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**SEMESTER 1**

**SECD2523 DATABASE**

**SECTION 08**

**FINAL PROJECT REPORT**

**LECTURER : Dr. Sharin Hazlin binti Huspi**

**GROUP 5**

NAME	NO. MATRIC
MAU KHAI SHEN	
LIM CHIN QING	
CHIAM WOUI CHIN	
NG JING ER	

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## 1.0 Database Planning and System Definition

### 1.1 An overview for current system

JMY Transport is a travel and transport agency located in Pontian, Johor. JMY Transport provides transportation services such as bus and van rental services and also shuttle services. Since there are a lot of customers that use the service of JMY Transport, including the regular customers that rent the bus for travel purposes, and especially UTM students that rent for activity purposes. From the interview, we were informed that the current system to record and process the rental deal is based on whatsapp and manually recording which seem to be not effective.

According to the staff of JMY Transport, it is difficult to track back the status of rental transactions and it takes time to record again the buses that are available to be rented. A payment voucher will be sent to customers that settle the rental payment one by one via whatsapp. Below is the example of payment voucher from JMY Transport.

  
JM0881574-P  
No.11, Tkt Atas, Kompleks Pengangkutan Awam Pontian, 82000 Pontian, Johor  
Email Address: iskandarnordin595@gmail.com  
Tel: +6012 718 5595 / +6019 788 8531

PV No. : JMYPV  
Date :

PAYMENT VOUCHER

PAY TO	:	
RINGGIT	:	
BEING	:	
	:	
	:	

RM                     

Cash/Cheque No: <u>                    </u>	Approved by <u>                    </u>	Received by <u>                    </u>
---	---	---

## **1.2 Database Planning**

### **1.2.1 Mission Statement**

The main purpose of the bus rental database system is to maintain the data of transactions that is generated to support the bus rental services such as online booking of the available bus for the customers. Besides, the bus rental database system should help to ease the transaction of the bus rental company as it acts as an online interconnected database between company, staff and customers.

### **1.2.2 Mission Objective**

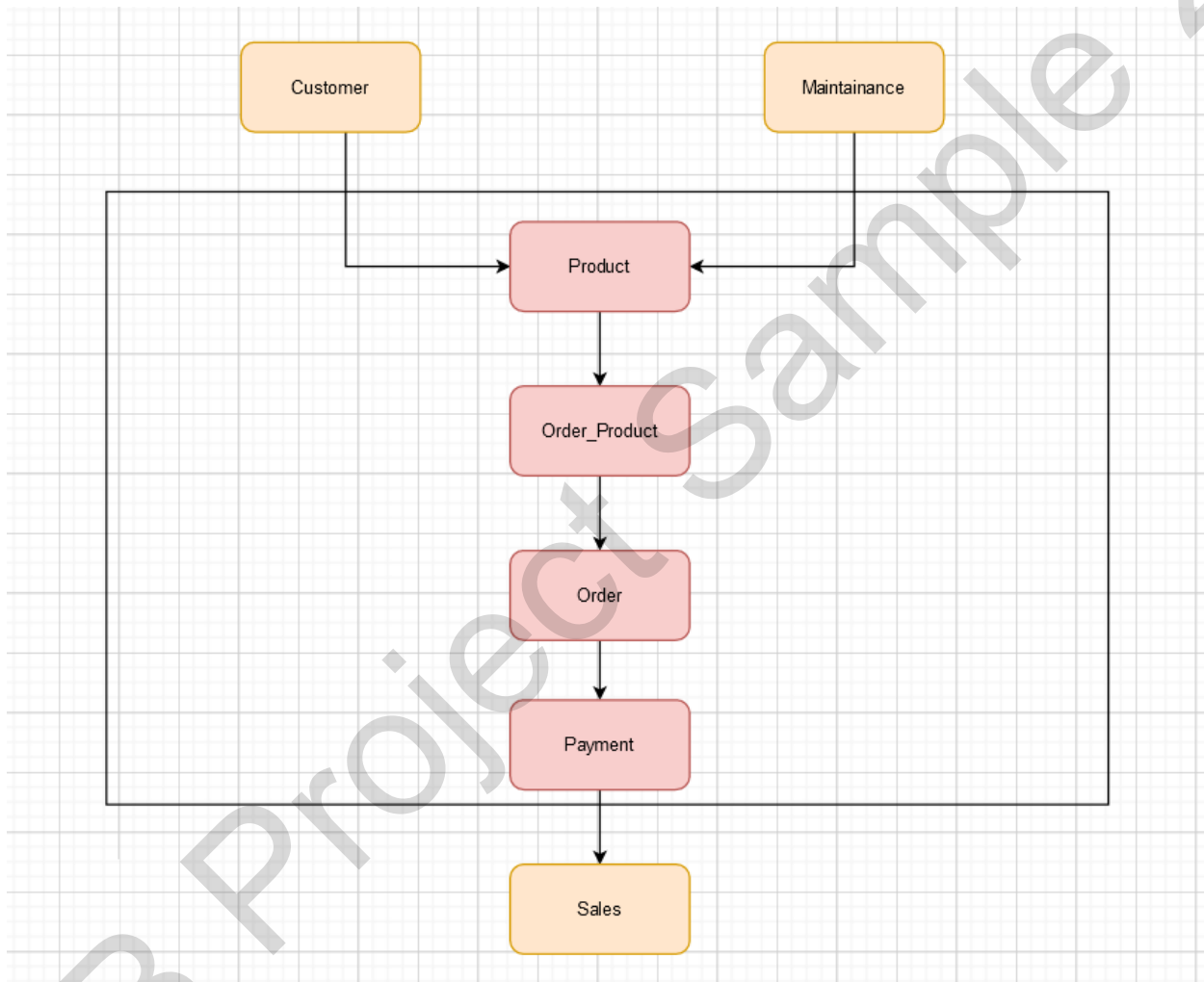
The mission objectives of our database planning are:

