Initial Schema

Customer
(Customer-ID, Driving_license_no, First_name, Middle_name, Last_name)

Customer-identity
(Driving_license_no. , Email_id, Address,Username,Password, Phone_no.)

Booking
(Booking_id, Is_local , Is_insured, password, Pickup_date, Return_date, Booking_status, Expected_returnDate,Pickup_time, Return_time, Date_of_Rental)

Billing
(Booking_id, Total_amount, Tax, Discount , Bill_status, Days_delayed)

Car
(Car_registration_no. , Availability_status, category, model, mileage, Car_dealer_address)

Location
(Car_dealer_address ,City_name)

Pricing
(Category, Price)

Car-Review
(Booking_id,Rating, Comments)

Combined All Schemas

R(Driving_license_no., Car_Registration_no. , Bill_time, Bill_date, Username, Address,password,Booking_id,Phone_no., Is_local, Total_amount, Tax, Discount, expected_return_date,Booking_status,Is_insured, Bill_status, Days_delayed, First_name, Middle_name, Last_name, Email_id, Pickup_time, Return_time, Date_of_Rental, Pickup_date, Return_date, Availability_status, Category, Model, Mileage, Car_address, City_name, Price, Rating, Comments)

FDs

1. Driving_license_no. -> First_name, Middle_name, Last_name, Email_id, Phone_no.,Address
2. Username -> Driving_license_no
3. Booking_id -> Total_amount, Tax, Discount , Bill_status, Days_delayed, Rating, Comments
4. Driving_license_no., Car_Registration_no. , Bill_time, Bill_date -> Username, Is_local, Pickup_time, Return_time, Date_of_Rental, Pickup_date, Return_date Booking_id
5. Car_registration_no -> Availability_status, category, model, mileage, Car_address, City_name, Category, Price
6. Car_address -> City_name
7. Category -> Price

1NF

Since, Phone_no. is a multivalued attribute it is separated into a different table.

Driving_license_no. -> Phone_no. (From FD1)

R1(Driving_license_no., Car_Registration_no. , Bill_time, Bill_date, Username, Booking_id, Address,password,Is_local, Total_amount, Tax, Discount, Is_insured, Bill_status, Days_delayed, First_name, Middle_name, Last_name, Email_id, Pickup_time, Return_time, Date_of_Rental, Pickup_date, Return_date, Pickup_date, Return_date, Availability_status, Category, Model, Mileage, Car_address, City_name, Price, Rating, Comments)

R2 (Driving_license_no. , Phone_no.)

2NF

Car_registration_no -> Availability_status, category, model, mileage, Car_address, Category, City_name, Price (FD6)

R3(Car_registration_no , Availability_status, category, model, mileage, Car_address, Category, City_name, Price)

Driving_license_no. -> First_name, Middle_name, Last_name, Email_id,Address (FD1)

R4(Driving_license_no. , First_name, Middle_name, Last_name, Email_id,Address)

R5(Driving_license_no., Car_Registration_no. , Bill_time, Bill_date, Username ,password, Booking_id, Is_local, Total_amount, Tax, Discount, Is_insured, Bill_status, Days_delayed, Expected_return_date,Booking_status,Pickup_time, Return_time, Date_of_Rental, Pickup_date, Return_date , Rating, Comments)

R2 (Driving_license_no. , Phone_no.)

[No, other subset of candidate keys in R1, R5 determines any other non-prime attribute]
[R1 -> R3, R4, R5]

3NF

Booking_id -> Total_amount, Tax, Discount , Bill_status, Days_delayed, Rating, Comments (FD3)

R6(Booking_id, Total_amount, Tax, Discount , Bill_status, Days_delayed, Rating, Comments)

R7(Driving_license_no., Car_Registration_no. , Bill_time, Bill_date, Username, Booking_id, Expected_return_date,Booking_status,Is_local,, Is_insured,Pickup_time, Return_time, Date_of_Rental,Pickup_date, Return_date)

[R5 -> R6, R7]

Car_address -> City_name (FD6)
Category -> Price (FD7)

R8(Car_registration_no. , Availability_status, category, model, mileage, Car_address)

R9(Car_address ,City_name)

R10(Category, Price)

[R3 -> R8,R9,R10]

BCNF

Driving_license_no., Car_Registration_no. , Bill_time, Bill_date -> Username [FD4]
(A) (B) (C)

Username -> Driving_license_no [FD2]
(C) (A)

[AB -> C , C->A]
Make it [C -> A , B-> C]

Therefore,

[R7 -> R11,R12]

R7(Driving_license_no., Car_Registration_no. , Bill_time, Bill_date, Username, Booking_id, Is_local,, Is_insured,Pickup_time, Return_time, Date_of_Rental,Pickup_date, Return_date)

R11
(Username, Car_Registration_no. , Bill_time, Bill_date., Booking_id, Is_local , Is_insured, Pickup_date, Return_date, Pickup_time,Expected_return_date,Booking_status, Return_time, Date_of_Rental)

R12
(Username, Driving_license_no)

Finial Tables

R-> R1 , R2
R1 -> R3,R4,R5
R2 -> Phone
R3 -> R8,R9,R10

R4 -> Customer-identity
R5 -> R6,R7
R6 -> Billing
R7 -> R11,R12
R8 -> Car
R9 -> Location
R10 -> Pricing
R11 -> Booking
R12-> Customer

Finalised Schema of DataBase

Customer
(Username, Driving_license_no, password)

Customer-identity
(Driving_license_no., First_name, Middle_name, Last_name, Email_id,Address)

Booking
(Username, Car_Registration_no. , Bill_time, Bill_date., Booking_id, Is_local , Is_insured, password, Pickup_date, Return_date, Booking_status,Expected_returnDate,Pickup_time, Return_time, Date_of_Rental)

Billing
(Booking_id, Total_amount, Tax, Discount , Bill_status, Days_delayed, Rating, Comments)

Car
(Car_registration_no. , Availability_status, category, model, mileage, Car_dealer_address)

Location
(Car_dealer_address ,City_name)

Pricing
(Category, Price)

customer_Phone
(Driving_license_no, Phone_no.)