

Automated Railway Ticketing System

USER MANUAL

Table of Contents

GENERAL INFORMATION	2
Hardware Overview	2
Steps to Register	2
HAND HELD DEVICE	3
Introduction	3
Identification	4
How this works	5
Important	5
GATE MACHINE	6
Introduction	6
Identification	6
USER PORTAL	8
Landing Page	8
Login window	9
Login as a customer/client	10
Login as an admin	15
Common cases	21

General Information

HARDWARE OVERVIEW

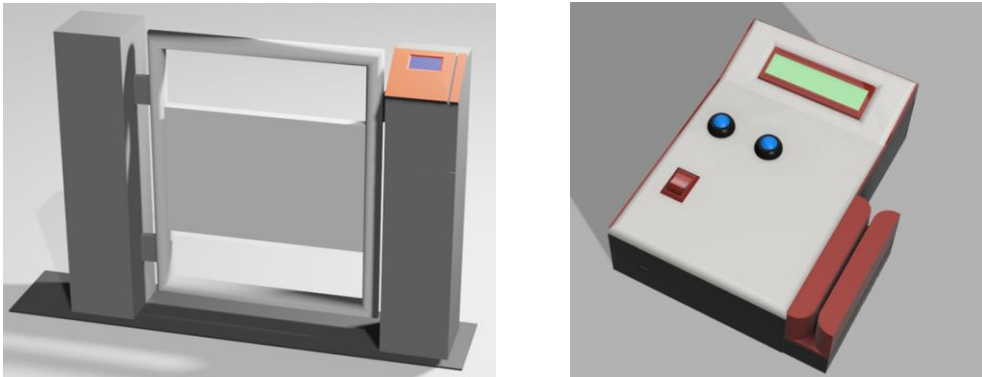


Figure 1.0

STEPS TO REGISTER

1. Travelling customers should register to the system providing details and should purchase a swipe card from railway station.
2. They can track all their travelling history and payments via web application provided. Before that they should register in to the web application providing User Id he/she got when they register to the system in step 1.

Hand Held Device

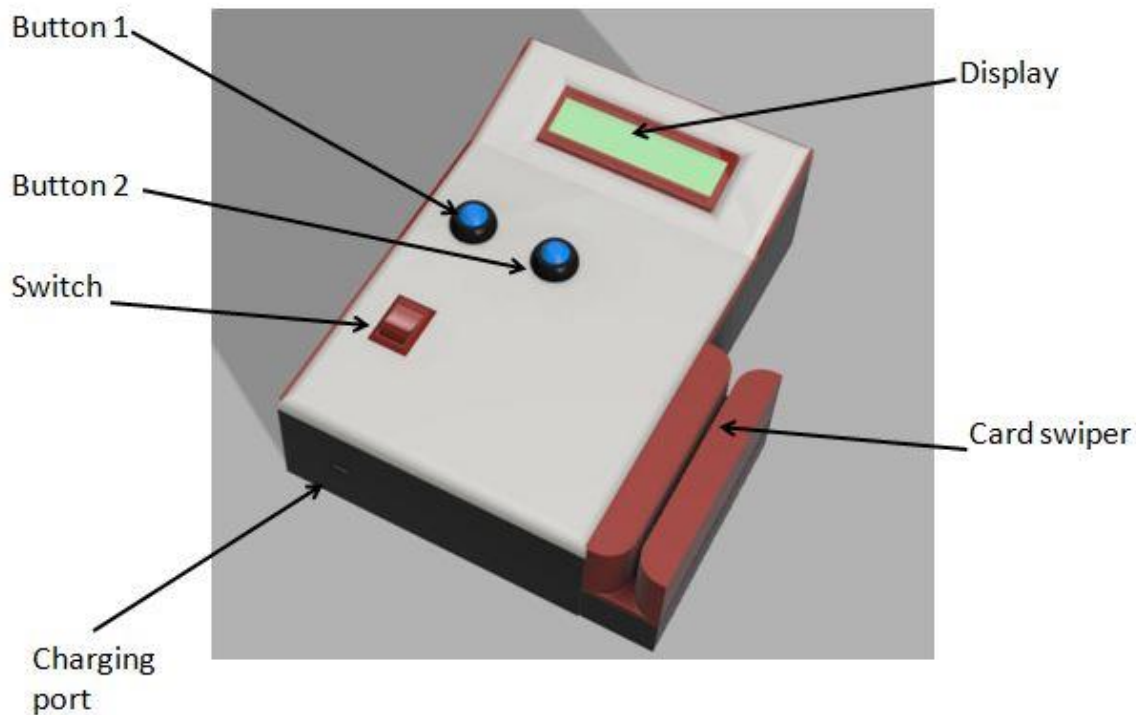


Figure 2.0

INTRODUCTION

This is the block diagram of the hand held device which is used to enter the travelling class of the related train passenger.

