DBMS Project

Bus Ticket Booking

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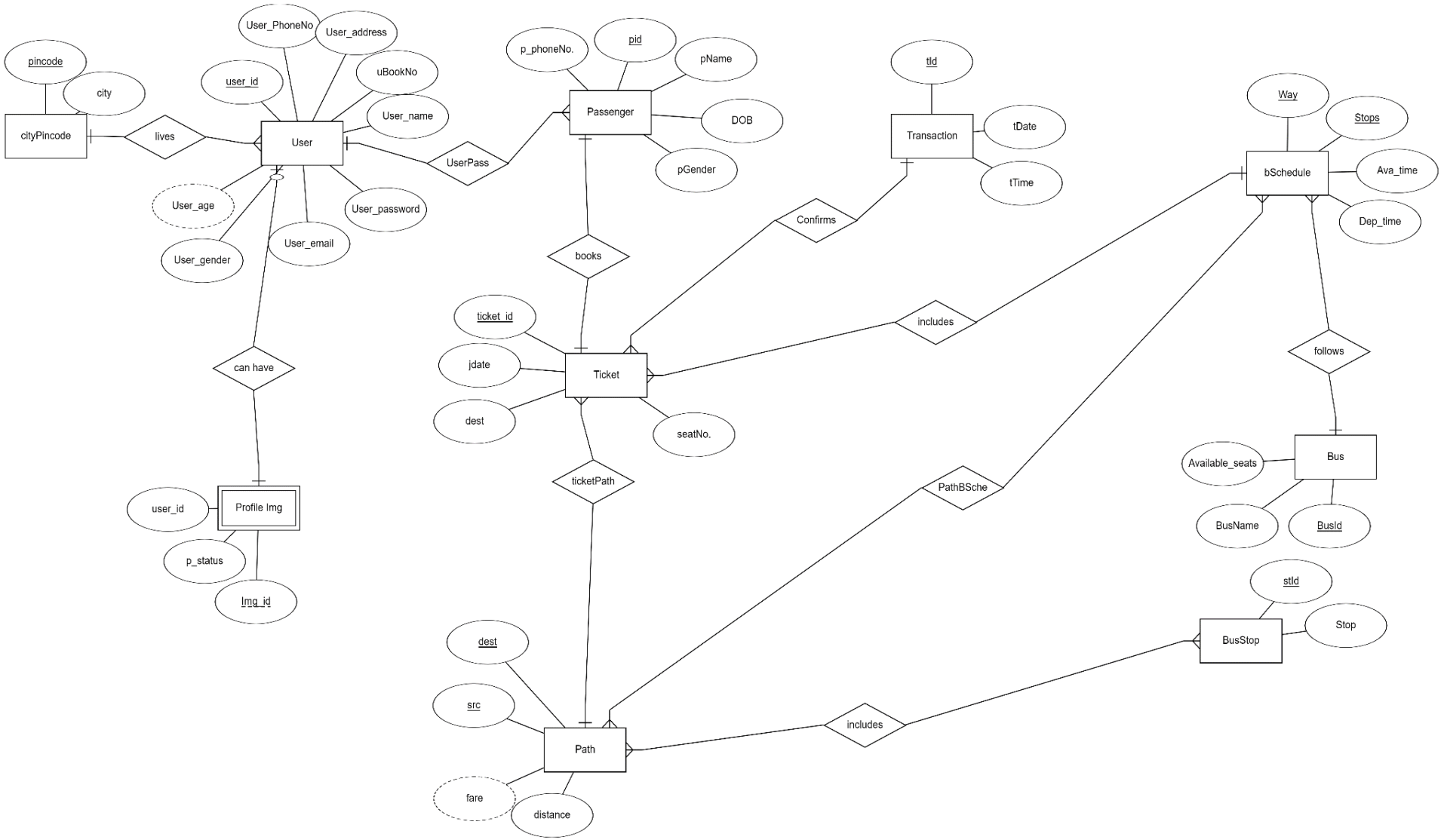
Project Description:

Bus ticket booking system is a database management based application which has been developed over PHP and MYSQL and runs on WAMP, XAMP or Apache2 server. Front-end work is done using HTML, CSS, JS and Bootstrap. Using this application a user can book bus ticket online.

