

ABSTRAK

Pertumbuhan jasa travel di Indonesia sangat pesat hal ini dikarenakan mulai meratanya pertumbuhan ekonomi pada daerah-daerah di luar ibu kota. Sementara itu pelanggan travel ingin kemudahan dalam pencarian dan pemesanan tiket. Dunia internet juga berkembang pesat sehingga membuat hampir semua hal dapat dilakukan melalui internet hal ini juga didukung dengan berkembangnya teknologi internet tersebut. Teknologi itu adalah Silverlight dimana teknologi ini hadir untuk memenuhi kebutuhan aplikasi bisnis berbasis web.

Maka website travel ini dibuat dengan menggabungkan komponen yang ada yaitu teknologi Silverlight yang berjalan diatas ASP .NET menggunakan bahasa pemograman C#. dan basis data SQL Server 2008. Keseluruhan laporan tugas akhir ini akan membahas proses perancangan dan implementasi situs web pemesanan tiket memakai silverlight.

Kata kunci: travel, silverlight, C#, SQL server 2008

ABSTRACT

The growth of travel services in Indonesia is very rapid this is due to start the prevalence of economic growth in regions outside the capital. Meanwhile, customers like the ease of travel booking travel tickets. Internet is also growing rapidly and make anything can be done through the Internet it is also supported by the evolution of internet technology. Silverlight is one of several technologies build for web-based business applications.

So this travel website created by combining existing components of the Silverlight technology running on asp. Net using C# programming language and SQL Server 2008 database. Overall this final report will discuss the design and implementation of ticket booking website using Silverlight.

Keyword: travel, silverlight, C#, SQL server 2008

Daftar Isi

| | |
|---|------|
| Kata Pengantar | i |
| ABSTRAK | ii |
| ABSTRACT | iii |
| Daftar Isi..... | iv |
| Daftar Gambar..... | ix |
| Daftar <i>Table</i> | xii |
| Daftar Program..... | xiii |
| Daftar Lampiran | xv |
| BAB I PENDAHULUAN | 1 |
| 1.1 Latar Belakang | 1 |
| 1.2 Rumusan Masalah | 1 |
| 1.3 Tujuan..... | 1 |
| 1.4 Batasan Masalah..... | 2 |
| 1.5 Sistematika Penyajian..... | 2 |
| BAB II LANDASAN TEORI | 4 |
| 2.1 Pool/Terminal | 4 |
| 2.2 Definisi <i>Reservasi</i> Tiket..... | 5 |
| 2.3 Platform .Net Framework | 5 |
| 2.4 Bahasa Pemograman C# .Net..... | 5 |
| 2.5 LINQ | 5 |
| 2.6 ASP .Net..... | 7 |
| 2.7 Silverlight | 8 |
| 2.8 Web Services | 9 |
| 2.9 Structured Query Language (SQL)..... | 10 |
| 2.8. ERD (<i>Entity Relationship Diagram</i>) | 11 |
| 2.8.1. Entity | 11 |
| 2.8.2. Atribut..... | 12 |

