Cairo University **SEM– team 10**

Faculty of Engineering

Computer Engineering Department

CMP 202

Introduction to Database Systems

Project Proposal

Report

Team Number: 10

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**Project 1**

**Railway Management System**

Project Description

This project is about creating the database about Railway Management System.

The railway management system facilitates the passengers to enquire about the trains available on the basis of source and destination, booking and cancellation of tickets, enquire about the status of the booked ticket, etc. The aim of case study is to design and develop a database maintaining the records of different trains, train status, and passengers. The record of train includes its number, name, source, destination, and days on which it is available, whereas record of train status includes dates for which tickets can be booked, total number of seats available, and number of seats already booked.

Passengers can book their tickets for the train in which seats are available. For this, passenger has to provide the desired train number and the date for which ticket is to be booked. Before booking a ticket for a passenger, the validity of train number and booking date is checked. Once the train number and booking date are validated, it is checked whether the seat is available. If yes, the ticket is booked with confirm status and corresponding ticket ID is generated which is stored along with other details of the passenger. The ticket once booked can be cancelled at any time. For this, the passenger has to provide the ticket ID (the unique key). The ticket ID is searched and the corresponding record is deleted. With this, the first ticket with waiting status also gets confirmed.

Functionalities & Entities

* List of System Users:

1. Manager
2. Station Manager
3. Booking Clerk
4. Manager Functionalities:
   1. Hire Station Manager
   2. Fire Station Manager
   3. Review Changes
   4. Open a new station
   5. Increase station manager salaries
   6. Remove Connection
   7. Stop a station
   8. Add Constrains to station Manager
   9. Review Train Graph
5. Station Manager:
   1. Buy Trains
   2. Sell Trains
   3. Hire employee
   4. Fire employee
   5. Upgrade Station
   6. Stop a station
   7. Send a Train
   8. Determine the price of the ticket
   9. Manage Trip
6. Booking Clerk:
   1. Checks the availability of trains
   2. Checks the availability of tickets
   3. Book a seat
   4. Cancel a ticket
   5. Edit passenger data
   6. Edit trip data

**Entities:**

1. **Users**
2. **Employee**
3. **Train**
4. **Road / Connection**
5. **Subscription**
6. **Manager**
7. **Passenger**
8. **Trip**
9. **Station**
10. **Sponsor**
11. **Ticket**
12. **Contact**
13. **Repair yard**