

Project Railway Reservation System

Submitted by

ARUN JIJU JOSEPH

(1002140653)

&

MOHIT KALE

(1002169495)

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M.S. IN DATA SCIENCE



THE UNIVERSITY OF TEXAS AT ARLINGTON

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INSTRUCTOR: Soumaya Gharsallaoui

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HONOR CODE

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or that I contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Explanation of Query/GUI TASK:

The arrows are also provided which button should be pressed for execution.

1. User input the passenger's last name and first name and retrieve all trains they are booked on.

The screenshot shows the 'Railway Reservation System' window. The 'First Name' field contains 'Art' and the 'Last Name' field contains 'Venere'. The 'Search Trains' button is highlighted with a blue arrow. Below the input fields, there are several buttons: 'List Passengers on Date', 'Display Passengers by Age', 'List Train Passenger Count', 'Retrieve Passengers by Train', 'Check Passenger Data', 'Check Booked Data', 'Check Count of Booked', 'Check Count of Waitlist', 'List Tables', and 'Describe Table'. The 'List Train Passenger Count' button is highlighted with a blue arrow. The output area at the bottom displays the following data:

TrainNumber	TrainName	TicketType	Status
2	Flying Scotsman	Premium	Booked
4	Golden Chariot	Premium	Booked

This output provides detailed information about each train booking associated with the passenger Art Venere.

2. User input the Date and list of passengers travelling on entered day with confirmed tickets displays on UI.

The screenshot shows the 'Railway Reservation System' window. The 'Date (DD-MM-YYYY)' field contains '21-02-2022'. The 'List Passengers on Date' button is highlighted with a blue arrow. Below the input fields, there are several buttons: 'Search Trains', 'Display Passengers by Age', 'List Train Passenger Count', 'Retrieve Passengers by Train', 'Check Passenger Data', 'Check Booked Data', 'Check Count of Booked', 'Check Count of Waitlist', 'List Tables', and 'Describe Table'. The 'List Train Passenger Count' button is highlighted with a blue arrow. The output area at the bottom displays the following data:

First Name	Last Name	TicketType	Status
Fletcher	Flosi	Premium	Booked
Sage	Wieser	General	Booked
Kris	Marrier	General	Booked
Gladys	Rim	Premium	Booked
Yuki	Whobrey	Premium	Booked
Fletcher	Flosi	Premium	Booked
Sage	Wieser	Premium	Booked
Kris	Marrier	Premium	Booked
Minna	Amigon	Premium	Booked
Abel	Maclead	Premium	Booked
Kiley	Caldarera	General	Booked
Graciela	Ruta	General	Booked
Cammy	Albares	General	Booked
Mattie	Poquette	General	Booked

The user can easily see the passengers' names, the train seats, and ticket status for the date 21-02-2022.

3. User input the age of the passenger (50 to 60) and UI display the train information (Train Number, Train Name, Source and Destination) and passenger information (Name, Address, Category, ticket status) of passengers who are between the ages of 50 to 60.

The screenshot shows the 'Railway Reservation System' window. It contains several input fields and buttons. The 'Age (50 to 60):' field is highlighted with a blue arrow pointing to the 'Display Passengers by Age' button. Below the input fields, there is a text area displaying a list of passengers with their details: TrainNumber, TrainName, SourceStation, strtime('%Y', 'now'), FirstName, LastName, Address, City, County, Phone, bdate, TicketType, Status. The list includes: 3, Golden Arrow, Victoria, 2023, James, Butt, 6649 N Blue Gum St, New Orleans, Orleans, 504-845-1427, 10-10-1968, Premium, Booked.

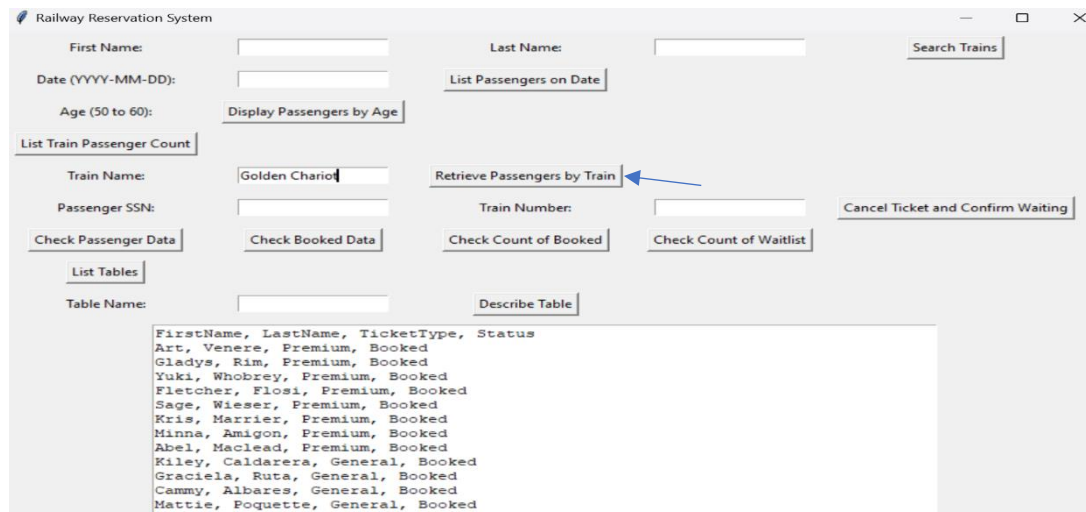
The user can easily see the train number, train name, source and destination stations, passenger name, address, category, and ticket status for passengers aged between 50 to 60. To retrieve the details of the passengers there is a button that can display passenger by age and we need to click it to retrieve the data.

