

CHAPTER FIVE

SYSTEM DESIGN

5.0 Overview

5.1 Logical design of the new system

Define what an ER Diagram is

In one sentence explain its importance

Figure 5.1: ER Diagram for the new system (don't call it proposed)

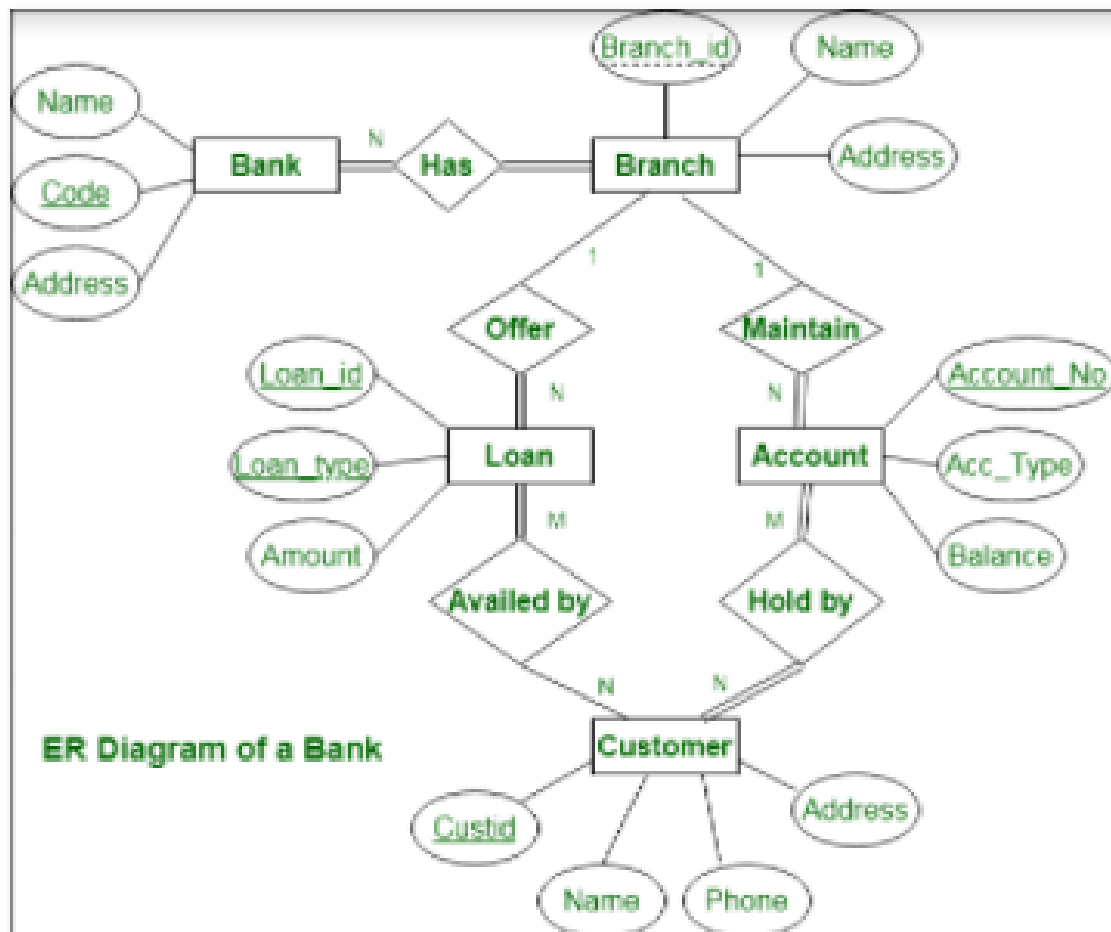


Figure 5.1: ER diagram for online banking system

5.2 Physical design

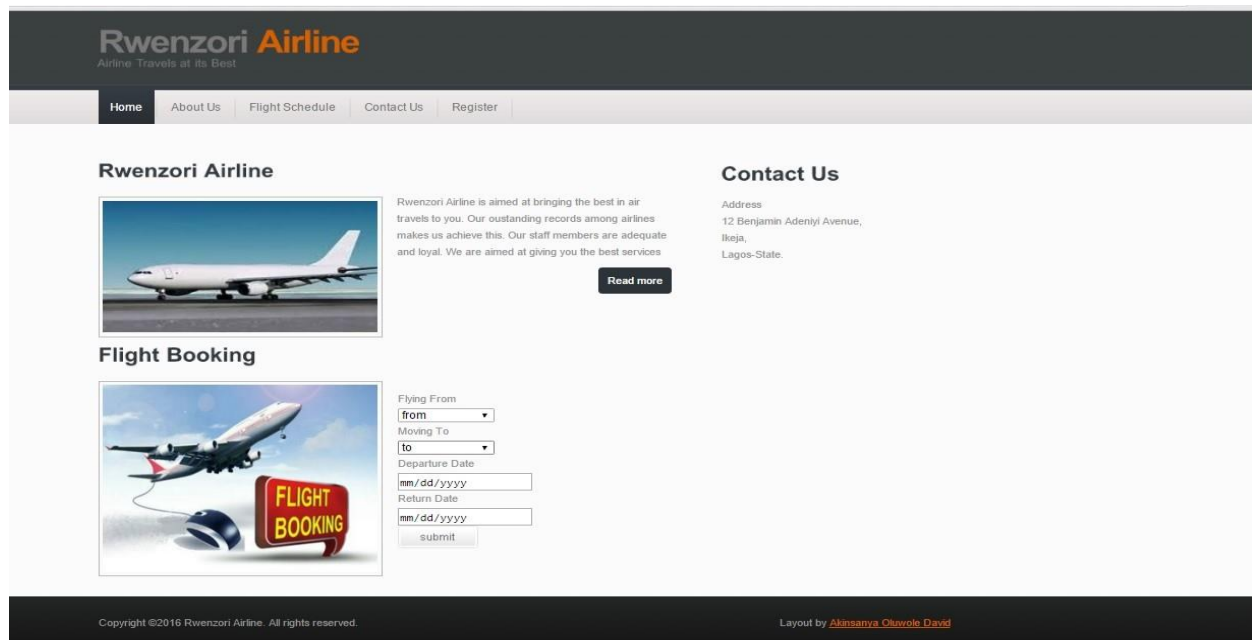
Explain the interface available to the user

Discuss 5 to 8 interface designs accompanied with the pictorial representation

Example

5.2.1 Welcome Page

This appears when the URL of Rwenzori Airlines is typed in any browser. While on this page customers can choose to register and continue to book tickets and flights or view flight schedules, journey details and access the contact us page. However, for a user to book a ticket or a flight, he/she must be registered first.



The screenshot displays the 'Rwenzori Airline' website. The header features the airline's logo and a navigation menu with links: Home, About Us, Flight Schedule, Contact Us, and Register. The main content area is divided into three sections. The 'Rwenzori Airline' section includes an image of a white airplane on a runway and a brief description of the airline's commitment to service, with a 'Read more' button. The 'Flight Booking' section features an image of an airplane taking off and a form with fields for 'Flying From', 'Moving To', 'Departure Date', and 'Return Date', each with a dropdown menu and a 'submit' button. The 'Contact Us' section provides the airline's address: '12 Benjamin Adeniyi Avenue, Ikeja, Lagos-State'. The footer contains copyright information for 2016 and the layout designer's name, 'Abinsanya Oluwale David'.

Figure 5.0 Showing the Welcome Interface

5.2.2 Registration Form

