

## DAFTAR ISI

---

|   |      |
|---|------|
| KATA PENGANTAR.....                                       | i    |
| ABSTRAK.....  | ii   |
| ABSTRACT.....   | iii  |
| DAFTAR ISI.....   | iv   |
| DAFTAR GAMBAR.....  | vii  |
| DAFTAR TABEL.....   | xi   |
| DAFTAR LAMPIRAN .....                                     | xiii |
| BAB 1 PENDAHULUAN .....                                   | 1    |
| 1.1 Latar Belakang.....                                   | 1    |
| 1.2 Rumusan Masalah.....                                  | 3    |
| 1.3 Tujuan.....   | 3    |
| 1.4 Batasan Masalah.....                                  | 4    |
| 1.5 Definisi Operasional .....                            | 5    |
| 1.6 Metode Pengerjaan.....                                | 5    |
| 1.7 Jadwal Pengerjaan .....                               | 7    |
| BAB 2 TINJAUAN PUSTAKA.....                               | 8    |
| 2.1 Universitas Garut .....                               | 8    |
| 2.2 Kemahasiswaan Fakultas Ekonomi Universitas Garut..... | 9    |
| 2.3 Sistem Pendukung Keputusan.....                       | 9    |
| 2.4 Metode <i>Simple Additive Weighting</i> .....         | 10   |
| 2.5 Model Waterfall.....                                  | 11   |
| 2.6 Beasiswa Peningkatan Prestasi Akademik .....          | 12   |
| 2.7 Beasiswa .....  | 13   |
| 2.8 <i>Short Message Service (SMS)</i> .....              | 13   |
| 2.9 <i>SMS Gateway</i> .....                              | 13   |
| 2.10 Tool Perancangan dan Pembangunan Aplikasi .....      | 13   |
| 2.10.1 <i>Flowmap</i> .....                               | 13   |
| 2.10.2 <i>Framework CodeIgniter</i> .....                 | 15   |

|                                      |  |     |
|--------------------------------------|--|-----|
| 2.10.3                               | Usecase Diagram.....   | 15  |
| 2.10.4                               | Gammu .....  | 16  |
| 2.10.5                               | Entity Relationship Diagram (ERD).....                       | 17  |
| 2.10.6                               | Class Diagram .....  | 18  |
| 2.10.7                               | Sequence Diagram .....                                       | 19  |
| 2.11                                 | Bahasa Pemrograman .....                                     | 20  |
| 2.11.1                               | <i>HyperText Preprocessor</i> (PHP).....                     | 20  |
| 2.11.2                               | <i>HyperText Markup Language</i> (HTML) .....                | 21  |
| 2.11.3                               | <i>Cascading Style Sheets</i> (CSS).....                     | 21  |
| 2.11.4                               | JavaScript .....   | 21  |
| 2.11.5                               | MySQL.....   | 22  |
| 2.12                                 | <i>Black Box Testing</i> .....                               | 24  |
| 2.13                                 | <i>User Acceptance Testing</i> .....                         | 24  |
| BAB 3 ANALISIS DAN PERANCANGAN ..... |  | 25  |
| 3.1                                  | Sistem yang Berjalan .....                                   | 25  |
| 3.1.1                                | Flow Map Pendaftaran Beasiswa.....                           | 26  |
| 3.1.2                                | Flow Map Seleksi dan Penentuan Calon Penerima Beasiswa ..... | 27  |
| 3.1.3                                | Flow Map Publikasi Penerima Beasiswa.....                    | 29  |
| 3.2                                  | Analisis Kebutuhan Sistem.....                               | 30  |
| 3.2.1                                | Pengguna Sistem.....   | 30  |
| 3.2.2                                | Kebutuhan Fungsional .....                                   | 31  |
| 3.2.3                                | Gambaran Sistem yang Diusulkan .....                         | 32  |
| 3.2.4                                | Unified Modeling Language (UML) .....                        | 38  |
| 3.3                                  | Perancangan Basis Data.....                                  | 69  |
| 3.3.1                                | <i>Entity Relationship Diagram</i> .....                     | 69  |
| 3.3.2                                | Relasi Antartabel Sistem.....                                | 71  |
| 3.3.3                                | Kebutuhan Antar Muka .....                                   | 72  |
| 3.4                                  | Kebutuhan Perangkat Keras dan Perangkat Lunak.....           | 98  |
| 3.4.1                                | Pengembangan Sistem.....                                     | 98  |
| 3.4.2                                | Implementasi Sistem.....                                     | 99  |
| 3.5                                  | Analisis Metode Simple Additive Weighting (SAW).....         | 100 |
| 3.5.1                                | Kriteria dan Bobot.....                                      | 100 |

|                |   |     |
|----------------|---|-----|
| 3.5.2          | Contoh Penerapan Metode SAW.....                | 102 |
| BAB 4          | IMPLEMENTASI DAN PENGUJIAN.....                 | 106 |
| 4.1            | Implementasi.....                               | 106 |
| 4.1.1          | Implementasi Basis Data.....                    | 106 |
| 4.1.2          | Implementasi Antar Muka Sistem .....            | 112 |
| 4.2            | Pengujian .....                                 | 138 |
| 4.2.1          | Pengujian dengan <i>Black Box Testing</i> ..... | 138 |
| 4.2.2          | Pengujian User Acceptance Test .....            | 163 |
| BAB 5          | PENUTUP .....                                   | 171 |
| 5.1.           | Kesimpulan.....                                 | 171 |
| 5.2.           | Saran.....                                      | 171 |
| DAFTAR PUSTAKA | .....   | 172 |
| LAMPIRAN       | .....   | 174 |