- a. To maintain data (enter, update, delete) of transactions which include customer, bus rented and payment.
- b. To report on customer, bus rent and payment.
- c. To track the status of bus availability, the status of rental transactions and payment status.

## 1.3 System Definition

### 1.3.1 Systems Boundary

This is the system boundary of our projects. The figure shown has a black line square that is the only part that we will be going to include in our system planning. We only focus on the project of Vehicle rental systems.



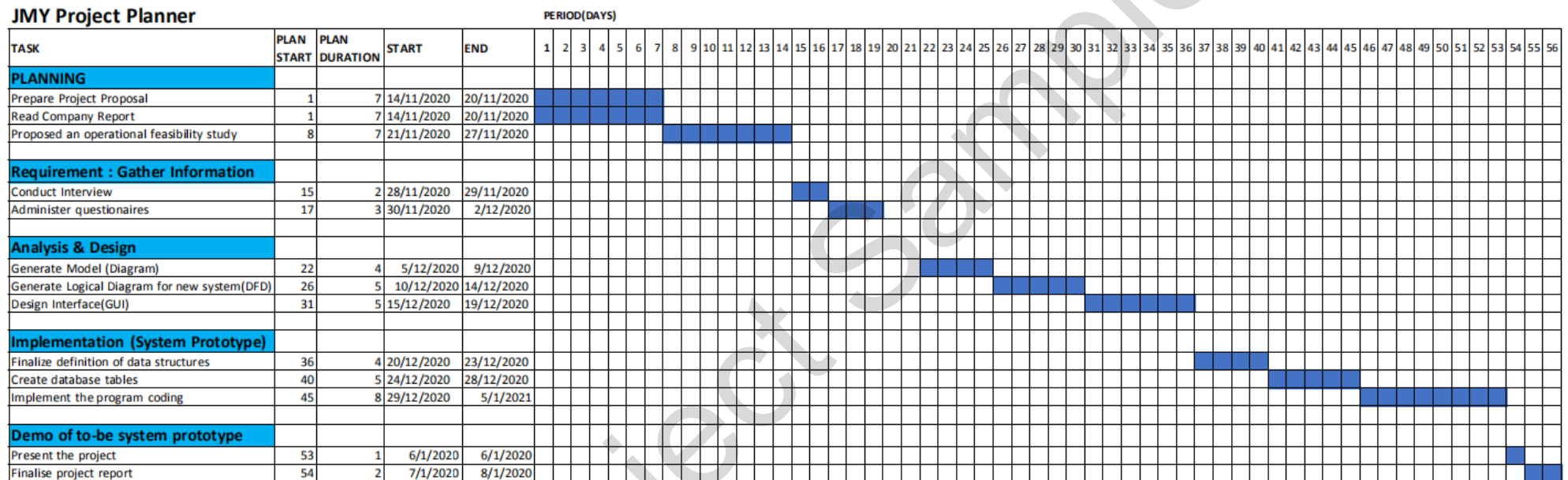
### 1.3.2 Major User View

There are a few users in this system. They are customers, staff and manager. The major user view for each of the user groups will be shown in the table below.