This form is used by customers (Passengers) to register before booking a flight or ticket. The user must first register. To access this page, the customer clicks on the register link on the home page. The customer Id and Customer password fields are mandatory, which means the customer must fill them before adding the record

The screenshot shows the 'Air Membership Registration' form on the Rwenzori Airline website. The header features the airline's logo and a navigation menu with links to Home, About Us, Flight Schedule, Contact Us, and Register. The form itself is titled 'Air Membership Registration' and contains several input fields: Title (a dropdown menu), Surname, Other Names, Birthday (mm/dd/yyyy), Country of Residence (a dropdown menu with '-- Select Country of Residence--'), Nationality (a dropdown menu with '-- Select Country of Origin--'), Email, Confirm Email, Phone Number, Password, and Confirm Password. A 'submit' button is located at the bottom left of the form. At the bottom right, there is a link for 'Registered Members: Click [Here](#) to login'. The footer contains copyright information for 2016 and the layout designer's name, Akinsanya Oluwale David.

Rwenzori Airline
Airline Travels at its Best

Home | About Us | Flight Schedule | Contact Us | Register

Air Membership Registration

Title Surname Other Names

Birthday Country of Residence Nationality

Email Confirm Email Phone Number

Password Confirm Password

Registered Members: Click [Here](#) to login

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Figure 5.1 Showing Customer Registration Form

5.2.3 Customer Search Form

This interface is accessed by clicking on **your info** link on the home page. On this interface the customer is required to enter his or her id and password to find his/her record. This record gives detailed information of what was entered during registration; it also provides any booking and flight information if any.

