

# **Bus Ticket Reservation System**

## **Project Requirements Document**

You are required to develop a Java-based graphical user interface system to reserve bus tickets as described below:

- The user can login to the system by providing their user credentials (i.e. email address and password)
- Once logged in, the user can either reserve a ticket or view the history of reserved tickets (including reserved tickets of the future as well as of completed journeys)
- If the user wishes to reserve a ticket, then he/she must enter the source station (i.e. the station from which the bus leaves and where the user wishes to get in to the bus), the destination, and the date of expected travelling. By entering these details, the system will provide the user with a list of available buses based on the provided details indicating the time at which each listed bus will leave the particular station. The user can now select a bus based on his preference. Next, the user will be directed to a screen which allows him/her to select a seat in the bus, by showing all available seats as well as already booked seats. Once a seat is selected, the user will receive a ticket indicating all required details for his reservation. The ticket must be printable.
- The ticket must contain the following information:
  - A Unique Reservation Identification Number
  - Source Station
  - Destination Station
  - Date of Journey
  - Total Cost of Ticket (calculated based on the total distance of journey)
  - Bus Identification Number
  - Passenger Details including the Name, Mobile Number and the Reserved Seat Number
  - Bus Departure Time
  - Total Distance in Kilometers
  - Total Time for Journey
- In the case of a user reserving more than one seat, all reserved seat numbers must be displayed under Passenger Details of the ticket.
- If the user wishes to view his/her history of reserved tickets, then the system will provide details of his/her completed reservations and of his/her future reservations. Here, the user must be able to either edit or cancel their tickets for journeys scheduled for the future.

In addition to the end user, there must be a separate interface for the system administrator to add buses to routes as required. He/she must also be able to edit or delete specific buses assigned to routes.

Note:

- Whenever data is entered by the user, validate them before entering them to the system. For this, you may use concepts you have learnt under Regular Expressions.
- For this project, it is advised to familiarize yourself with handling MySQL databases. Alternatively, you may also use other simpler file handling mechanisms to store and retrieve data from files.

Deadline: 15<sup>th</sup> December 2017