This device is a mini-size equipment that can be fixed to the ticket checker's hand by the belt. Operations of this one are much easier with the given user friendly hardware view.

IDENTIFICATION

- Switch

This is the ON/OFF switch. When turn on, necessary indications get displayed.

- Card-swipe

Ticket checker can swipe the smart travelling card of the passenger here. It will be much useful if you swipe the card in the manner that will ensure no damage to the card.

- Button 1

If the passenger is travelling in the “SECOND CLASS”, have to push this button.

- Button 2

If the passenger is travelling in the “THIRD CLASS”, have to push this button.

- Display

All the identifications are displayed here. Battery details, action details can be seen here by the checker.

- Charging port



Figure 3.0

This is the charger of the device and via the charging port device can be recharged.

HOW THIS WORKS

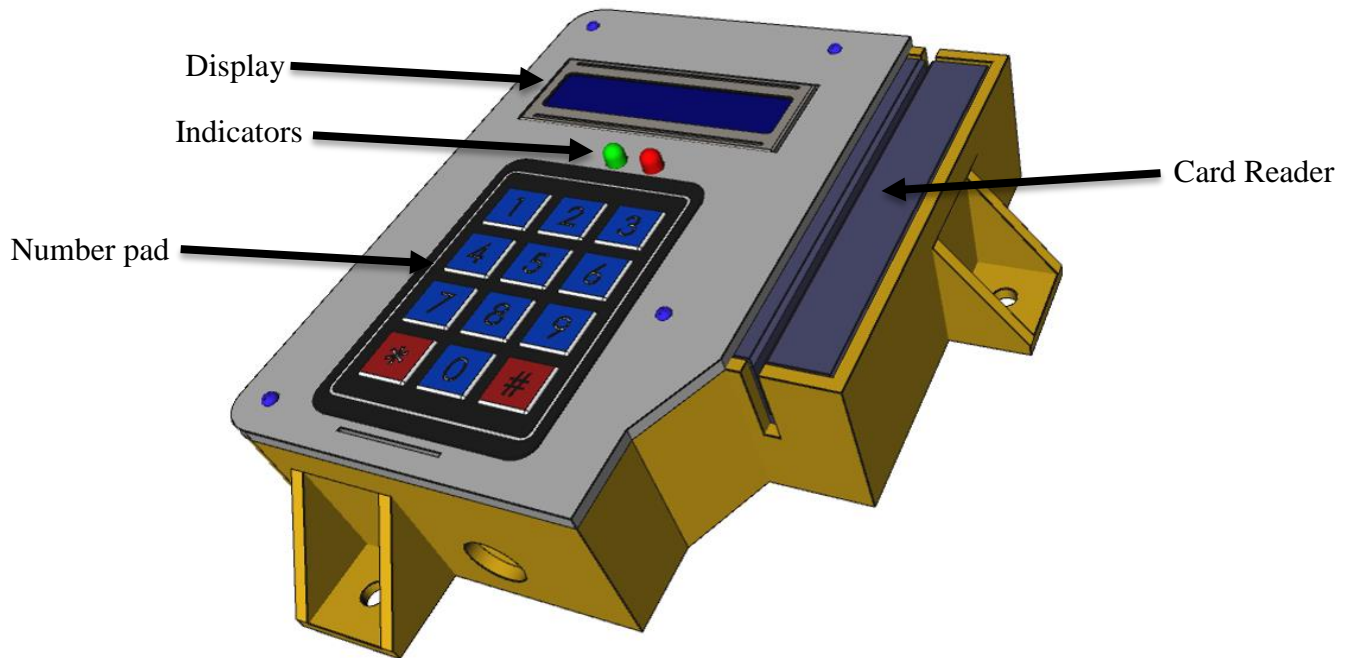
When some travel start, checker can turn on the device by the switch. Usually all the passengers entered via gates are hardcoded as third class passenger. When the checker reached to a passenger, have to swipe the card on the device. Then details of the passenger get displayed on the screen and class of travelling is third class by default. If the passenger is travelling in higher class, then checker can enter the related passenger class by given button and then it get displayed. Likewise details of all the passengers can be taken. These details can get updated when train reached to a station. After the end of travel can turn off the device.

When battery is low it is indicated by the display and have to charge nearly 4hrs and charge will retain for 48 hrs.

IMPORTANT

1. Swipe the cards carefully.
2. Charge the device with proper power connection. If there are problems with this it will damage the device.
3. Hard usage is acceptable but greater pressure on the device will damage the device.
4. Not water resist.
5. If there are problems get the advice of technical person.