| | | |
|-------------------------------------|---|----|
| 2.8.3. | <i>Identifier</i> atau <i>primary key</i> | 12 |
| 2.8.4. | Atribut Simple..... | 12 |
| 2.8.5. | Atribut Komposit | 13 |
| 2.8.6. | Atribut Bernilai Banyak | 13 |
| 2.8.7. | Atribut Turunan | 13 |
| 2.8.8. | Relationship | 13 |
| 2.9. | Unified Modeling Language(UML) | 15 |
| 2.10. | <i>Use Case</i> Diagram | 17 |
| 2.11. | <i>Activity</i> Diagram..... | 18 |
| 2.12. | Kamus Data | 19 |
| 2.13. | <i>Class</i> Diagram | 20 |
| BAB III ANALISA DAN PEMODELAN | | 22 |
| 3.1. | Arsitektur Aplikasi..... | 22 |
| 3.1.1. | Use Case..... | 22 |
| 3.1.2. | Login <i>Activity</i> Diagram..... | 23 |
| 3.1.3. | Proses Bisnis Pemesanan Tiket..... | 23 |
| 3.1.4. | Proses Bisnis SMS | 25 |
| 3.1.5. | Proses Bisnis Menambah Rute Travel | 27 |
| 3.1.6. | Proses Bisnis Mengubah Harga Rute | 28 |
| 3.1.7. | Proses Bisnis Menon-Aktifkan Rute Travel..... | 29 |
| 3.1.8. | Proses Bisnis Mengaktifkan Rute Travel | 30 |
| 3.1.9. | Proses Bisnis Hapus Rute..... | 31 |
| 3.1.10. | Proses Bisnis Tambah Event | 32 |
| 3.1.11. | Proses Bisnis Menghapus Event | 33 |
| 3.1.12. | Proses Bisnis Tambah Data Customer | 34 |
| 3.1.13. | Proses Bisnis Pendaftaran Customer | 35 |
| 3.1.14. | Proses Bisnis Mengubah Data Customer | 36 |
| 3.1.15. | Proses Bisnis Menghapus Data Customer | 37 |

| | | |
|--|--|----|
| 3.1.16. | Proses Bisnis Menambah Data Kota Baru..... | 38 |
| 3.1.17. | Proses Bisnis Menghapus Data Kota..... | 39 |
| 3.1.18. | Proses Bisnis Menambah Data Pool Baru..... | 40 |
| 3.1.19. | Proses Bisnis Mengubah Data Pool..... | 41 |
| 3.1.20. | Proses Bisnis Menghapus Data Pool..... | 42 |
| 3.2. | Rancangan Entitas Relasi Diagram..... | 43 |
| 3.3. | Rancangan Class Diagram..... | 44 |
| 3.4. | Web Map..... | 45 |
| 3.5. | Perancangan User Interface..... | 45 |
| 3.5.1 | Pembagian Layout..... | 45 |
| 3.5.2 | Rancangan Header Content..... | 46 |
| 3.5.3 | Halaman Awal <i>User</i> | 47 |
| 3.5.4 | Halaman Awal <i>Customer</i> | 47 |
| 3.5.5 | Halaman Awal Admin..... | 48 |
| 3.5.6 | Halaman Sms..... | 48 |
| 3.5.7 | Halaman Manage Customer..... | 49 |
| 3.5.8 | Halaman Manage Admin..... | 49 |
| 3.5.9 | Halaman Tambah Rute..... | 50 |
| 3.5.10 | Halaman Hapus Rute..... | 50 |
| 3.5.11 | Halaman Tambah City..... | 51 |
| 3.5.12 | Halaman Tambah Pool..... | 51 |
| 3.5.13 | Halaman Menambah Event..... | 52 |
| 3.5.14 | Halaman Menghapus Event..... | 52 |
| 3.5.15 | Halaman Menambah Pric Event..... | 53 |
| 3.5.16 | Halaman Customer Manage..... | 53 |
| BAB IV PERANCANGAN DAN IMPLEMENTASI..... | | 54 |
| 4.1. | Implementasi Diagram Table..... | 54 |
| 4.2. | Implementasi Halaman Antar Muka..... | 54 |