DATA	Access Type	Manager	Staff/Admin	Customer
Customer	Maintain Query Report	X X		X
Staff/Admin	Maintain Query Report	X X X	X	
Bus/Van	Maintain Query Report	X X X	X X	X
Booking_Order	Maintain Query Report	X		X X
Order	Maintain Query Report	X X	X X	X X
Payment	Maintai Query Report	X X X	X X	X

## 1.4 Gantt Chart

Below is the Gantt chart produced for the whole database system project.



## 2.0 Database Design Requirements

### 2.1 Data Requirements

Entity	Data to be stored	Requirements of Data
Customer	1. Customer ID 2. Name 3. Email 4. Password 5. Phone number 6. Security question	- [1] Customer ID is unique. - [3] Customers need to sign up an account by their email before using the system. - [5] Phone number must be verified upon signing up. - [6] A security question must be easily answered by the account owner.
Staff / Admin	1. Name 2. Email 3. Username 4. Password 5. Phone number	- [2] Admin need to sign up an account to access and manipulate the data in the system.
Bus / Van	1. Plate number 2. Model 3. Rental 4. Availability	- [3] The amount of rental displayed is the estimated price. - [4] Availability of buses should be indicated on the system.



Booking_Order	1. Booking ID 2. Bus model 3. Pick up date & time 4. Pick up address 5. Drop off address 6. Number of passengers 7. Travel route	- [1] Booking ID is unique. - [3] Pick up date & time should be specified. - [4] Pick up address can be an exact location or a building name. - [5] Drop off address is optional.
Order	1. Order number 2. Order date 3. Order status 4. Total price	- [1] Order number is unique and should be generated automatically. - [2] Order date is the date when the order is placed. - [4] Total price is determined by an admin.
Payment	1. Transaction number 2. Payment date 3. Payment method 4. Total price	- [1] Transaction number is unique. - [2] Payment date is the date when the payment is made.

## 2.2 Transaction Requirements

Entity	Data	Data Entry	Data Update	Data Deletion	Data Queries
Customer	1. Customer ID 2. Name 3. Email 4. Password 5. Phone number 6. Security question	Sign up by customer	Update information by customer	Delete account by customer	Query on customer data by manager
Staff/Admin	1. Name 2. Email 3. Username 4. Password 5. Phone number	Sign up by staff/admin	Update information by staff/admin	Delete account by staff/admin	Query on staff/admin data by manager
Bus/Van	1. Plate number 2. Model 3. Rental 4. Availability	Enter Bus/Van information by staff/admin	Update Bus/Van information by staff/admin	Delete Bus/Van information by staff/admin	Search for Bus/Van information by manager, staff/admin and customer
Booking Order	1. Booking ID 2. Bus model 3. Pick up date & time 4. Pick up address	Add booking order by customer			

	5. Drop off address 6. Number of passengers 7. Travel route				
Order	1. Order number 2. Order date 3. Order status 4. Total price	Confirm order by customer	Update order status by staff/admin	Cancel order by staff/admin	Query on order by manager, staff/admin
Payment	1. Transaction number 2. Payment date 3. Payment method 4. Total price	Enter payment method, transaction number and payment date by customer	Confirm payment by staff/admin	Delete payment by staff/admin	Query on payment by manager, staff/admin

