

# Database Systems Project (PHASE 2) Functional Requirements

**Due: December 7, 2024**

## Phase 2 **Description**

1. Make sure your relational schema is normalized in **the third normal form**.
2. **Implement the project** as an application using language/platform of your choice with the following limited functionality/reports:

### **Functions of a Passenger**

- Search for Trains.
- Book seats.
- Complete payment (and receive tickets with seat numbers).

### **Functions of Staff/Admin**

- Add/Edit/Cancel reservations/tickets.
- Assign Staff (Driver/Engineer) to a Train for a given date.
- Promote a waitlisted passenger.

### **Functions of System**

- Send email reminders to passengers who did not pay.
- Using a trigger send a message to a passenger 3 hours before the departure of his train,

### **General Function**

- Login and Logout (for passengers and staff/admin).

### **Generate Reports (make them available from your application)**

1. Current active trains that are on their way today (for all users).
2. List stations for each train (for admins).
3. Reservation details given passenger ID (for passengers).
4. Waitlisted loyalty passengers in each class given a train number (for admins).

**Optional** for bonus points:

5. Average load factor (percentage of seats occupied divided by total seats) for each trains on a given date (for admins).
6. List of dependents travelling on a given date in all trains (for admins).

## **Phase 2 Deliverables**

Implement the project application using any language/platform of your choice and submit a pdf **report** which contains the following:

- Cover page (Title, Group Number, IDs & Names, Date)
- Include all what you previously submitted in Phase 1 with updated EER.
- List the tools and resources that you used.
- List the problems you faced and resolved.
- A table of any extra functionality implemented. (For bonus points)
- A table which lists the tasks done by each group member.
- Suggestions to improve ICS 321 future projects.

## **Phase 2 Demo**

- A 15-minute demo will be scheduled for each project group on **TEAMS** in the last week of the semester.