

## DAFTAR ISI

|   |           |
|---|-----------|
| HALAMAN PERNYATAAN KEASLIAN.....  | i         |
| HALAMAN PENGESAHAN TUGAS AKHIR .....  | ii        |
| HALAMAN PERSETUJUAN PUBLIKASI KARYA ILMIAH UNTUK<br>KEPENTINGAN AKADEMIS..... | iii       |
| KATA PENGANTAR.....   | iv        |
| ABSTRAK .....   | vi        |
| DAFTAR ISI.....   | vii       |
| DAFTAR TABEL .....  | xi        |
| <b>BAB I PENDAHULUAN.....</b>   | <b>1</b>  |
| 1.1 Latar Belakang .....  | 1         |
| 1.2 Identifikasi Masalah .....  | 2         |
| 1.3 Tujuan Penelitian.....  | 2         |
| 1.4 Manfaat Penelitian.....   | 3         |
| 1.5 Batasan Penelitian .....  | 3         |
| 1.6 Metode Pengumpulan Data .....   | 3         |
| 1.7 Kerangka Berpikir .....   | 4         |
| 1.8 Tabel Rencana Penelitian .....  | 4         |
| 1.9 Sistematika Penulisan Tugas Akhir.....                                    | 5         |
| <b>BAB II LANDASAN TEORI .....</b>  | <b>7</b>  |
| 2.1 Penelitian Terdahulu.....   | 7         |
| 2.2 <i>Literature Review</i> .....  | 8         |
| 2.3 Rancang Bangun.....   | 11        |
| 2.4 Android.....  | 11        |
| 2.5 Metode <i>Rapid Application Development</i> (RAD) .....                   | 11        |
| 2.6 Prototipe .....   | 12        |
| 2.7 Manajemen Pengetahuan.....  | 12        |
| 2.8 <i>Visual Studio Code</i> (VSCODE) .....                                  | 13        |
| 2.9 <i>Flutter</i> .....  | 13        |
| 2.10 <i>Firebase</i> .....  | 14        |
| 2.11 <i>Unified Modeling Language</i> (UML).....                              | 14        |
| 2.12 <i>Black Box Testing</i> .....   | 14        |
| <b>BAB III METODE PENELITIAN .....</b>  | <b>16</b> |
| 3.1 Rencana Penelitian .....  | 16        |

|  |   |           |
|--|---|-----------|
| 3.2                                      | Metode Pengumpulan Data .....                                   | 16        |
| 3.2.1                                    | Studi Pustaka.....  | 16        |
| 3.2.2                                    | Wawancara.....  | 16        |
| 3.3                                      | Objek Penelitian .....  | 17        |
| 3.4                                      | Desain Perancangan <i>Unified Modeling Language (UML)</i> ..... | 17        |
| 3.4.1                                    | <i>Use Case Diagram</i> .....                                   | 17        |
| 3.4.2                                    | <i>Activity Diagram</i> .....                                   | 18        |
| 3.4.3                                    | <i>Class Diagram</i> .....                                      | 23        |
| 3.4.4                                    | <i>Sequence Diagram</i> .....                                   | 23        |
| 3.5                                      | Perancangan <i>User Interface</i> Sistem .....                  | 27        |
| <b>BAB IV HASIL DAN PEMBAHASAN .....</b> |   | <b>32</b> |
| 4.1                                      | Data Hasil Penelitian .....                                     | 32        |
| 4.1.1                                    | Proses Pengembangan Aplikasi .....                              | 32        |
| 4.1.2                                    | Deskripsi Aplikasi.....   | 32        |
| 4.2                                      | Implementasi Program (Coding).....                              | 33        |
| 4.2.1                                    | Struktur Folder .....   | 33        |
| 4.2.2                                    | Tampilan Halaman Login .....                                    | 35        |
| 4.2.3                                    | Tampilan Halaman Admin.....                                     | 36        |
| 4.2.4                                    | Tampilan Halaman User .....                                     | 42        |
| 4.2.5                                    | Layanan Firebase .....  | 48        |
| 4.3                                      | Analisis Data .....   | 48        |
| 4.4                                      | Pengujian Sistem .....  | 49        |
| <b>BAB V KESIMPULAN DAN SARAN .....</b>  |   | <b>52</b> |
| 5.1                                      | Kesimpulan.....   | 52        |
| 5.2                                      | Saran .....   | 52        |
| <b>DAFTAR PUSTAKA.....</b>               |   | <b>53</b> |

