

Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Project Report on

Railway Bangladesh

Course Title: Database Lab

Course No: CSE 3104

Prepared By-

Group Members-

1. Name: Yusha Abdullah

ID : 18.01.04.012

2. Name: Hasan Mahmud

ID : 18.01.04.130

3. Name: Md. Sakibur Rahman

ID : 18.02.04.078

Submitted to-

Mr. Nazmus Sakib

Assistant Professor

AUST

Mr. Munshi Rejwan Ala Muid

Lecturer

AUST

Abstract

Railway Bangladesh is a railway booking system used to book ticket before a journey. It is a very user-friendly booking system software. It can manage a customer's need and their security of data is assured. Here a customer has to sign up first to log in the software. This makes the software is secured. Then he or she can see if there is a train available at the date he or she wants to travel. Then the customer can proceed to book the ticket.

In this project we have used JAVA (jdk-16.0.2) language along with an open-source Java-based framework, JavaFX. JavaFX is used to design our interface and UI. For managing data we have used a relational database management system (RDBMS). In this project we have used Microsoft SQL Server 2019.

Objective

We will analyze the project scenario and find out all the possible entities, relationships, and attributes. Then we will make a ER Diagram along with Relational Schema. We will ensure that the cardinality constraints and the relationships are accurate and meet up real-life scenarios. We will make the UI user-friendly so that users can easily find out the features they need and save time.

Project Scenario

Railway Bangladesh is a railway booking system. In Bangladesh there are different trains and train routes. It's a hassle for a customer for going to the station and check if there are any available trains. For this we have Railway Bangladesh software. It is very user-friendly. Here a customer has to sign up first to log in the software. Then they can search for their desired destination and date wise train from the home page. They can book their tickets after they got their desired train. For customer's need they can choose either AC seats or Non-AC seats. They can choose up to 5 tickets most in a certain train.

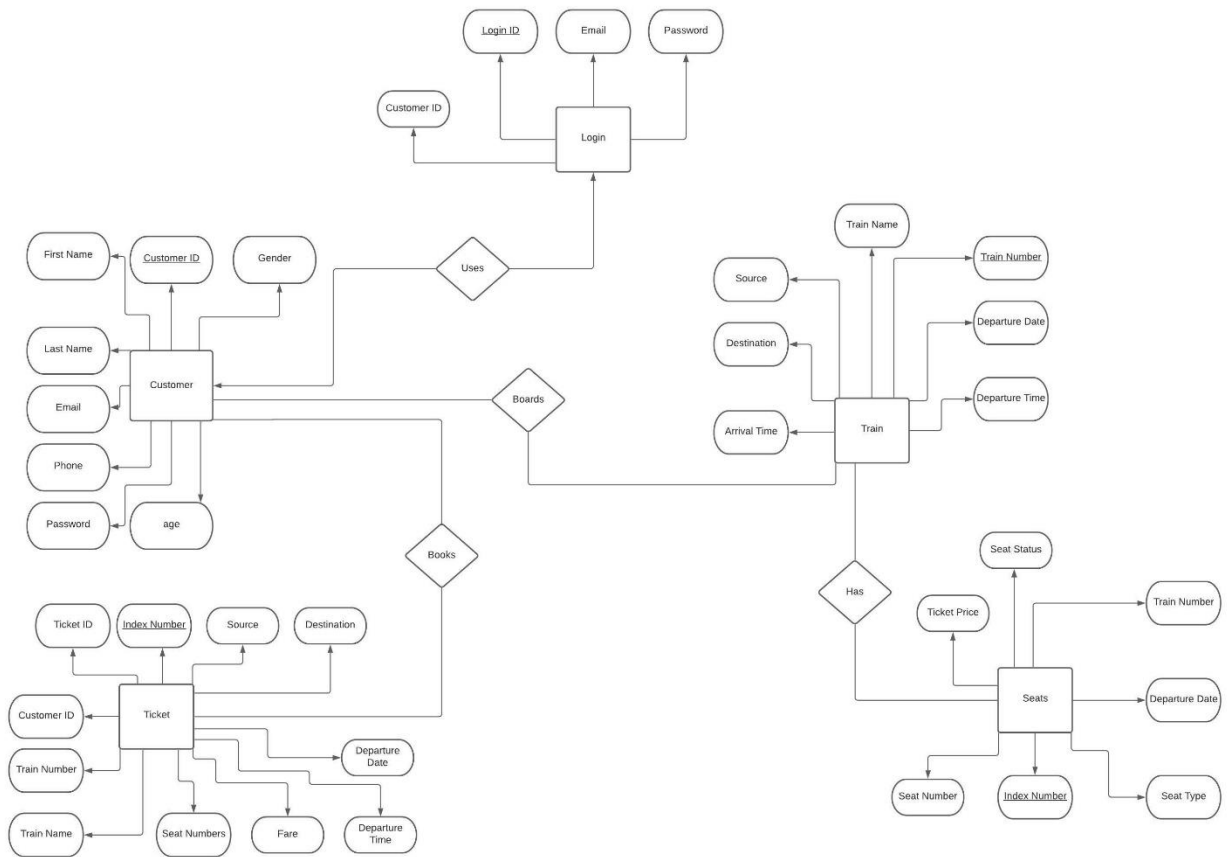
Finally they can generate their own tickets. In this software a customer can see his or her previous bookings in the home page. The top three customers of this software can get a discount up to 100 Tk.