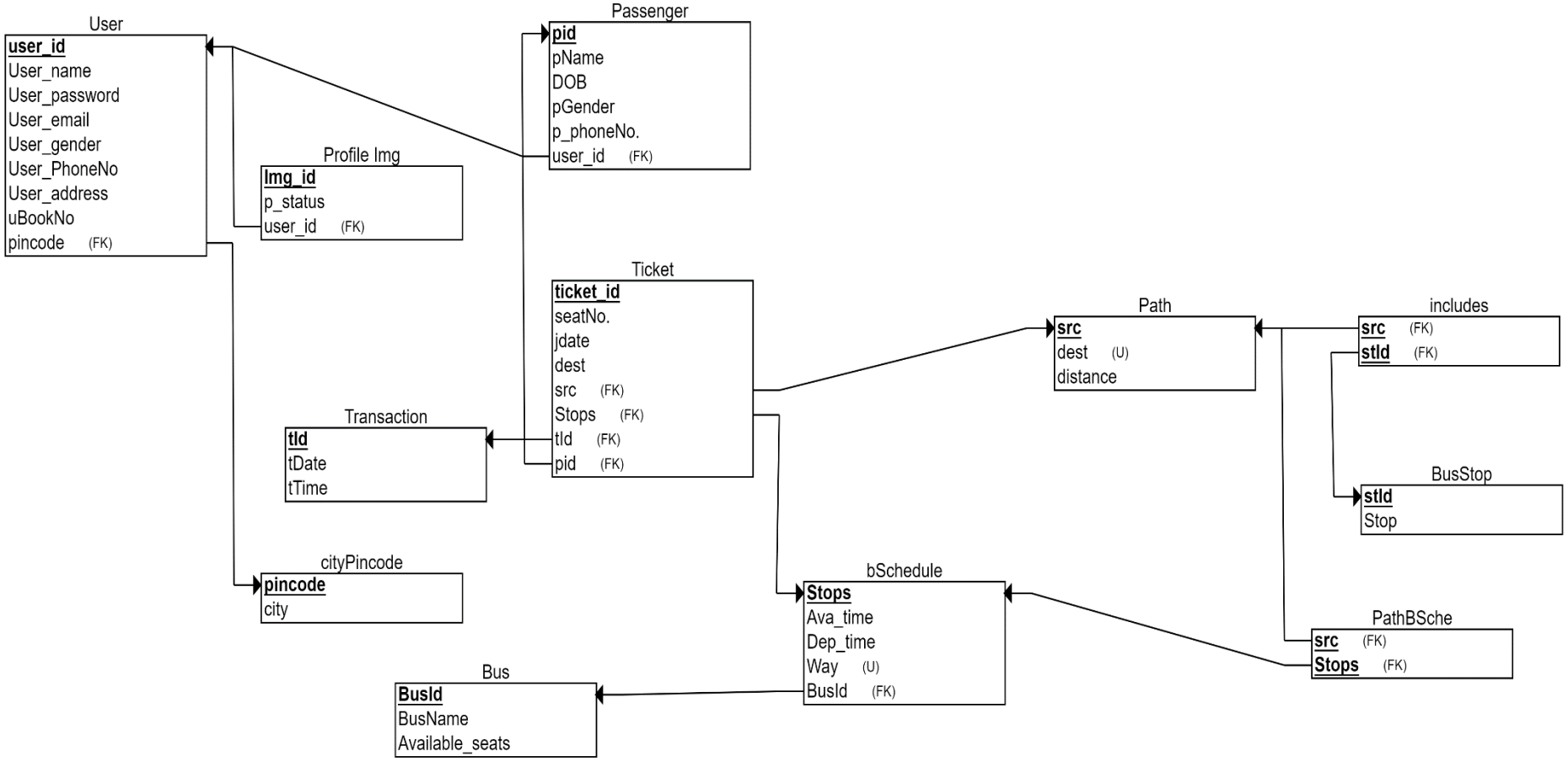
To do so, user have to create account, select journey date, source and destination, add passenger details and the last step is book ticket. If user already have account then simply they have to login and book ticket. In myaccounts user can see their booking details also they can book and cancel tickets. User can anytime change their details also. If user is facing any issues or wants to connect admin that can directly send message to admin using contact us page.