Gate Machine



INTRODUCTION

This is the machine you see at the entrance & exit gates. You should swipe your card at every entrance & exit.

IDENTIFICATION

- **Display**

Displays the numbers you enter from Number Pad.

Displays notifications when you swipe your card.

- **Indicators**

If **red** indicator is on, that means you have a problem with your account. You should meet administration before you travel again.

If green indicator is on, that means there is no problem. The gates will open for you.

- Number pad

To enter the number of tickets you want.

- Card reader

To swipe the card when you travel.

User Portal

Web Interface

1. LANDING PAGE

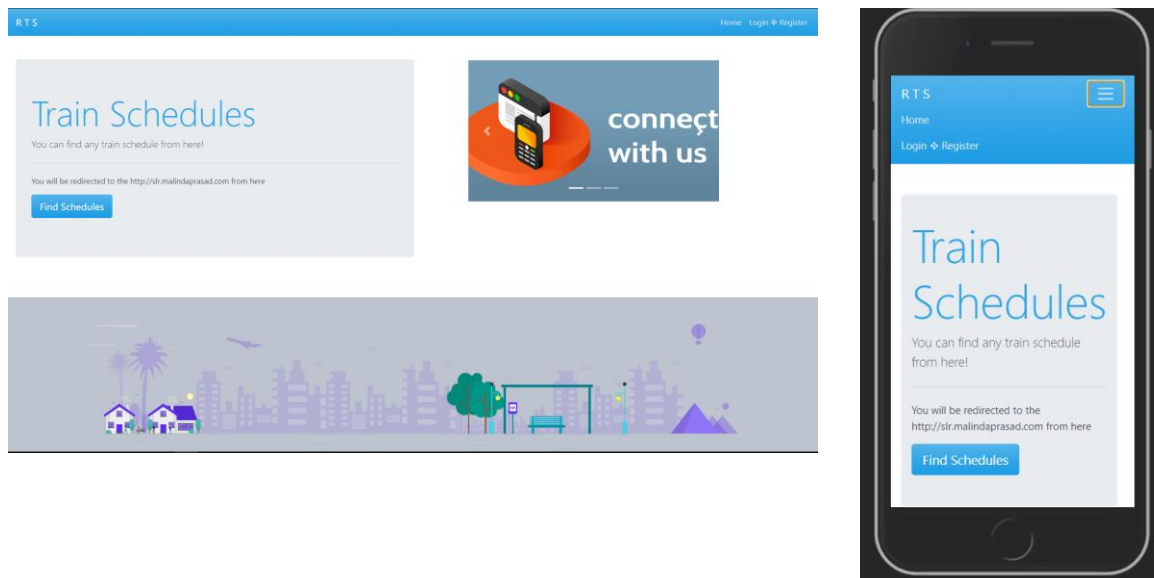


Figure 1.0

This is what you see when you open our web application. From here, you can find train schedules by clicking “Find Schedules” button.

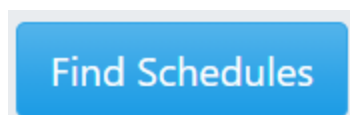


Figure 1.1

If you have a valid user card from railway department, you can register or login to our travel monitoring system using the button in the upper right corner.

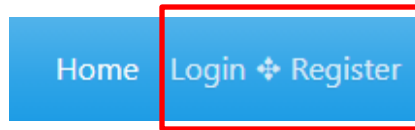


Figure 1.2

2. LOGIN WINDOW

2.1. Register Window

A registration form titled 'REGISTER' in bold. It contains two input fields: 'User Id' and 'Password'. Below the 'User Id' field is a blue button labeled 'REGISTER'. To the right of the 'Password' field is the word 'LOGIN' in orange text.

Figure 2.1.0

If you are using this web application first time, you have to register first. **For that you should use the User Id you got when you purchasing a card from the railway department.** You can use a password on your own.

2.2. Login Window

A login form titled 'LOGIN' in bold. It contains two input fields: 'User ID' and 'Password'. Below the 'User ID' field is a blue button labeled 'LOGIN'. To the right of the 'Password' field is the word 'REGISTER' in orange text.

Figure 2.2.0

If you are a registered person as a web application user before, you should enter your User Id which has been provided by railway department and the password you created when registering.

If you forgot your password, you should meet the administration to reset your account and the password.