4. List all the train name along with count of passengers it is carrying.

The screenshot shows the 'Railway Reservation System' window. It contains several input fields and buttons. The 'List Train Passenger Count' button is highlighted with a blue arrow. Below the input fields, there is a text area displaying a list of train names and their passenger counts: TrainNumber, TrainName, PassengerCount. The list includes: 1, Orient Express, 0; 2, Flying Scotsman, 6; 3, Golden Arrow, 7; 4, Golden Chariot, 12; 5, Maharaja Express, 0.

We will get Trainnumber, TrainName, PassengerCount from the GUI when clicking List train passenger count button.

5. Enter a train name and retrieve all the passengers with confirmed status travelling in that train.



First Name: Last Name: Search Trains

Date (YYYY-MM-DD): List Passengers on Date

Age (50 to 60): Display Passengers by Age

List Train Passenger Count

Train Name: Golden Chariot Retrieve Passengers by Train

Passenger SSN: Train Number: Cancel Ticket and Confirm Waiting

Check Passenger Data Check Booked Data Check Count of Booked Check Count of Waitlist

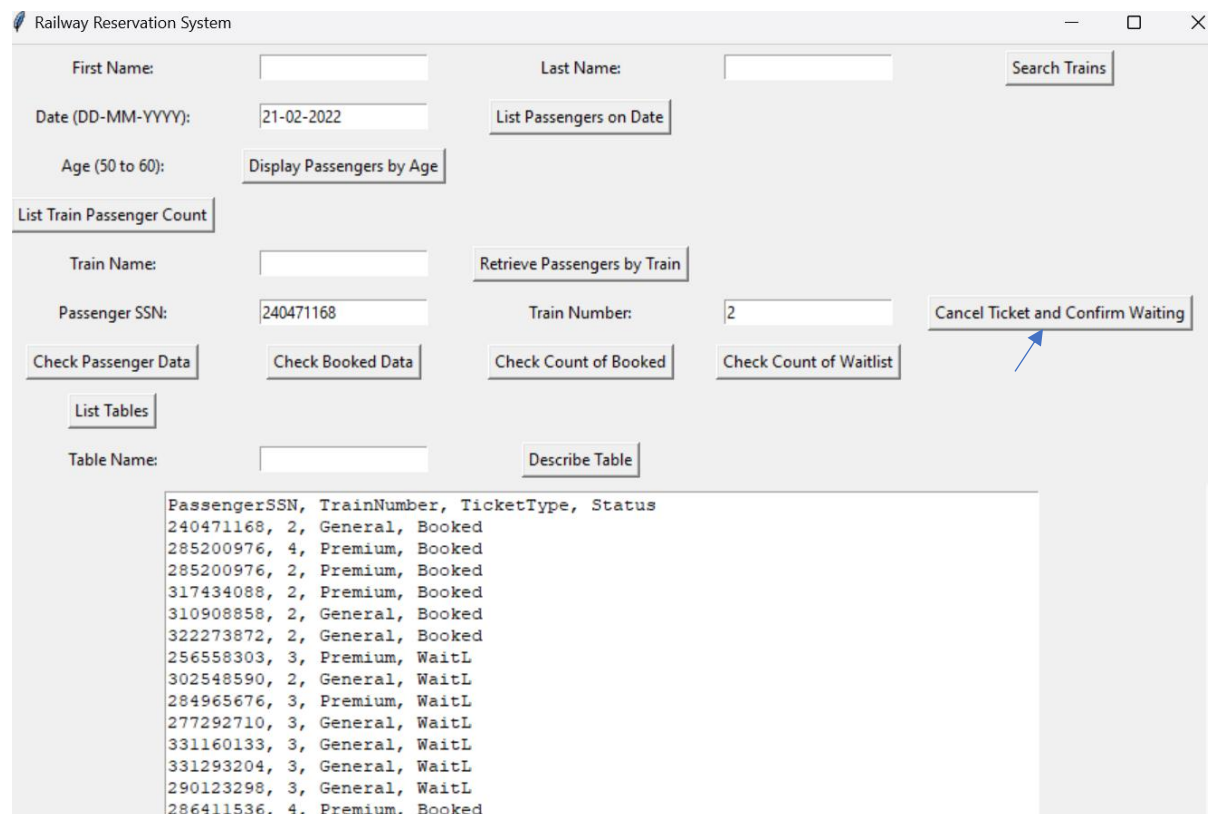
List Tables

Table Name: Describe Table

```
FirstName, LastName, TicketType, Status
Art, Venere, Premium, Booked
Gladys, Rim, Premium, Booked
Yuki, Whobrey, Premium, Booked
Fletcher, Flosi, Premium, Booked
Sage, Wieser, Premium, Booked
Kris, Marrier, Premium, Booked
Minna, Amigon, Premium, Booked
Abel, Maclead, Premium, Booked
Kiley, Caldareira, General, Booked
Graciela, Ruta, General, Booked
Cammy, Albares, General, Booked
Mattie, Poquette, General, Booked
```

We had retrieved all the passenger details along with their firstname, lastname, tickettype, status for those who are travelling in train named golden chariot.