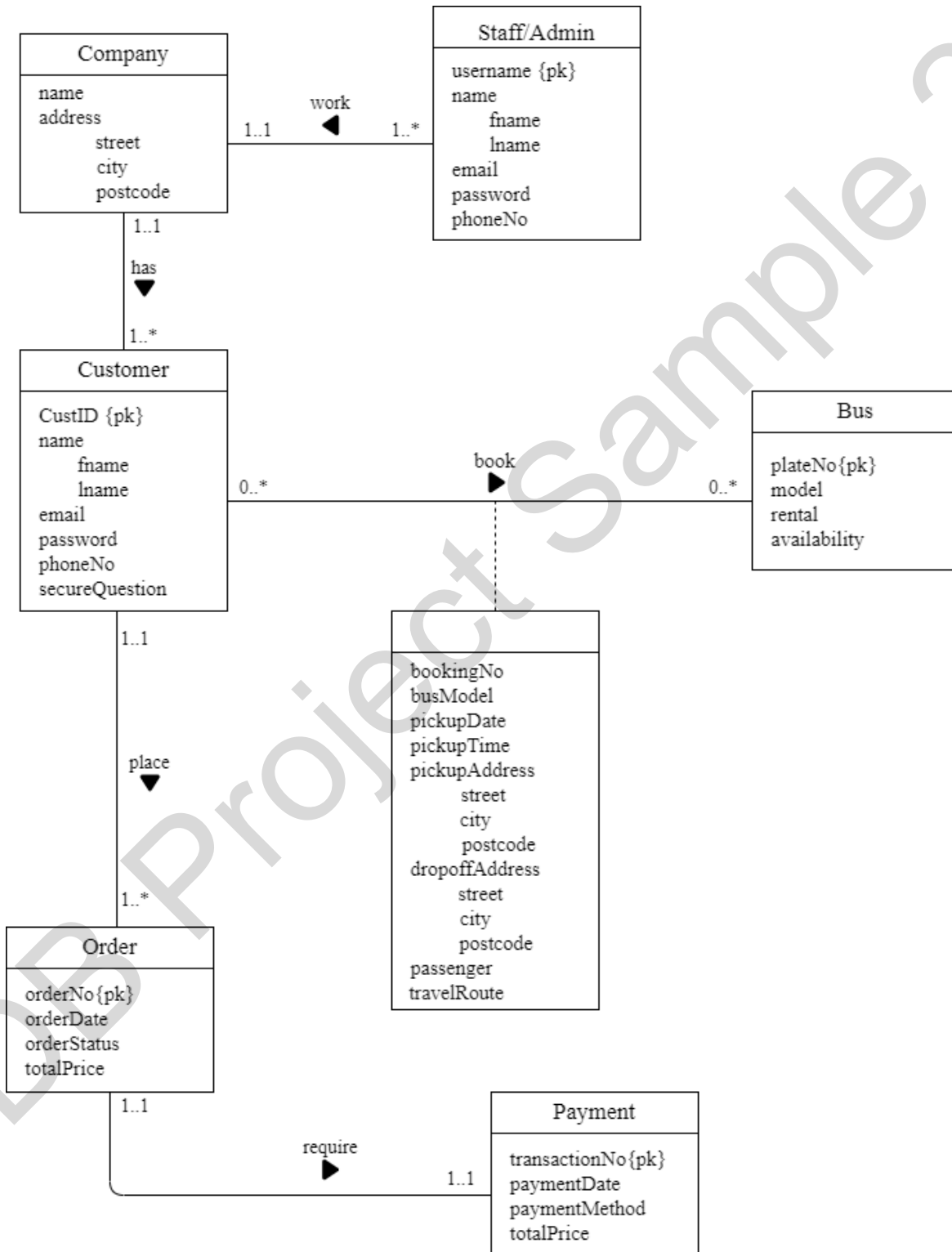
### 2.3 Cross-Reference Analysis

The table below cross-references the Manager, Staff/Admin and Customer user views with the main types of data used by each user view.

	Manager	Staff / Admin	Customer
Customer	X		X
Staff/Admin	X	X	
Bus/Van	X	X	X
Booking_Order	X		X
Order	X	X	X
Payment	X	X	X