3. LOGIN AS A CUSTOMER/CLIENT



Figure 3.0

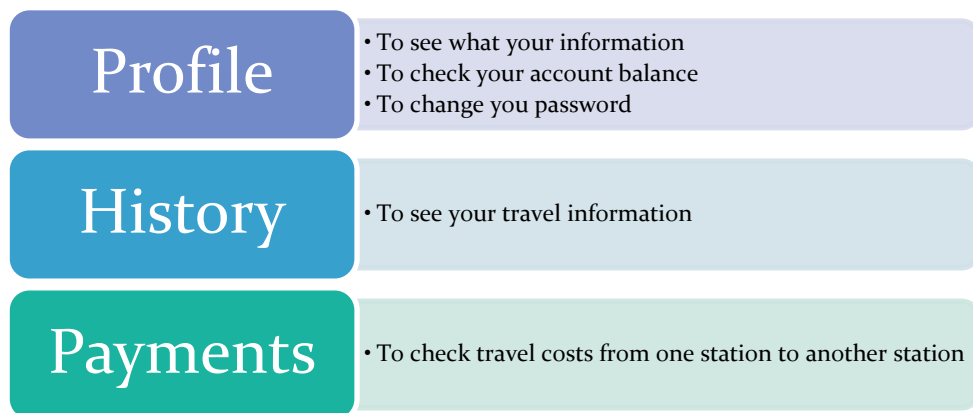


Figure 3.1

3.1. Profile

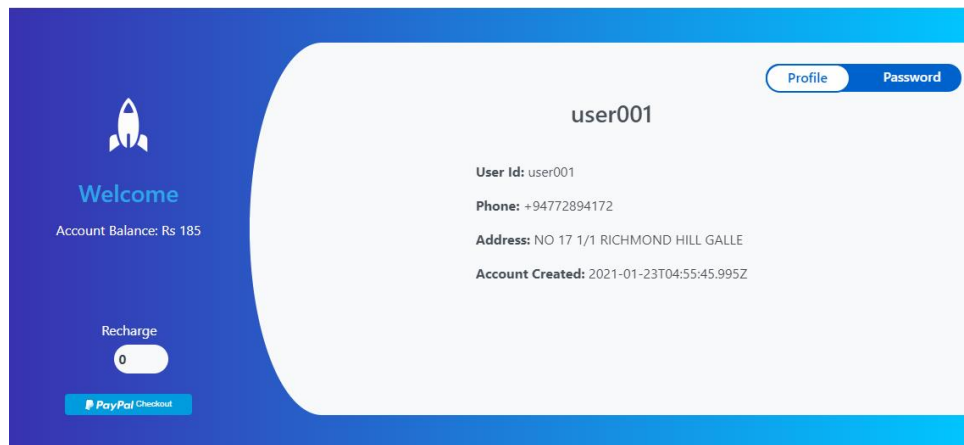


Figure 3.1.0

This is the profile window you see. You can identify your details and the account balance as above.

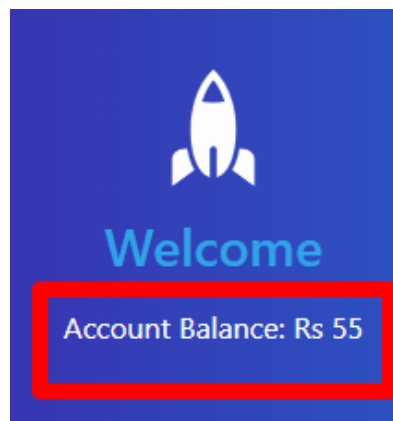


Figure 3.1.1

To recharge your account,

1. Enter amount you want to recharge in the input box called “Recharge”
2. Then press the button below that

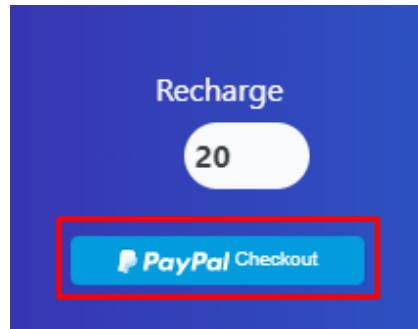


Figure 3.1.2

To change your password, press “Password” section in the figure 3.1.0.