## DAFTAR GAMBAR

|   |    |
|---|----|
| Gambar 2.1 Metode RAD.....                      | 12 |
| Gambar 2.2 <i>Flutter</i> .....                 | 13 |
| Gambar 2.3 <i>Firestore</i> .....               | 14 |
| Gambar 3.1 Use Case Diagram.....                | 17 |
| Gambar 3.2 Activity Diagram Homepage .....      | 18 |
| Gambar 3.3 Activity Diagram Login Admin .....   | 19 |
| Gambar 3.4 Activity Diagram Tambah Materi.....  | 19 |
| Gambar 3.5 Activity Diagram Tambah Quiz.....    | 20 |
| Gambar 3.6 Activity Diagram Tambah User .....   | 20 |
| Gambar 3.7 Activity Diagram Login User .....    | 21 |
| Gambar 3.8 Activity Diagram Akses Materi .....  | 21 |
| Gambar 3.9 Activity Diagram Akses Quiz .....    | 22 |
| Gambar 3.10 Activity Diagram Edit Profil.....   | 22 |
| Gambar 3.11 Class Diagram .....                 | 23 |
| Gambar 3.12 Sequence Diagram Login.....         | 24 |
| Gambar 3.13 Sequence Diagram Tambah Materi..... | 24 |
| Gambar 3.14 Sequence Diagram Edit Materi .....  | 25 |
| Gambar 3.15 Sequence Diagram Hapus Materi ..... | 25 |
| Gambar 3.16 Sequence Diagram Tambah Quiz .....  | 26 |
| Gambar 3.17 Sequence Diagram Edit Quiz .....    | 26 |
| Gambar 3.18 Sequence Diagram Hapus Quiz .....   | 27 |
| Gambar 3.19 Halaman Login.....                  | 28 |
| Gambar 3.20 Halaman Utama.....                  | 28 |
| Gambar 3.21 Tampilan Sidebar .....              | 29 |
| Gambar 3.22 Halaman Detail Materi.....          | 29 |
| Gambar 3.23 Halaman Quiz .....                  | 30 |
| Gambar 3.24 Halaman Profile .....               | 30 |
| Gambar 3.25 Halaman Admin .....                 | 31 |

|                                       |    |
|---------------------------------------|----|
| Gambar 4.1 Struktur Folder .....      | 34 |
| Gambar 4.3 Halaman admin .....        | 36 |
| Gambar 4.4 <i>Create</i> materi.....  | 37 |
| Gambar 4.5 <i>Update</i> materi.....  | 37 |
| Gambar 4.6 <i>Delete</i> materi ..... | 38 |
| Gambar 4.7 <i>Create Quiz</i> .....   | 39 |
| Gambar 4.8 <i>Update Quiz</i> .....   | 39 |
| Gambar 4.9 <i>Delete Quiz</i> .....   | 40 |
| Gambar 4.10 <i>Create User</i> .....  | 41 |
| Gambar 4.11 <i>Update User</i> .....  | 41 |
| Gambar 4.12 <i>Delete User</i> .....  | 42 |
| Gambar 4.13 Halaman Home .....        | 43 |
| Gambar 4.14 Navigation Drawer .....   | 43 |
| Gambar 4.15 Halaman Materi.....       | 44 |
| Gambar 4.16 Detail Materi .....       | 45 |
| Gambar 4.17 Halaman <i>Quiz</i> ..... | 45 |
| Gambar 4.18 Detail <i>Quiz</i> .....  | 46 |
| Gambar 4.19 Halaman Profile .....     | 47 |
| Gambar 4.20 Edit Profile .....        | 47 |
| Gambar 4.21 Firebase .....            | 48 |

## DAFTAR TABEL

|  |    |
|--|----|
| Tabel 1.1 Rencana Penelitian.....              | 5  |
| Tabel 2.1 Literature Review .....              | 10 |
| Tabel 4.1 <i>BlackBox Testing User</i> .....   | 49 |
| Tabel 4. 2 <i>BlackBox Testing Admin</i> ..... | 50 |