Rwenzori Airlines Membership Log In Page

Username/Email

Password

Figure 5.2 Showing the Customer Search Interface

5.2.4 Customer Search result Interface

This interface is as a result of a successful search for a customer record. This interface contains all the information that was entered during registration and any other flight, ticket, schedule and journey information in case the customer had already booked a flight. This interface is accessed by entering the correct customer id and password and clicking on find record

Table:	CUSTOMER
Id :	41
Custid:	RWZALN 987811
Surname:	Akinsanya
Oname:	<u>Olus</u>
Email:	akins.davids@yahoo.com
Nationality:	Nigeria
Residence:	Nigeria
Phoneno:	0909876543
Dob:	12-09-1980

Table Information

Figure 5.3 Showing a Full Customer Record Interface

5.2.5 Journey Interface

This interface is accessible by both registered and non-registered users to view the journey details. It's accessed by clicking on the Journeys link on the top menu of the system. While on this page both registered and non-registered users can view Journey details and for purposes of booking the users are required to note the Journey Id as it will be required in case the user wants to book a ticket and a flight. This interface shows the Journeys that Rwenzori Airlines will take on a specific day and date

The screenshot displays the Rwenzori Airline website. The header includes the airline's logo and navigation links: Home, About Us, Flight Schedule, Contact Us, and Register. The main content area is titled "Our Flight Schedule" and features a table of flight details. To the right of the table is a "Book Your Flight" section with input fields for "Flying From", "Moving To", "Departure Date", and "Return Date", along with a "submit" button. The flight schedule table lists flights for each day of the week, including routes like Lagos - Abuja, Lagos - Kano, Lagos - Port Harcourt, Lagos - Ibadan, Lagos - Jos, and Kano - Lagos, with corresponding departure and arrival times.

Day	Route	Departure Time	Arrival Time
Monday	Lagos - Abuja	07:00am	07:45am
Monday	Lagos - Kano	08:30am	10:00am
Monday	Lagos - Port Harcourt	01:20pm	02:30pm
Tuesday	Lagos - Ibadan	10:00am	10:30am
Tuesday	Lagos - Abuja	07:00am	07:45am
Wednesday	Lagos - Abuja	07:00am	07:45am
Wednesday	Lagos - Jos	07:00am	07:45am
Thursday	Lagos - Abuja	08:00am	08:45am
Thursday	Kano - Lagos	08:15am	09:45am
Friday	Lagos - Ibadan	07:00am	07:30am
Friday	Lagos - Abuja	08:00am	08:45am
Friday	Lagos - Port Harcourt	07:00am	08:30am
Saturday	Lagos - Abuja	07:00am	07:45am
Sunday	Kano - Lagos	07:00am	08:15am
Sunday	Lagos - Abuja	07:00am	07:45am

Figure 5.4 showing Journey details Interface

5.2.6 Schedule details Interface

This interface is accessible by both registered and non-registered users to view the schedules for

Rwenzori airlines on a specific date. It's accessed by clicking on the schedules link on the top menu on the system. While on this page's users are required to take note of the schedule Id as it will be required in case a user is to book a flight or ticket.

