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Web Based Mobile Ticket Reservation System

User Guide

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1. Introduction

This user manual is designed to give user guidelines on how to use the system. This train ticket reservation system includes two main modules. Web based application to provide customer's functions and administrator's function. Customer and administrator have two different authority levels.

2. Web based Ticket Reservation System

- Request new registration

1. Select User Registration link in User Profile menu
2. Enter following information in to Customer Registration Form.

Customer Registration Form

First Name *	:	<input type="text"/>
Last Name *	:	<input type="text"/>
Nic Number *	:	<input type="text"/>
Date of Birth *	:	<input type="text"/> (yyyy/MM/dd)
Address *	:	<input type="text"/>
Sex	:	<input checked="" type="radio"/> Male <input type="radio"/> Female
Mobile Number *	:	<input type="text"/>
Mobile Type	:	<input checked="" type="radio"/> G.S.M. <input type="radio"/> Other
Home Phone	:	<input type="text"/>
Email Address *	:	<input type="text"/>
User Name *	:	<input type="text"/> <input type="button" value="Check Available"/>
Password	:	<input type="text"/>
Confirm Password	:	<input type="text"/>
		<input type="button" value="Verify"/>
		<input type="button" value="Register"/>

Website sends an email to the address specified in the form. The email contains a security code the user uses that validates the account.

- Passenger login

1. Enter Username and Password
2. Click on Login button

User Login

User Name :

Password :

- View train schedule

1. Login to the system.
2. Click "View Train Schedule" link in Ticket Reservation menu.
3. Select the Source Station, Destination Station and Departure Date.
4. Click on View button

Train Time Schedules

Source Station :

Destination Station :

Departure Date :

Train Id	Root Id	Train Name	Arrival Time	Wait time (min.)	Departure time	Frequency	
3	6	Samudra Devi	04:55 pm	5	06:10 pm	Daily	Reserve Ticket
4	1	Ruluuu Komari	05:00 pm	5	06:10 pm	Daily	Reserve Ticket

- Ticket reservation

1. Click Reserve Ticket link in train Time Schedule page.
2. Choose Class and available seat no.
3. Click on Add button



Ticket Reservation Details

Customer Details

Name	: Damitha Udawatta	Mobile Number	: 714243900
Address	: Dodangoda	Nic Number	: 822741440v
Email	: damithaud@gmail.com		

Train Details

Date	: 2013/05/27	Source Location	MARADANA
Train Name	: Samudra Devi	Destination Location	PANADURA
Train Root	: Colombo - Matara		

Reservation Details

View Structure and reserve ticket

Select Class

Class 2 ▾

Available Seat No.

1 ▾

Add

- Payment

1. Automatically system proceeds to payment when ticket reservation complete.
2. Enter following details into payment module
 - ✓ Credit card number
 - ✓ Expiry date
 - ✓ CVV2/CVC2 number
 - ✓ Name on card
 - ✓ Email and mobile number.
3. When successfully entered payment details click "Pay" button.
4. Credit card number, Expiry date, CVV2/CVC2 number and Name on card are mandatory fields in payment schema. Payment processing page display as follow.

Welcome to



සමපත් බැංකුව
சம்பத் வங்கி
SampathBank

Secure Payment Gateway

We accept credit and debit cards from: VISA and MasterCard.

Card Number *	4862	5900	0028	3048	[?] [re-type]
Expiry Date *	04	2014	[?] [re-type]		
CVV2/CVC2 Number *	116	[?]			
Name On Card *	U K D D P Udawatta				[?]
E-Mail	damithaud@yahoo.com				[?]
Mobile Number	+ 94	714243900		[?]	
Merchant Name	MTS Consolidators				
Amount	LKR 1500.00				

Pay

Cancel

Verified by MasterCard
VISA SecureCode

This page will automatically timeout after 5 minutes.
Contact Us / Leave Feedback

- Update ticket bookings
 1. Enter ticket number and search ticket information.
 2. Source location, destination location, departure date, class and seat number can change due to availability.

Update Reserved Ticket Details

Ticket Number	MTS2013000078	<input type="button" value="Search"/>
Name	Dinali Beneragama	
Address	145/3, Kohuwala, Nugegoda	
Train Root	Colombo - Matara	
Train Name	Samudra Devi	
Source Location	Maradana	<input type="checkbox"/>
Destination Location	Panadura	<input type="checkbox"/>
Date	2013/05/27	<input checked="" type="checkbox"/>
Class	Class 1	<input type="checkbox"/>
Seat	23	<input type="checkbox"/>
	<input type="button" value="Edit"/>	

- Ticket cancellation

1. Click the cancellation link in Ticket Reservation menu
2. Enter ticket number and choose refund method.
3. Press submit button.