| | | |
|----------------------|--|----|
| 4.2.1. | Halaman Home User | 54 |
| 4.2.2. | Halaman <i>Home Customer</i> | 57 |
| 4.2.3. | Halaman <i>Manage Customer</i> | 58 |
| 4.2.4. | Halaman <i>Home Admin</i> | 60 |
| 4.2.5. | Halaman Sms | 62 |
| 4.2.6. | Halaman <i>Manage User</i> | 65 |
| 4.2.7. | Halaman <i>Manage Admin</i> | 68 |
| 4.2.8. | Halaman Tambah Rute | 70 |
| 4.2.9. | Halaman Hapus Rute | 72 |
| 4.2.10. | Halaman Kota | 74 |
| 4.2.11. | Halaman Pool..... | 76 |
| 4.2.12. | Halaman Tambah <i>Event</i> | 79 |
| 4.2.13. | Halaman Hapus <i>Event</i> | 80 |
| 4.2.14. | Halaman Tambah Event Price | 82 |
| BAB V PENGUJIAN..... | | 84 |
| 5.1. | Pengujian Fungsi Login | 84 |
| 5.2. | Menambahkan Resevation | 85 |
| 5.3. | Menambahkan Kota | 86 |
| 5.4. | Menambahkan Pool..... | 87 |
| 5.5. | Menambahkan Event | 88 |
| 5.6. | <i>SignUp</i> | 89 |
| 5.7. | Menambahkan Admin | 90 |
| 5.8. | Mengubah Data Diri <i>Customer</i> | 91 |
| 5.9. | Mengubah Password..... | 92 |
| 5.10. | Mengubah Harga Rute | 93 |
| 5.11. | Menghapus Event..... | 94 |
| 5.12. | Mematikan Rute..... | 94 |
| 5.13. | Mengaktifkan Rute..... | 95 |

| | |
|---|------------|
| 5.14. Menghapus Rute | 96 |
| 5.15. Menghapus Kota | 96 |
| 5.16. Menghapus Pool..... | 97 |
| BAB VI KESIMPULAN DAN SARAN..... | 99 |
| 6.1. Kesimpulan..... | 99 |
| 6.2. Saran | 99 |
| DAFTAR PUSTAKA | 100 |
| LAMPIRAN A | xv |
| LAMPIRAN B | xxii |
| LAMPIRAN C | xxv |

Daftar Gambar

| | |
|--|----|
| Gambar 2.1 <i>Canvas Silverlight</i> | 8 |
| Gambar 2.2 <i>Web Services</i> | 9 |
| Gambar 2.3 <i>Entity</i> | 11 |
| Gambar 2.4 <i>Weak Entity dan Identifying Relationship</i> | 12 |
| Gambar 2.5 Entitas dan Atribut | 12 |
| Gambar 2.6 Entitas dan Atribut | 12 |
| Gambar 2.7 Atribut Komposit | 13 |
| Gambar 2.8 Multivalued Attribute | 13 |
| Gambar 2.9 Atribut Turunan | 13 |
| Gambar 2.10 Relasi | 13 |
| Gambar 2.11 Class | 20 |
| Gambar 3.1 UseCase Sistem Web Travel | 22 |
| Gambar 3.2 Proses Pemesanan Dengan Login | 23 |
| Gambar 3.3 Proses Bisnis Pemesanan Tiket | 24 |
| Gambar 3.5 Prose Bisnis Sms | 25 |
| Gambar 3.6 Proses Bisnis Sms..... | 26 |
| Gambar 3.7 Proses Bisnis Menambah Rute Travel..... | 27 |
| Gambar 3.8 Proses Bisnis Mengubah Harga Rute..... | 28 |
| Gambar 3.9 Proses Bisnis Menon-aktifkan Rute Travel..... | 29 |
| Gambar 3.10 Proses Bisnis Mengaktifkan Rute Travel | 30 |
| Gambar 3.11 Proses Bisnis Menghapus Rute Travel..... | 31 |
| Gambar 3.12 Proses Bisnis Tambah Event | 32 |
| Gambar 3.13 Proses Bisnis Menghapus Event | 33 |
| Gambar 3.14 Proses Bisnis Menambah Data Customer | 34 |
| Gambar 3.15 Proses Bisnis Pendaftaran Customer | 35 |
| Gambar 3.16 Proses Bisnis Mengubah data Customer..... | 36 |
| Gambar 3.17 Proses Bisnis Menghapus Data Customer | 37 |