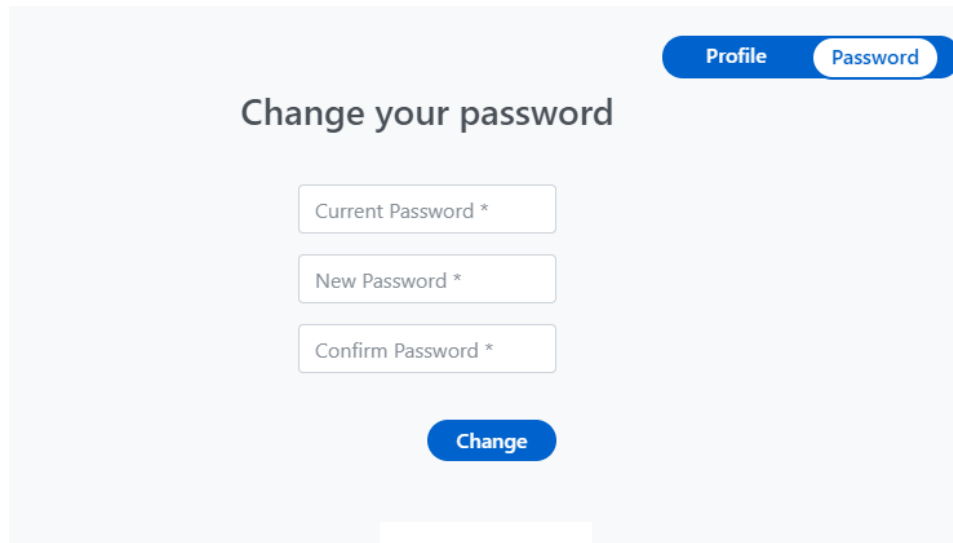
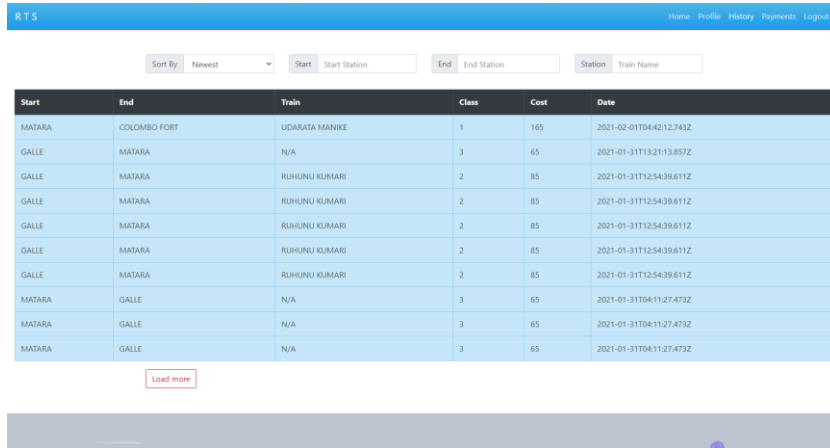
A light gray form titled "Change your password". At the top right, there are two tabs: "Profile" and "Password", with "Password" being the active tab. The form contains three input fields: "Current Password *", "New Password *", and "Confirm Password *". Below these fields is a blue button labeled "Change".

Figure 3.1.3

You should enter your current password before you change the password. Then enter new password and again enter the confirmation password to change your password.

3.2. History

This is where you can find your all travel details as records.



The screenshot shows the RTS web application interface. At the top, there's a navigation bar with 'RTS' and links for 'Home', 'Profile', 'History', 'Payments', and 'Logout'. Below the navigation bar, there are filters: 'Sort By' (set to 'Newest'), 'Start' (Start Station), 'End' (End Station), and 'Station' (Train Name). The main content is a table with columns: Start, End, Train, Class, Cost, and Date. The table lists several travel records, including trips from MATARA to COLOMBO FORT and GALLE to MATARA. A 'Load more' button is visible at the bottom of the table.

Start	End	Train	Class	Cost	Date
MATARA	COLOMBO FORT	UDARATA MANIKE	1	165	2021-02-01T04:42:12.743Z
GALLE	MATARA	N/A	3	65	2021-01-31T13:21:13.857Z
GALLE	MATARA	RUHUNU KUMARI	2	85	2021-01-31T12:54:39.611Z
GALLE	MATARA	RUHUNU KUMARI	2	85	2021-01-31T12:54:39.611Z
GALLE	MATARA	RUHUNU KUMARI	2	85	2021-01-31T12:54:39.611Z
GALLE	MATARA	RUHUNU KUMARI	2	85	2021-01-31T12:54:39.611Z
GALLE	MATARA	RUHUNU KUMARI	2	85	2021-01-31T12:54:39.611Z
MATARA	GALLE	N/A	3	65	2021-01-31T04:11:27.473Z
MATARA	GALLE	N/A	3	65	2021-01-31T04:11:27.473Z
MATARA	GALLE	N/A	3	65	2021-01-31T04:11:27.473Z



The screenshot shows the RTS mobile application interface. It features a navigation bar with 'RTS' and a menu icon. Below the navigation bar, there are filters: 'Station' and 'Train Name'. The main content is a table with columns: Start, End, Train, and Class. The table lists several travel records, including trips from MATARA to COLOMBO FORT and GALLE to MATARA.