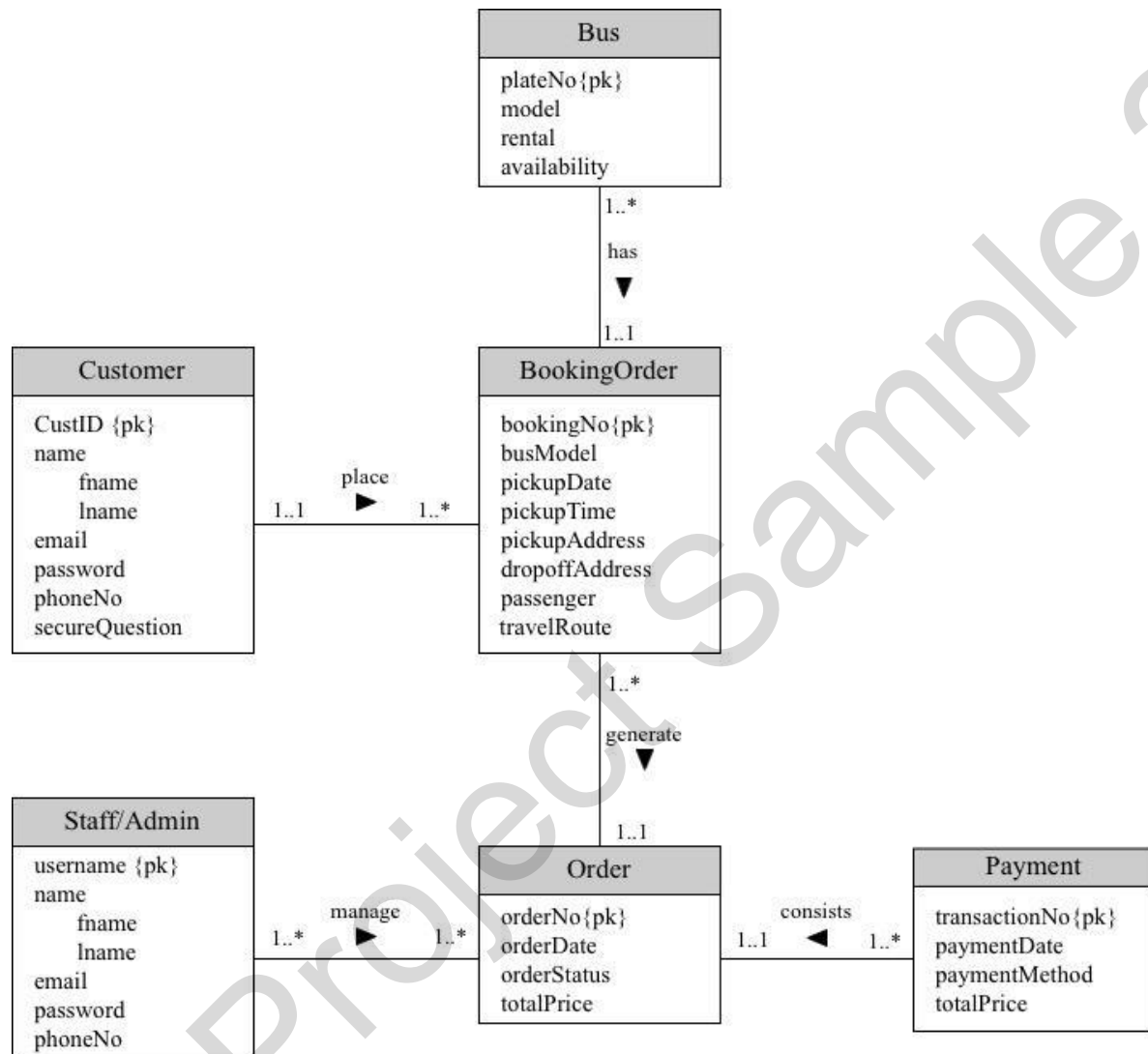
### 3.0 Conceptual Database Design

#### 3.1 Entity Relationship Diagram



## 4.0 Logical Database Design

### 4.1 Logical Entity Relationship Diagram (Logical ERD)

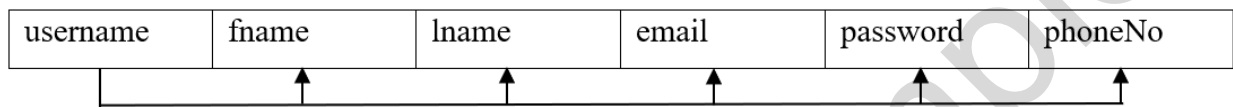


## 4.2 Relation Database Schema

Since there is no partial dependency (PD) and transitive dependency (TD) in all relations, therefore the relations **STAFF**, **CUSTOMER**, **ORDER**, **BUS**, **BOOKING\_ORDER** and **PAYMENT** are already in BCNF relation.

### i. STAFF (username, fname, lname, email, password, phoneNo)

#### STAFF



PK: username

FD1: username  $\rightarrow$  fname, lname, email, password, phoneNo

FD1 is full functional dependency. Relation STAFF is in BCNF

### ii. CUSTOMER (CustID, fname, lname, email, password, phoneNo, secureQuestion)

#### CUSTOMER



PK: CustID

FD1: CustID  $\rightarrow$  fname, lname, email, password, phoneNo, secureQuestion

FD1 is full functional dependency. Relation CUSTOMER is in BCNF.

### iii. ORDER (orderNo, CustID, orderDate, orderStatus, totalPrice )

#### ORDER

orderNo	CustID	orderDate	orderStatus	totalPrice
		↑	↑	↑

PK: orderNo, CustID

FK: CustID

FD1: orderNo, CustID  $\square$  orderDate, orderStatus, totalPrice

FD1 is full functional dependency. Relation ORDER is in BCNF.