- View contact information

1. Click Contact Us link in main menu
2. System will display address, Email and Contact number in contact detail page.

3. Administrator's functions

- User login

1. Enter Username and Password
2. Click on Login button

- Add train roots

1. Click on "Add Root" link
2. Enter train root name
3. Press "Add" button

Train root can delete using Delete link

Add / Delete Train Root

Train Root Name :

Root id	Root Name	
1	Colombo - Badulla	Delete
2	Colombo - Kandy	Delete
3	Colombo - Nanuoya	Delete
4	Colombo - Vavuniya	Delete
5	Colombo - Batticaloa	Delete
		1 2

- Add trains

1. Click on "Add Train" link
2. Enter Train Name, Train Root, Frequently, No of Seats, Start Station, Start Time, End Station and End Time
3. Press "Add" button

Add / Delete Train

Train Details

Train Name : Udarata Manike
Train Root : Colombo - Kandy
Frequently : Dailly
No of Seats : 1st Class: 50 2nd Class: 100 3rd Class: 600
Start Station : COLOMBO FORT YARD
Start Time : 05:00 am (01:00 am)
End Station : KANDY
End Time : 09:10 am (12:00 pm)

Add

Train name can delete using Delete link as bellow displayed.

Train Id	Train Name	
1	Poki Menike	Delete
2	Nayana Kumari	Delete
3	Samudra Devi	Delete
4	Ruhunu Kumari	Delete

- Add station to train

1. Click on "Add Station" link
2. Enter Train Name, Station Name, Arrival Time, and Wait Time
3. Press "Add Station" button

Stop station name can delete using Delete link as bellow displayed.

Add Stations

Train Name

Station Name

Arrival Time (01:00 am)

Wait Time (0 to 60 min)

	Stop Station	Arrival Time	Wait Time	
Ruhunu Kumari	MARADANA	05:00 pm	5	Delete
Ruhunu Kumari	PANADURA	06:10 pm	7	Delete

- tariff Update
- Reports

4. Troubleshooting

Try the following solutions if web based ticket reservation system does not function properly:

- Be sure that you have a SMS or MMS enabled mobile phone
- Be sure that you have entered correct information into payment process
- .Administrator has authority to read error log and then find the issue.

EVALUATION QUESTIONNAIRE

Online Railways Ticket Reservation System Evaluation Questionnaire

The aim of this questionnaire is to build an efficiency web based railways ticket reservation system.

The applicability and usefulness of the proposed system will be assessed through the information that will be gathered through this questionnaire.

Therefore I welcome your feedback.

Thank You!

U. D. D. D. P. Udawatta

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Online Railways Ticket Reservation System Evaluation Questionnaire

1. Name

Mr. / Mrs. / Miss.....

2. Age Group

16 - 20

21 - 30

31 - 50

Above 50

3. Occupation/ Profession

.....

4. How would you rate your knowledge of Mobile literacy?

An advanced user

Basic user

An average user

Non-literate

5. Have you use mobile phone?

Yes

No

6. If Yes, please specify the message supporting type?

SMS

MMS

7. Have you used any online reservation system before?

Yes

No

8. If Yes, please specify the purpose?

.....

9. Have you used any web based mobile ticket reservation software before?

Yes

No

10. Prefer mobile ticket reservation compared to manual method?

- Yes No

11. Was the Graphical User Interface easy to use?

- Yes No

12. Level of satisfaction?

- Very satisfied Unsatisfied
 Satisfied Very Unsatisfied
 Neither

Any comments

.....
.....

13. Suitability of mobile ticket reservation system for other Organizations?

- Yes Can be Not Sure No

Any comments

.....
.....

14. Further improvements / enhancements that you feel necessary to make this software more useful?

.....
.....

Sample Codes and SQL queries

Database connection C# class file

```

using System;
using System.Collections.Generic;
using System.Text;
using System.Data;
using System.Data.OracleClient;
using System.Runtime.Serialization;
using System.Configuration;

[Serializable()]
public class DBConnection
{
    [NonSerialized]
    public OracleConnection con;
    [NonSerialized]
    public OracleCommand cmd;
    [NonSerialized]
    public OracleTransaction tr;
    public DBConnection()
    {
        string constring =
ConfigurationManager.AppSettings["DBConStringacc"].ToString();
        con = new OracleConnection(constring);
        cmd = new OracleCommand();
        cmd.Connection = con;

        cmd.CommandType = CommandType.StoredProcedure;
        try
        {
            con.Open();
            this.tr = con.BeginTransaction();
            this.cmd.Transaction = tr;

        }
        catch (Exception exp)
        {
            this.Rollback();
            throw exp;
        }
    }

    public void Commit()
    {
        tr.Commit();
        this.cmd.Dispose();
        this.con.Close();
    }

    public void RollBack()
    {
        this.tr.Rollback();
        this.cmd.Dispose();
        this.con.Close();
    }
}