| | |
|---|----|
| Gambar 3.18 Proses Bisnis Menambah Data Kota Baru..... | 38 |
| Gambar 3.19 Proses Bisnis Mengubah Data Customer | 39 |
| Gambar 3.20 Proses Bisnis Menambah Data Pool baru | 40 |
| Gambar 3.21 Proses Bisnis Mengubah Data Pool | 41 |
| Gambar 3.22 Proses Bisnis Menghapus Data Pool..... | 42 |
| Gambar 3.23 ER Diagram Travel | 43 |
| Gambar 3.24 Rancangan Class Diagram | 44 |
| Gambar 3.25 Rancangan Web Map..... | 45 |
| Gambar 3.26 Layout | 46 |
| Gambar 3.27 User Role Menu..... | 46 |
| Gambar 3.28 Customer Role Menu..... | 46 |
| Gambar 3.29 Admin Role Menu | 46 |
| Gambar 3.30 Halaman Awal User..... | 47 |
| Gambar 3.31 Halaman Awal Kustomer..... | 47 |
| Gambar 3.32 Halaman Awal Admin | 48 |
| Gambar 3.33 Halaman Sms | 48 |
| Gambar 3.34 Halaman Manage Customer | 49 |
| Gambar 3.35 Halaman Manage Admin..... | 49 |
| Gambar 3.36 Halaman Manage Tambah Rute..... | 50 |
| Gambar 3.37 Halaman Manage Hapus Rute..... | 50 |
| Gambar 3.38 Halaman Manage Tambah <i>City</i> | 51 |
| Gambar 3.39 Halaman Tambah Pool..... | 51 |
| Gambar 3.40 Halaman Manage Tambah Event | 52 |
| Gambar 3.41 Halaman Hapus Event | 52 |
| Gambar 3.42 Halaman Menambah Price Event | 53 |
| Gambar 3.43 Halaman Customer Manage | 53 |
| Gambar 4.1 Diagram Table Travel | 54 |
| Gambar 4.2 Screenshot Halaman Home User | 55 |

| | |
|--|----|
| Gambar 4.3 Screenshot Halaman <i>Home Customer</i> | 57 |
| Gambar 4.4 Screenshot Halaman <i>Manage Customer</i> | 58 |
| Gambar 4.5 Screenshot Halaman <i>Home Admin</i> | 60 |
| Gambar 4.6 Screenshot Sms | 62 |
| Gambar 4.7 Screenshot Halaman <i>Manage User</i> | 65 |
| Gambar 4.8 Screenshot Halaman <i>Manage Admin</i> | 68 |
| Gambar 4.9 Screenshot Halaman <i>Manage Tambah Rute</i> | 70 |
| Gambar 4.10 Screenshot Halaman <i>Manage Hapus Rute</i> | 73 |
| Gambar 4.11 Screenshot Halaman <i>Kota</i> | 74 |
| Gambar 4.12 Screenshot Halaman <i>Pool</i> | 77 |
| Gambar 4.13 Screenshot Halaman <i>Tambah Event</i> | 80 |
| Gambar 4.14 Screenshot Halaman <i>Hapus Event</i> | 81 |
| Gambar 4.15 Screenshot Halaman <i>Tambah Event Price</i> | 82 |

Daftar Table

| | |
|---|----|
| Tabel 2.1 File Konstruksi ASP .NET..... | 7 |
| Tabel 2.2 Derajat Relasi | 14 |
| Tabel 2.3 Jenis Cardinality Ratio | 14 |
| Tabel 2.4 Simbol <i>Use Case</i> Diagram | 17 |
| Tabel 2.5 Simbol <i>Activity</i> Diagram..... | 18 |
| Tabel 2.6 Simbol Kamus Data..... | 20 |
| Tabel 5.1 Pengujian Fungsi Login | 84 |
| Tabel 5.2 Pengujian Fungsi Pemesanan | 86 |
| Tabel 5.3 Pengujian fungsi Menambah Kota | 87 |
| Tabel 5.4 Pengujian Fungsi Menambah Pool | 87 |
| Tabel 5.5 Pengujian Fungsi Menambah Event | 88 |
| Tabel 5.6 Pengujian Fungsi Signup..... | 90 |
| Tabel 5.7 Pengujian fungsi Menambah Admin | 91 |
| Tabel 5.8 Pengujian Fungsi Mengubah Data Diri Kustomer..... | 92 |
| Tabel 5.9 Pengujian Fungsi Mengubah Password | 93 |
| Tabel 5.10 Pengujian FungsiMengubah Harga Rute | 93 |
| Tabel 5.11 Pengujian Fungsi Menghapus Event | 94 |
| Tabel 5.12 Pengujian Fungsi Mematikan Route | 95 |
| Tabel 5.13 Pengujian Fungsi Mengaktifkan Route | 95 |
| Tabel 5.14 Pengujian Fungsi Menghapus Route | 96 |
| Tabel 5.15 Pengujian Fungsi Menghapus Kota | 96 |
| Tabel 5.16 Pengujian Fungsi Menghapus Pool | 94 |