Admin user can manage all the operations of ticket booking, bus details, bus route, customer accounts, booking and their details. Admin can create different types of reports of bus, booking, bus route, ticket booking, seats according to their choice and filters.

ER Diagram:


User_PhoneNo
User_address
pincode
city
user_id
uBookNo
User_name
cityPincode
lives
User
UserPass
p_phoneNo.
pid
pName
Passenger
DOB
pGender
tId
Transaction
tDate
tTime
Way
Stops
bSchedule
Ava_time
Dep_time
User_age
User_password
User_email
User_gender
Confirms
books
includes
follows
can have
ticket_id
jdate
Ticket
dest
seatNo.
ticketPath
PathBSche
Available_seats
Bus
BusName
BusId
user_id
Profile Img
p_status
Img_id
stId
Stop
BusStop
dest
src
Path
includes
fare
distance

Relational Schema:



Normalization:

User table was containing attribute ‘pincode’ and ‘city’ but as it consists of functional dependency pincode → city. As ‘pincode’ and ‘city’ both are nonprime attribute this dependency is **transitive** dependency.

So, to convert user table into 3nf we created a table which contains ‘pincode’, ‘city’’ information where ‘pincode’ is **primary key** and in user table ‘pincode’ is **foreign key**.

In ticket table ‘fare’ attribute is calculated by ‘src’ and ‘dest’ so it is functional dependency. It was **transitive** dependency so we created a new table which contains details of ‘src’, ‘dest’ and distance (mathematically related to ‘fare’). By this we removed transitive dependency and converted table into 3nf.

Table Description:

Table	Description
User	It contains information of users. Primary key: user_id Foreign key: pincode**(cityPincode)** **Attributes:** User_id : Distinct user id generated by system (pk)

	User_name : Name of user User_password : Password of created account User_email : Email id of user User_gender : Gender of user User_phoneNo : Contact number User_address : Resident address uBookNo : No of ticket booked by user pincode : pincode number of user resident (fk)
cityPincode	It contains city name according to pincode. Primary key: pincode **Attributes:** Pincode : pincode number (pk) City : Corresponding city
Profile Img	It contains name of profile image. Primary key: img_id Foreign key : user_id**(user)** **Attributes:** Img_id : unique id of image

	P_status : Status of image uploaded or not User_id : id for user (fk)
Passenger	It contains information of passenger. Primary key : pid Foreign key : user_id **(user)** **Attributes:** pid : unique id of passenger (pk) pName : Name of passenger DOB : Date of birth of passenger pGender : Gender of passenger pPhoneNo : Contact number of passenger user_id : Id of user by which ticket is booked (fk)
Ticket	It contains details of tickets Primary key : ticket_id Foreign key : pid**(passenger)**, tid**(transaction)**, {src,dest}**(paths)**, stops**(bSchedule)** **Attributes:** Ticket_id : unique id of ticket (pk) seatNo :

	jDate : date of journey src : starting location of journey (fk) dest : ending location of journey (fk) tid : transaction id related to transaction (fk) pid : passenger id related to passenger (fk)
Transaction	It contains details of transaction by which ticket is confirmed. Primary key : tid **Attributes:** tid : Transaction id tDate : Date of transaction tTime : Time of transaction
Path	It contains all paths between stops Primary key : src,dest **Attributes:** src : source station (pk) dest : destination station (pk) distance : distance between two station(used for calculating fare)

BusStop	Consist details of bus stops Primary key : stid **Attributes:** stid : unique id of stop (pk) stop : name of stop
bSchedule	Contains schedule of buses Primary key : stops, busid, way(combine primary key) Foreign key : busid **Attributes:** stops: name of stop ava_time : time of arrival time dep_time : time of departure way : 0 or 1 means towards north or south busid : id of bus (fk)
bus	Contains information of buses Primary key : busid **Attributes:** busid : Unique id of bus i.e. busNo (pk) busName : name of the bus

	Available_seats : Number of available seats