```


Sample C# code for insertion function

```
public void InsertStationDetail(int stationID, int trainID,
    string arrivalTi, string waitTi)
    {
        string Constring =
            ConfigurationManager.AppSettings["DBConString"].ToString();
        SqlConnection con = new SqlConnection(Constring);
        con.Open();
        SqlTransaction tr = con.BeginTransaction();
        try
        {
            string sqlString = "INSERT INTO STOP_STATION
                (SATATION_ID, TRAIN_ID, ARRVAL_TIME, WAIT_TIME) "+
                " VALUES (" + stationID + "," +
                trainID + "," + arrivalTi + "," + waitTi + ") ";

            SqlCommand cmd = new SqlCommand(sqlString);

            cmd.Transaction = tr;
            cmd.Connection = con;

            cmd.ExecuteNonQuery();
            tr.Commit();
            con.Close();
            con.Dispose();

        }
        catch (Exception exp)
        {
            tr.Rollback();
            throw exp;
        }
    }
}
```

SQL queries

Database creation

```
CREATE DATABASE [MTS] ON PRIMARY
```

Table creation

Table Name: PAYMENT

```
CREATE TABLE [dbo].[PAYMENT] (
    [CARD_NUMBER] [int] NULL,
    [EXP_DATE] [nvarchar](255) NULL,
    [CARD_CODE] [int] NULL,
```

[CREDIT_LIMIT] [int] NULL,

[BALANCE] [int] NULL

) ON [PRIMARY]

Table Name: ROOT_STATION

CREATE TABLE [dbo].[ROOT_STATION] (

[ROOT_ID] [int] NULL,

[STATION_ID] [int] NULL,

[STATION_NAME] [nvarchar](255) NULL

) ON [PRIMARY]

Table Name: STOP_STATION

CREATE TABLE [dbo].[STOP_STATION] (

[SATATION_ID] [int] NULL,

[TRAIN_ID] [int] NULL,

[ARRVAL_TIME] [nvarchar](255) NULL,

[WAIT_TIME] [nvarchar](255) NULL

) ON [PRIMARY]

Table Name: TICKET

CREATE TABLE [dbo].[TICKET] (

[ROOT_ID] [int] NULL,

[S_LOCATION] [int] NULL,

[D_LOCATION] [int] NULL,

[CLASS_ID] [int] NULL,

[SEAT_NO] [int] NULL,

[TRAIN_ID] [int] NULL,

[R_DATE] [datetime] NULL,

[TICKET_NO] [varchar](50) NULL,

[CUSTOMER_ID] [varchar](50) NULL

) ON [PRIMARY]

Table Name: TICKET_AMOUNT

```
CREATE TABLE [dbo].[TICKET_AMOUNT] (  
    [ROOT_ID] [int] NULL,  
    [S_LOCATION] [int] NULL,  
    [D_LOCATION] [int] NULL,  
    [CLASS1_AMOUNT] [int] NULL,  
    [CLASS2_AMOUNT] [int] NULL,  
    [CLASS3_AMOUNT] [int] NULL  
) ON [PRIMARY]
```

Table Name: TICKET_NO_SEQ

```
CREATE TABLE [dbo].[TICKET_NO_SEQ] (  
    [ISSUE_YEAR] [int] NULL,  
    [SEQUENCE] [int] NULL  
) ON [PRIMARY]
```

Table Name: TICKET_TEMP

```
CREATE TABLE [dbo].[TICKET_TEMP] (  
    [ROOT_ID] [int] NULL,  
    [S_LOCATION] [int] NULL,  
    [D_LOCATION] [int] NULL,  
    [CLASS_ID] [int] NULL,  
    [SEAT_NO] [int] NULL,  
    [TRAIN_ID] [int] NULL,  
    [R_DATE] [datetime] NULL,  
    [TICKET_NO] [varchar](50) NULL,  
    [CUSTOMER_ID] [varchar](50) NULL  
) ON [PRIMARY]
```

Table Name: TRAIN_DETAILS

```
CREATE TABLE [dbo].[TRAIN_DETAILS] (  
    [TRAIN_ID] [int] NULL,
```

```
[ROOT_ID] [int] NULL,  
[TRAIN_NAME] [nvarchar](255) NULL,  
[CLASS1] [int] NULL,  
[CLASS2] [int] NULL,  
[CLASS3] [int] NULL,  
[START_STATION] [nvarchar](255) NULL,  
[END_STATION] [nvarchar](255) NULL,  
[START_TIME] [nvarchar](255) NULL,  
[END_TIME] [nvarchar](255) NULL,  
[FREQUENTLY] [nvarchar](255) NULL
```

```
) ON [PRIMARY]
```