Daftar Program

| | |
|---|----|
| Program 2.1 <i>Canvas Silverlight</i> | 8 |
| Program 4.1 Kode Program Ambil <i>Event</i> | 55 |
| Program 4.2 Kode Program Mencari Route dan Harga..... | 56 |
| Program 4.3 Kode Program Login dan Menghapus <i>Reservation</i> | 56 |
| Program 4.4 Kode Program Pemesanan | 57 |
| Program 4.5 Kode Program Ambil <i>Event</i> | 59 |
| Program 4.6 Kode Merubah Profil dan Password <i>Customer</i> | 59 |
| Program 4.7 Kode Program <i>Reservation Customer</i> | 60 |
| Program 4.8 Kode Program Membayar <i>Reservation</i> | 61 |
| Program 4.9 Kode Program Cek Port Dan Save Sms | 62 |
| Program 4.10 Kode Program Pengiriman SMS oleh Windows Services | 63 |
| Program 4.11 Kode Program Menampilkan Data Kustomer | 66 |
| Program 4.12 Kode Program Menambah Data Kustomer..... | 66 |
| Program 4.13 Kode Program Mengubah Data Kustomer..... | 67 |
| Program 4.14 Kode Program Menghapus Data Kustomer | 67 |
| Program 4.15 Kode Program Menampilkan Data Admin..... | 68 |
| Program 4.16 Kode Program Menambah Data Admin | 69 |
| Program 4.17 Kode Program Mengubah Data Admin | 69 |
| Program 4.18 Kode Program Menghapus Data Admin | 70 |
| Program 4.19 Kode Program Menambah Rute..... | 71 |
| Program 4.20 Kode Program Merubah Harga Rute | 71 |
| Program 4.21 Kode Program Menon-aktifkan Rute..... | 72 |
| Program 4.22 Kode Program Mengaktifkan dan Menghapus Rute..... | 73 |
| Program 4.23 Kode Program Menghapus Rute..... | 74 |
| Program 4.24 Kode Program Menampilkan Kota | 75 |
| Program 4.25 Kode Program Menambah Kota..... | 75 |
| Program 4.26 Kode Program Menghapus Kota | 76 |

| | |
|---|----|
| Program 4.27 Kode Program Menampilkan Pool..... | 77 |
| Program 4.28 Kode Program Menambah Pool..... | 77 |
| Program 4.29 Kode Program Mengubah Pool..... | 78 |
| Program 4.30 Kode Program menghapus Pool | 79 |
| Program 4.31 Kode Program Tambah Event..... | 80 |
| Program 4.32 Kode Program Menampilkan <i>Event</i> dan <i>Event Price</i> | 81 |
| Program 4.33 Kode Program Menghapus <i>Event</i> dan <i>Event Price</i> | 81 |
| Program 4.34 Kode Program Menambah <i>Event Price</i> | 83 |

Daftar Lampiran

Lampiran A

Penjelasan atribut untuk tiap entitas pada er-diagram *travel ticket reservation using silverlight*

Lampiran B

Penjelasan tabel pada diagram tabel *travel ticket reservation using silverlight*

Lampiran C

Data Penulis