Start	End	Train	Class
MATARA	COLOMBO FORT	UDARATA MANIKE	1
GALLE	MATARA	N/A	3
GALLE	MATARA	RUHUNU KUMARI	2
GALLE	MATARA	RUHUNU KUMARI	2
GALLE	MATARA	RUHUNU KUMARI	2
GALLE	MATARA	RUHUNU KUMARI	2
GALLE	MATARA	RUHUNU KUMARI	2
GALLE	MATARA	RUHUNU KUMARI	2

Figure 3.2.0

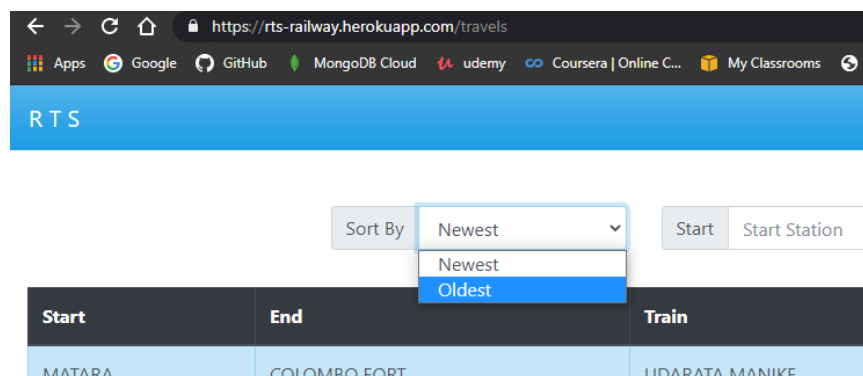
There are some options for you to choose when looking your travel history.



The screenshot shows the filter options in the RTS web application. It includes a 'Sort By' dropdown menu set to 'Newest', and three input fields for 'Start' (Start Station), 'End' (End Station), and 'Station' (Train Name).

Figure 3.2.1

You can sort and find your travels by using “Sort By” option.



The screenshot shows the 'Sort By' dropdown menu in the RTS web application. The menu is open, showing options for 'Newest' and 'Oldest'. The table below shows the first record: MATARA to COLOMBO FORT on the UDARATA MANIKE train.

Start	End	Train
MATARA	COLOMBO FORT	UDARATA MANIKE

Figure 3.2.2

If you want to see history from a specific starting point as your starting station, you should enter that station in the “Start” search option. As same as above, if you want to see details about particular end station, enter that station in “End” option.

You can also see the history related to a particular train which you traveled.

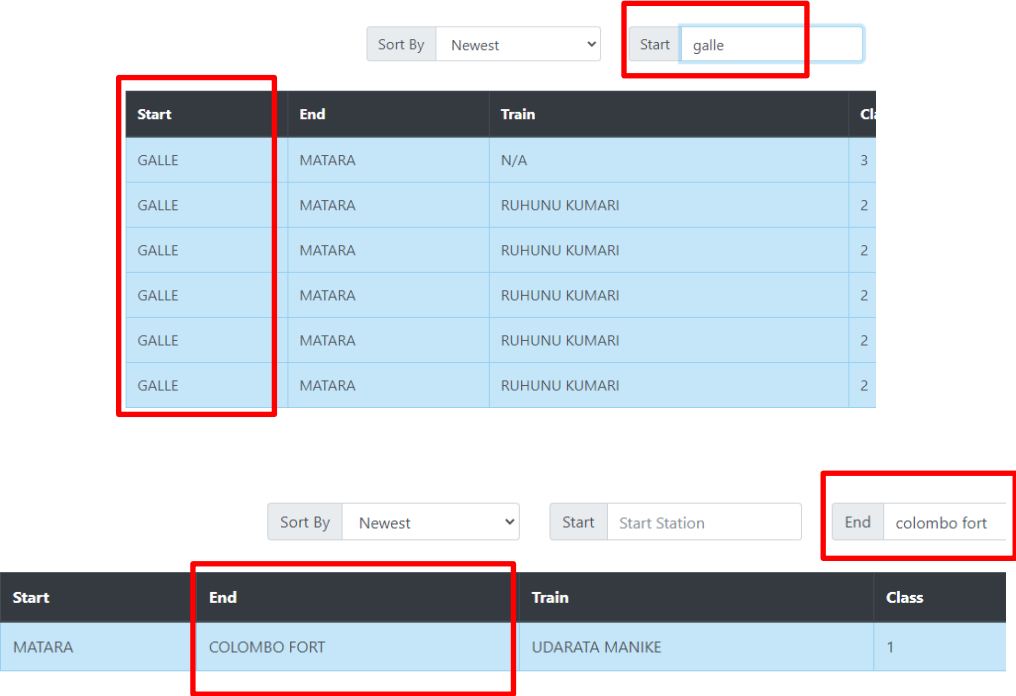


Figure 3.2.4

3.3. Payments

As the “Payments” section, you can get informed about travel costs from one station to another station.