Table Name: TRAIN_ROOT

```
CREATE TABLE [dbo].[TRAIN_ROOT] (  
    [ROOT_ID] [int] NULL,  
    [ROOT_NAME] [nvarchar](255) NULL  
) ON [PRIMARY]
```

Table Name: TRANSACTION

```
CREATE TABLE [dbo].[TRANSACTION] (  
    [PAYMENT_DATE] [datetime] NULL,  
    [AMOUNT] [int] NULL,  
    [CUSTOMER_ID] [varchar](max) NULL,  
    [CCARD_NUMBER] [varchar](50) NULL,  
    [TICKET_NUMBER] [varchar](50) NULL  
) ON [PRIMARY]
```

Table Name: USER_DETAIL

```
CREATE TABLE [dbo].[USER_DETAIL] (  
    [NIC] [nvarchar](255) NULL,  
    [F_NAME] [nvarchar](255) NULL,  
    [L_NAME] [nvarchar](255) NULL,
```



[ADDRESS] [nvarchar](255) NULL,
[BIRTH_DATE] [nvarchar](255) NULL,
[SEX] [nvarchar](255) NULL,
[MOBILE_NO] [nvarchar](255) NULL,
[HOME_PHONE] [nvarchar](255) NULL,
[EMAIL] [nvarchar](255) NULL,
[USER_NAME] [nvarchar](255) NULL,
[PASS_WORD] [nvarchar](255) NULL,
[CONFIRM_CODE] [nvarchar](255) NULL,
[IS_ACTIVE] [int] NULL

) ON [PRIMARY]

Test Cases

1. Test case for user login authentication

Test case No.	Description	Expected out put	System created output	Status
01	User login with valid user name and password	Display the home page	Display the home page	Success
02	Enter valid user name and invalid password	"Invalid password" message prompt for the user login again	"Invalid password" message prompt for the user login again	Success
03	Enter invalid user name and valid password	"Invalid user name" message prompt for the user login again	"Invalid user name" message prompt for the user login again	Success
04	Enter invalid user name and invalid password	"Invalid user name" message prompt for the user login again	"Invalid user name" message prompt for the user login again	Success
05	Press the login button without any values	"Invalid user name" message prompt for the user login again	"Invalid user name" message prompt for the user login again	Success

Figure E 1 User login authentication

2. Test case for User Registration

Test case No.	Description	Expected out put	System created output	Status
01	Keep the empty First Name	"Enter First Name" message prompt	"Enter First Name" message prompt	Success
02	Keep the empty Last Name	"Enter Last Name" message prompt	"Enter Last Name" message prompt	Success

03	Insert the valid NIC number	No message prompt	Not to show any message	Success
04	Insert the invalid NIC number	Display message	Display message	Success
05	Keep the empty NIC number	"Enter NIC Number" message prompt	"Enter NIC Number" message prompt	Success
06	Keep the empty address	"Enter Address" message prompt	"Enter Address" message prompt	Success
07	Keep the empty mobile number	"Enter Mobile Number" message prompt	No message prompt	Success
08	Insert the valid mobile number	No message prompt	No message prompt	Success
09	Insert the invalid mobile number	Display message	Display message	Success
10	Keep the empty email address	"Enter Email Address" message prompt	"Enter Email Address" message prompt	Success
11	Insert the valid email address	No message prompt	No message prompt	Success
12	Insert the invalid email address	Display message	Display message	Success

Figure E 2 User Registration

3. Test case for change password

Test case No.	Description	Expected out put	System created output	Status
01	Insert valid old password, new password and confirm password	"Successfully changed" message prompt	"Successfully changed" message prompt	Success
02	Insert invalid old password, new password and confirm	"Invalid password" message prompt	"Invalid password" message prompt	Success

	password			
03	Insert valid old password, new password and invalid confirm password	"Invalid password" message prompt	"Invalid password" message prompt	Success
04	Insert old password empty new password and invalid confirm password	"Invalid password" message prompt	"Invalid password" message prompt	Success
05	At least old password, new password or confirm password is empty	"Invalid password" message prompt	"Invalid password" message prompt	Success

Figure E 3 Change password

4. Test case for add train into root

Test case No.	Description	Expected out put	System created output	Status
01	Keep the empty train name	"Train name?" message prompt	"Train name?" message prompt	Success
02	Keep the empty start time	"Start Time?" message prompt	Display the sign relevant circular	Success
03	Insert the valid start time	No message prompt	No message prompt	Success
04	Insert the invalid start time	Display message	Display message	Success
05	Keep the empty end time	"End Time?" message prompt	"End Time?" message prompt	Success
06	Insert the valid end time	No message prompt	No message prompt	Success
07	Insert the invalid end time	Display message	Display message	Success

Figure E 4 add train into root