6. User Cancel a ticket (delete a record) and show that passenger in waiting list get ticket confirmed.



First Name: Last Name: Search Trains

Date (DD-MM-YYYY): 21-02-2022 List Passengers on Date

Age (50 to 60): Display Passengers by Age

List Train Passenger Count

Train Name: Retrieve Passengers by Train

Passenger SSN: 240471168 Train Number: 2 Cancel Ticket and Confirm Waiting

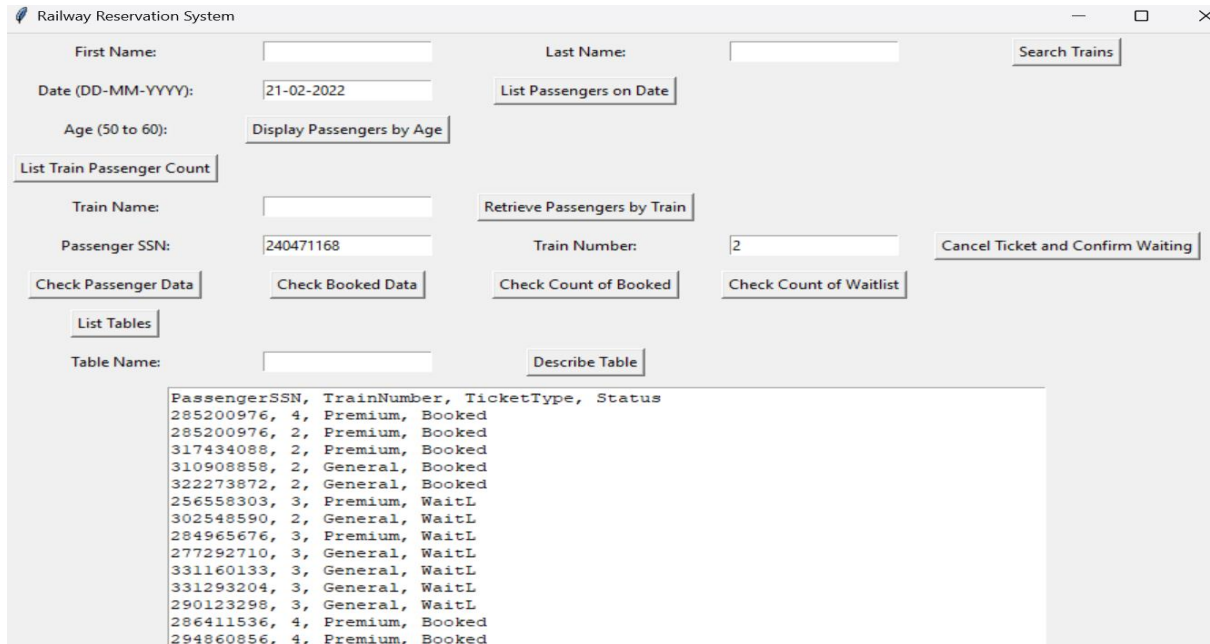
Check Passenger Data Check Booked Data Check Count of Booked Check Count of Waitlist

List Tables

Table Name: Describe Table

```
PassengerSSN, TrainNumber, TicketType, Status
240471168, 2, General, Booked
285200976, 4, Premium, Booked
285200976, 2, Premium, Booked
317434088, 2, Premium, Booked
310908858, 2, General, Booked
322273872, 2, General, Booked
256558303, 3, Premium, WaitL
302548590, 2, General, WaitL
284965676, 3, Premium, WaitL
277292710, 3, General, WaitL
331160133, 3, General, WaitL
331293204, 3, General, WaitL
290123298, 3, General, WaitL
286411536, 4, Premium, Booked
```

We will first check confirmed passenger who have booked their ticket and decided to remove based on passenger SSN and the train number which they are travelling.



PassengerSSN, TrainNumber, TicketType, Status

285200976	4	Premium	Booked
285200976	2	Premium	Booked
317434088	2	Premium	Booked
310908858	2	General	Booked
322273872	2	General	Booked
256558303	3	Premium	WaitL
302548590	2	General	WaitL
284965676	3	Premium	WaitL
277292710	3	General	WaitL
331160133	3	General	WaitL
331293204	3	General	WaitL
290123298	3	General	WaitL
286411536	4	Premium	Booked
294860856	4	Premium	Booked

Here we are removing the passenger having SSN number 240471168 travelling in train number 2, the second picture shows the data got removed. The next in the waiting list got the ticket.

Team contributions:

ARUN: created the GUI, executed first three tasks of the query, prepared the readme file.

MOHIT: executed the remaining three query tasks and prepared the report.