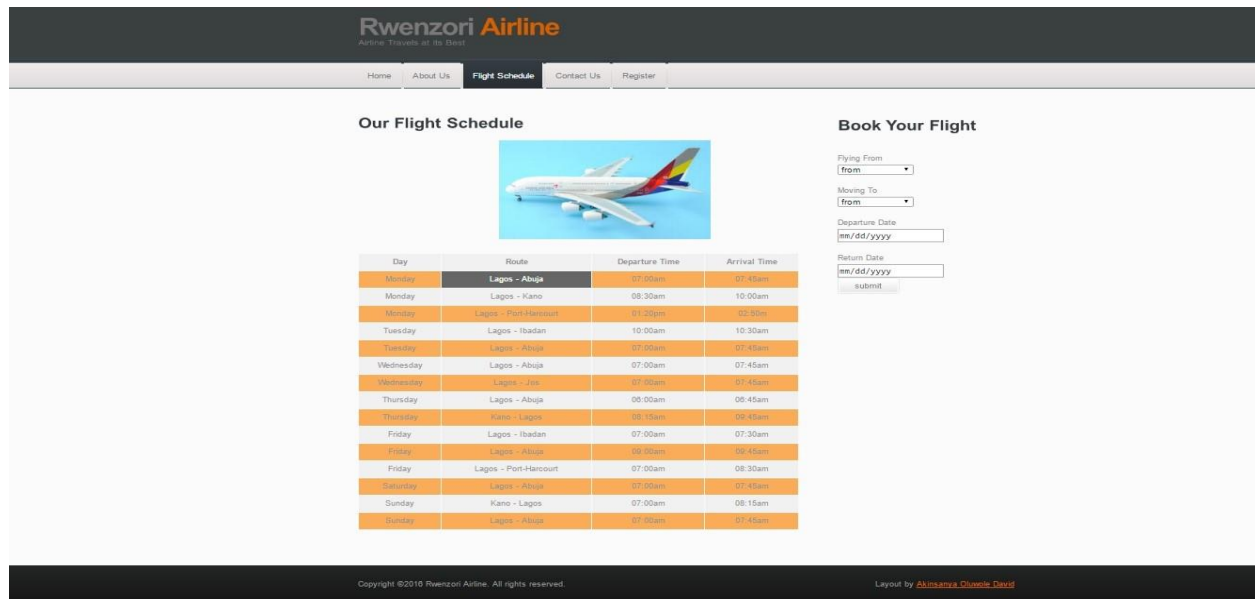


Figure 5.5 showing Rwenzori Airlines Schedules

5.2.7 Flight/Ticket Form

This interface is accessed by clicking on flights link on the top menu on the system. This Interface is accessed by users who want to book ticket, flights and those who have already booked flights. For purposes of booking the user must be registered and should have in mind the Journey Id for the Journey he/she wants to take as well as the schedule Id as this is required during booking.

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Home | About Us | **Flight Schedule** | Contact Us | Register

Rwenzori Airline

Flying From:

Moving To:

Departure Date:

Return Date (Leave blank and empty if one way trip):

Control Panel

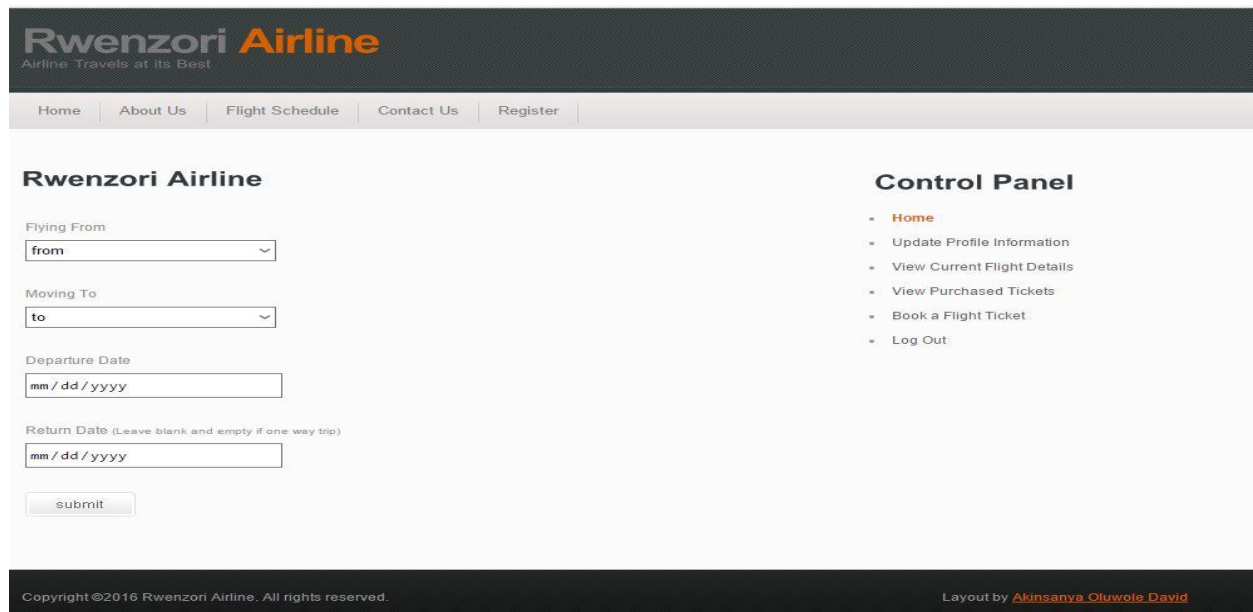
- Home
- Update Profile Information
- View Current Flight Details
- View Purchased Tickets
- Cancel Tickets
- Book a Flight Ticket**
- Log Out

