IT214
DATABASE MANAGEMENT SYSTEM

PROJECT SUBMISSION

Database Title : GSRTC Reservation System

Functional Dependencies

<u>**Team Details**</u>

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Minimal FD set for GSRTC

**Booking_Details(
Booking_ID,Booking_Mode,Schedule_ID,Transaction_Type,Route_ID,Bus_Number,Adult, Child)
Bus_Schedule(Schedule_ID,Arrival_Time,Departure_Time,Departure_Date,Arrival_Date)
Passenger(Pname,Booking_ID,Seat_Number,Mobile_Number,Email_ID,Gender,Age)
Route (Route_ID, Origin, Destination, Distance)
has_fare_for(Bus_Number,Route_ID,Adult_Fare,Child_Fare)
Bus (Bus_Number, Bus_Type,Capacity)
Having(Schedule_ID,Route_ID,Bus_Number,Seats_Available)**

1.

   Booking_ID → Adult
   Booking_ID → Child
   Booking_ID → Booking_Mode
   Booking_ID → Transaction_Type
   Booking_ID → Schedule_ID
   Booking_ID → Bus_Number
   Booking_ID → Route_ ID

   The above Relation is in BCNF form.

2.

   Schedule_ID → Arrival_Time
   Schedule ID → Departure_Time
   Schedule ID → Departure_Date
   Schedule ID → Arrival_Date

   The above Relation is in BCNF form.

3.

   Route_ID → Destination
   Route_ID → Origin
   Route_ID → Distance

The above Relation is in BCNF form.

4.

Bus_Number→ Bus_Type
Bus_Number→ Capacity
The above Relation is in BCNF form.

5.

{RouteID, Bus_Number} → Adult Fare
{RouteID, Bus_Number} → Child Fare

The above Relation is in BCNF form.

6.

{Pname,Booking_ID} → Seat_Number
{Pname,Booking_ID} → Mobile_Number
{Pname,Booking_ID} → Email_ID
{Pname,Booking_ID} → Gender
{Pname,Booking_ID} → Age

The above Relation is in BCNF form.

7.

{Schedule_ID,Route_ID,Bus_Number}→Seats_Available

The above FD is in BCNF form.