Analysing Project Scenario

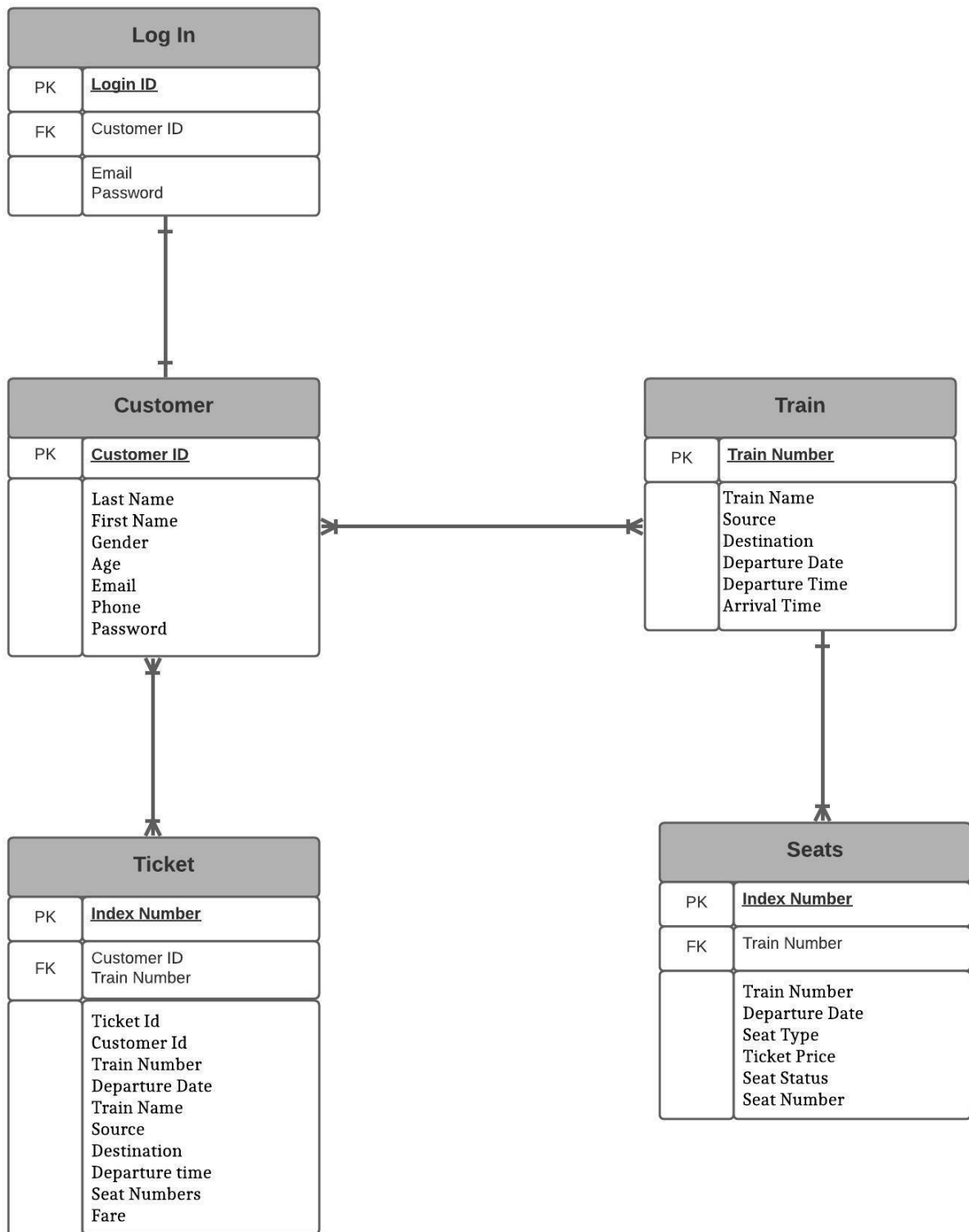
Possible Entity	Possible Relationship	Possible Attributes
1.Customer 2.Login 3.Train 4.Seats 5.Tickets	Customer uses Login Customer boards Train Train has Seats Customer books Tickets	1. Customer <u>Customer ID</u> Last Name First Name Gender Age Email Phone Password 2. Login <u>Login ID</u> Customer ID Email Password 3.Train <u>Train Number</u> Train Name Source Destination Departure Date Departure Time Arrival Time

		<p>4.Seats</p> <p><u>Index Number</u></p> <p>Train Number</p> <p>Departure Date</p> <p>Seat Type</p> <p>Ticket Price</p> <p>Seat Status</p> <p>Seat Number</p>
		<p>5.Tickets</p> <p><u>Index Number</u></p> <p>Ticket Id</p> <p>Customer Id</p> <p>Train Number</p> <p>Departure Date</p> <p>Train Name</p> <p>Source</p> <p>Destination</p> <p>Departure time</p> <p>Seat Numbers</p> <p>Fare</p>

ER Diagram



Relationship Schema



Key Features

1. Easy to understand & beautiful UI design
2. Easy booking and searching system
3. Ability to keep records using database
4. User-friendly Interface
5. Storing and retrieving data from database using database management with Microsoft SQL Server
6. Ensured security

Strategy & Technology Used

In this project we have used Microsoft SQL Server 2019 to store and retrieve data from the software. This project is build on Java (jdk-16.0.2) and we have used JavaFX for UI design. JavaFX is an open-source Java-based framework for developing rich client applications with the support of jdk-16.0.2. The IDE used for this project is Apache NetBeans IDE 12.4. We have used a lot of packages for this project. controlsfx-11.0.3.jar, mssql-jdbc-9.4.0.jre11.jar and javafx-sdk-16 are the essential packages for this project.