The screenshot shows a web interface for the 'Payments' section. At the top, there is a search bar with two input fields: the first contains 'Galle' and the second contains 'Matara'. A red rectangle highlights these two input fields. To the right of the search bar is an orange 'Search' button. Below the search bar is a table with three columns: 'First Class', 'Second Class', and 'Third Class'. The table has two rows: the first row shows the class names, and the second row shows the corresponding travel costs: 'Rs 165' for First Class, 'Rs 80' for Second Class, and 'Rs 65' for Third Class.

First Class	Second Class	Third Class
Rs 165	Rs 80	Rs 65

Figure 3.2.5

These are the details related to client side of the application.

4. LOGIN AS AN ADMIN

This interface will appear when you logged in as an admin. You have all the control to manage clients, manage railway stations, manage trains & increase, decrease travel costs.

The screenshot shows a blue navigation bar for the admin dashboard. It contains the following links: Home, Customer, App User, Freezed Account, Trains, Stations, Increase Prices, Decrease Prices, Payments, and Logout.

Home	Customer	App User	Freezed Account	Trains	Stations	Increase Prices	Decrease Prices	Payments	Logout
------	----------	----------	-----------------	--------	----------	-----------------	-----------------	----------	--------

Figure 4.0

Customer	<ul style="list-style-type: none"> To see the details of all the customers (They are the registered customers with a travel card issued by railway department)
App User	<ul style="list-style-type: none"> Registered to the web application monitoring system
Freezed Account	<ul style="list-style-type: none"> To see the users which are in freezed account state(Clients who cannot travel since zero account balance)
Trains	<ul style="list-style-type: none"> To see the details of trains
Stations	<ul style="list-style-type: none"> To see the details about Stations
Increase Prices	<ul style="list-style-type: none"> To increase all the travel costs at once (class by class)
Decrease Prices	<ul style="list-style-type: none"> To decrease all the travel costs by at once (class by class)
Payments	<ul style="list-style-type: none"> To create a new travel cost for a new route or modify existing travel cost of a specific route

Figure 4.1

Below are the detailed view of all the windows, an admin can see.

4.1. Customer

Here is the place to see all the customers who purchased a travel card by registering in to the system. **Remember this is not the place to see web application users.**

One more thing, you can search customers by their User Id, and their living city and also you can sort customers by registered date latest to newest and newest to latest.

Sort By Newest		City City		User Id User Id		Create Customer
Id	Name	Balance	City	View	Delete	
user004	USER004	10	KANDY	Update	Delete	
user003	USER003	100	MATARA	Update	Delete	
user002	USER002	729	MATARA	Update	Delete	
user001	USER001	55	GALLE	Update	Delete	

Figure 4.1.0

From here you can register new customers and update/delete customers from your system. To make deposits for a specific account using their User Id, click “Update” button.

The image shows a web form titled "Customer Account". It contains several input fields for customer information. The "Deposit" field is highlighted with a red rectangular border. Below the form is a green "Update" button.

Customer Account	
User ID	user001
Name	user001
Balance	55
Deposit	0
Phone	+94772894172
Address:1	no 17 1/1
Address:2	richmond hill
City	galle
<button>Update</button>	

Figure 4.1.1

To register a new customer, click on “Create Customer” button.



Figure 4.1.2

4.2. App User

Registered web application users can be found here. To find a user, enter User Id in the search box. Then you can delete user by clicking on “Delete” button.

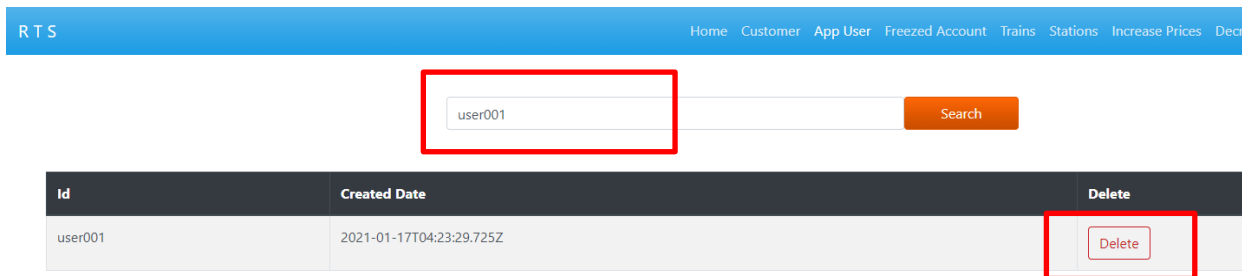


Figure 4.2.0

4.3. Freezed Account

This is the place you can find the customers who have freezed accounts. By searching by customer User Id, you can find details.

