
3.2.2 *Background* Substraction 36
3.2.3 Curve analysis 39
4. Implementasi dan Analisis Sistem 41
4.1 Pengujian Sistem 41
4.1.1 Tujuan Pengujian 41
4.1.2 Skenario Pengujian 41
4.2 Hasil Pengujian Sistem 44
4.2.1 Skenario Pengujian I 44
4.2.2 Skenario Pengujian II 45
4.2.3 Skenario Pengujian III 45
4.2.4 Skenario Pengujian IV 46
4.2.5 Skenario Pengujian V 47

4.2.6 Skenario Pengujian VI 49
4.2.7 Skenario Pengujian VII 50
4.2.8 Skenario Pengujian VIII 51
4.2.9 Analisis perbandingan metode *background* substraction ViBe dengan beberapa metode lain. 53
4.2.10 Analisa Hasil Pengujian 55
5. Kesimpulan dan Saran 61
5.1 Kesimpulan 61
5.2 Saran 62
Daftar Pustaka 63