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Figure 5.6 Showing a Flight/Ticket Form

5.2.8 Flight Booking Form

This accessed by clicking on Flight reservations on flights page/interface. This form is used by the registered customers to book flight, a registered. All fields on this form are mandatory hence the user is expected to fill all the fields



The screenshot displays the flight booking interface for Rwenzori Airline. At the top, the header features the airline's logo and tagline, followed by a navigation menu with links to Home, About Us, Flight Schedule, Contact Us, and Register. The main content area is divided into two sections. On the left, the 'Rwenzori Airline' section contains a form with four input fields: 'Flying From' (with a dropdown menu showing 'from'), 'Moving To' (with a dropdown menu showing 'to'), 'Departure Date' (with a date format 'mm/dd/yyyy'), and 'Return Date' (with a date format 'mm/dd/yyyy' and a note to leave blank for one-way trips). A 'submit' button is located below these fields. On the right, the 'Control Panel' section lists several user actions: Home, Update Profile Information, View Current Flight Details, View Purchased Tickets, Book a Flight Ticket, and Log Out. The footer at the bottom contains copyright information for 2016 and credits the layout to Akinsanya Oluwale David.

Figure 5.7 Showing a Flight Booking Form

5.2.9 Ticket Booking Form

This interface is accessed by clicking on the ticket Reservations link button on the Flights page. This form is used by registered customers to book and reserve tickets. All fields on this page/form are mandatory and hence the user is expected to fill all of them

Rwenzori Airline
Airline Travels at its Best

Home | About Us | Flight Schedule | Contact Us | Register

Rwenzori Airline

Flying From

Moving To

Departure Date

Return Date (Leave blank and empty if one way trip)

Control Panel

- [Home](#)
- Update Profile Information
- View Current Flight Details
- View Purchased Tickets
- Book a Flight Ticket
- Log Out

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Figure 5.8 Showing Ticket Booking Form

5.2.10 Ticket Detail Interface: -This interface appears after a successful ticket booking process. The user is required to note the ticket Id as it will be required during Flight booking

Rwenzori Airline
Airline Travels at its Best

Home | About Us | Flight Schedule | Contact Us | Register

Rwenzori Airline

Date of Booking	Source	Destination
14-FEB-16	Lagos	Abuja
24-FEB-16	Lagos	Abuja
29-FEB-16	Lagos	Abuja

Control Panel

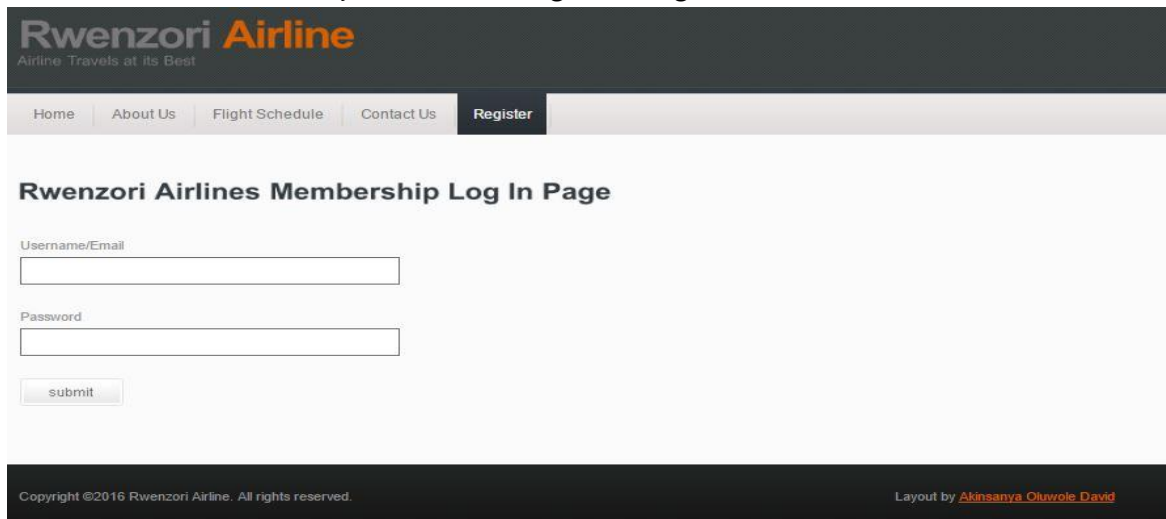
- [Home](#)
- Update Profile Information
- View Current Flight Details
- View Purchased Tickets
- Book a Flight Ticket
- Log Out

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Figure 5.9 Showing Ticket detail interface

5.2.11 Ticket Cancellation Form

This form is accessed by clicking on cancel reservation button on the flights page. This form is used by customers who had already booked a ticket to cancel their ticket in case they want to do so. To achieve this customer will be required to provide his Id and Ticket Id that had been provided during booking.