When there is a client consulting you telling that they can't travel using their card, that account is freezed due to lack of credit in their account. **First of all you have to deposit some money which is greater than travel cost. Then you can remove that account from “Freezed” state.** To update account balance, check section 4.1.

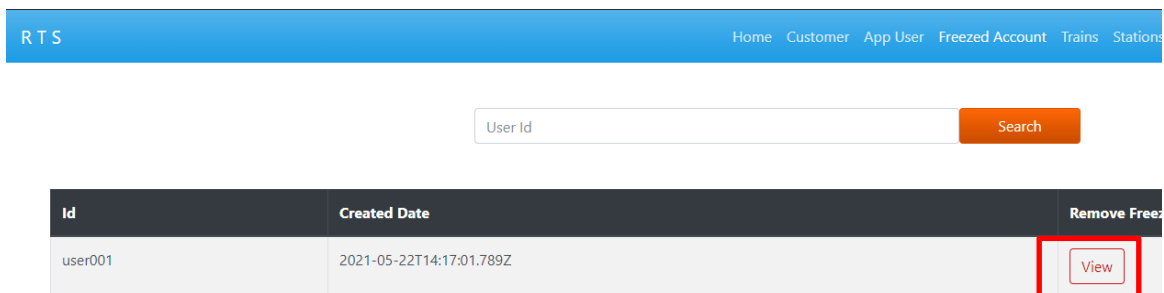


Figure 4.3.0

Remove Freeze

User ID

Start Station Id

Start Station Name

Class

Train Id

Train

Find Station Details:

End Station Id

End Station Name

Figure 4.3.1

4.4. Trains

To check & update all the details about trains.

R T S			
<div> Home Customer App User Freezed Account Trains Stations Increase Prices Decrease Prices </div>			
<div> <div>Sort By <input type="text" value="Newest"/></div> <div> <input type="text" value="Name"/> <input type="text" value="Train Name"/> <input type="text" value="Train Id"/> <input type="text" value="Train Id"/> </div> <div><input type="button" value="Create Train"/></div> </div>			
Id	Name	View	Delete
train003	UDARATA MANIKE	<input type="button" value="Update"/>	<input type="button" value="Delete"/>
train002	YAALDEWI	<input type="button" value="Update"/>	<input type="button" value="Delete"/>
train001	RUHUNU KUMARI	<input type="button" value="Update"/>	<input type="button" value="Delete"/>

Figure 4.4.0

You can update or delete by clicking above red squared areas.

If you want to add a new train to the system, click “Create Train” button and add details.

As same as other topics, sorting and searching options are provided.

4.5. Stations

To check & update all the details about trains.

Id	Name	View	Delete
station006	JAFNA	Update	Delete
station005	BELIATTA	Update	Delete
station004	MORATUWA	Update	Delete
station003	COLOMBO FORT	Update	Delete
station002	MATARA	Update	Delete
station001	GALLE	Update	Delete

Figure 4.5.0

You can update or delete by clicking above red squared areas.

If you want to add a new station to the system, click “Create Station” button and add details.

As same as other topics, sorting and searching options are provided.

4.6. Increase Prices

From here you can increase travel costs at once by a specific amount of rupees. You can enter by that by class by class independently.

Enter the amount you want to increase for each class

First Class

Second Class

Third Class

Increase

Figure 4.6.0

4.7. Decrease Prices

From here you can decrease travel costs at once by a specific amount of rupees. You can enter by that by class by class independently.

Decrease All Prices by

Enter the amount you want to decrease for each class

First Class	<input type="text"/>
Second Class	<input type="text"/>
Third Class	<input type="text"/>

Figure 4.7.0

4.8. Payments

From here you can change travel costs of a specific route or add new travel costs for a new route to the system.

<input type="text" value="matara"/>	<input type="text" value="galle"/>	<input type="button" value="Search"/>	<input type="button" value="Create"/>
First Class	Second Class	Third Class	Update
Rs 165	Rs 80	Rs 65	<input type="button" value="Edit"/>

Figure 4.8.0

To see the specific route you want, just enter two stations in above search boxes.

To update costs click on “Edit” button. Click on “Create” button to add new cost to the system.

5. COMMON CASES

5.1. Load More

There are some common things for clients & admins. Those are as follows,

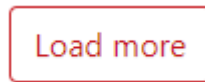


Figure 5.1.0

By clicking this button, you can see more details under that particular topic.

5.2. Logout



Figure 5.2.0

If you want to logout from the system, Click “Logout” button on the upper right corner.