Rwenzori Airline
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Home | About Us | Flight Schedule | Contact Us | **Register**

Rwenzori Airlines Membership Log In Page

Username/Email

Password

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Figure 5.5.10 Showing Ticket cancellation interface

5.3 Database design of the new system (do not call it the proposed system)

Discuss in detail 5 to 8 tables used in your database

For each there should be pictorial representation of the table (ensure it is visible)

Present the database logical design inform of a diagram

Example

5.3.1 Student table

Students table (named *t_student*) include the examination ticket number, name, password, sex, professional class, phone number, photos and other attributes as shown in Table 5.1 .Among them, the self-increasing *stu_id* with is set as the only primary key for the table to

identify constraints, and ensure that each data content is not exactly the same. The *cla_id* field is set as the foreign key to the associated the *cla_id* field in the *t_class* table.

Table 5.1: Student table

Fields	Data Type	Length	Comments
stu_id	varchar	8	Primary Key
stu_name	varchar	20	Name
stu_pwd	varchar	10	Password
stu_sex	varchar	2	Sex
cla_id	varchar	20	Professional Class Name
school	varchar	20	School Name
tel	varchar	11	Telephone Number
photo	varchar	max	Photo

5.3.2 Exam-paper table

Examination question table include the identification number of examination question, type of question, question title, questions options, answers and etc. are shown in Table 5.2. Among them, the self-increasing *q_id* with is set as the only primary key for the table to identify constraints, and ensure that each data content is not exactly the same. The *poi_id* field is set as the foreign key to the associated the *poi_id* field in the *t_point* table.

Table 5.2: Examination Question table

Fields	Data Type	Length	Comments
q_id	int	4	Primary Key
q_type	int	4	Type
q_title	varchar	max	Question title
q_items	varchar	max	Questions options
q_ans	varchar	50	Answer to question
poi_id	int	4	Knowledge point
cou_id	int	4	Course, Foreign key

5.3.3 Database logical design for airline reservation system

Define what database logical design is and cite.

Briefly (at most two sentences) discuss your logical design

Don't forget to introduce the figure

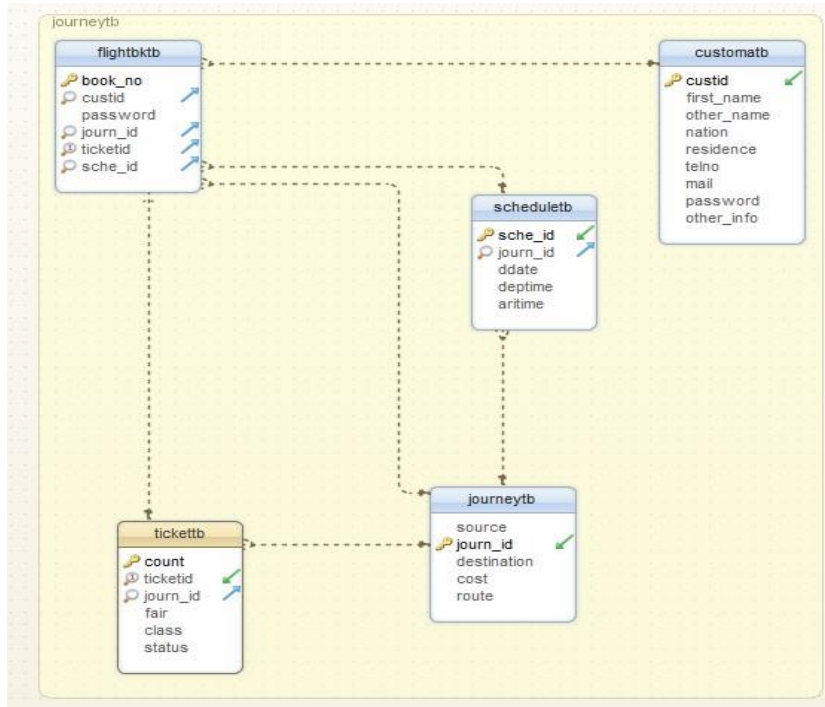


Figure 5.2: logical design for an airline reservation system

5.4 Summary