### iv. BUS (plateNo, model, rental, availability)

#### BUS

plateNo	model	rental	availability
		↑	↑

PK: plateNo

FD1: plateNo  $\square$  model, rental, availability

FD1 is full functional dependency. Relation BUS is in BCNF.

### v. BOOKING\_ORDER (bookingNo, busModel, pickupDate, pickupTime, pickupAddress, dropoffAddress, passenger, travelRoute)

#### BOOKING\_ORDER

bookingNo	busModel	pickupDate	pickupTime	pickupAddress	dropoffAddress	passenger	travelRoute
	↑	↑	↑	↑	↑	↑	↑

PK: bookingNo

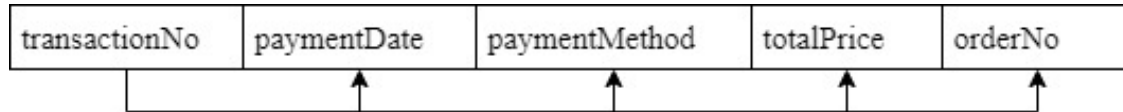
FD1: bookingNo  $\square$  busModel, pickupDate, pickupTime, pickupAddress, dropoffAddress, passenger, travelRoute

FD1 is full functional dependency. Relation BOOKING\_ORDER is in BCNF.



vi. **PAYMENT** (transactionNo, paymentDate, paymentMethod, totalPrice, orderNo)

**PAYMENT**



PK: transactionNo

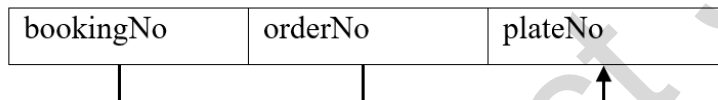
FK: orderNo

FD1: transactionNo  $\square$  paymentDate, paymentMethod, totalPrice, orderNo

FD1 is full functional dependency. Relation PAYMENT is in BCNF.

vii. **BUS\_BOOKING\_ORDER** (bookingNo, orderNo, plateNo)

**BUS\_BOOKING\_ORDER**



PK: bookingNo, orderNo

FD1: bookingNo, orderNo  $\square$  plateNo

**Final of normalized relation**

- i. STAFF (username, name lname, email, password, phoneNo)
- ii. CUSTOMER (CustID, fname, lname, email, password, phoneNo, secureQuestion)
- iii. ORDER (orderNo, CustID, orderDate, orderStatus, totalPrice )
- iv. BUS (plateNo, model, rental, availability)
- v. BOOKING\_ORDER (bookingNo, busModel, pickupDate, pickupTime, pickupAddress, dropoffAddress, passenger, travelRoute)
- vi. PAYMENT (transactionNo, paymentDate, paymentMethod, totalPrice, orderNo)
- vii. BUS\_BOOKING\_ORDER (bookingNo, orderNo, plateNo)

### 4.3 Data dictionary for Logical Database Design

Entity Name	Attributes	Description	Data Type & Length	Nulls	Multi-valued
Staff/Admin	username	Uniquely identifies a staff/admin	20 variable characters	NO	NO
	name				
	fname	First name of staff/admin	20 variable characters	NO	NO
	lname	Last name of staff/admin	20 variable characters	NO	NO
	email	Email address of staff/admin	50 variable characters	NO	NO
	password	Password for the account	20 variable characters	NO	NO
	phoneNo	Phone number of staff/admin	Integer	NO	NO
Customer	CustID	Uniquely identifies a customer	8 variable characters	NO	NO
	name				
	fname	First name of customer	20 variable characters	NO	NO
	lname	Last name of customer	20 variable characters	NO	NO
	email	Email address of customer	50 variable characters	NO	NO
	password	Password for the account	20 variable characters	NO	NO
	phoneNo	Phone number of customer	Integer	NO	NO
	secureQuestion	Security question to be answered by customer	100 variable characters	NO	NO
Bus	plateNo	Uniquely identifies a bus	8 variable characters	NO	NO
	model	Model of bus	50 variable characters	NO	NO
	rental	Rental price of bus	Decimal	NO	NO
	availability	Availability of bus	15 variable characters	NO	NO

Booking_Order	bookingNo	Uniquely identifies a BookingOrder	20 variable characters	NO	NO
	busModel	Model of bus rented	20 variable characters	NO	NO
	pickupDate	Date of pick up	15 variable characters	NO	NO
	pickupTime	Time of pick up	20 variable characters	NO	NO
	pickupAddress	Location of pick up point	120 variable characters	NO	NO
	dropoffAddress	Location of drop off point	120 variable characters	YES	NO
	passenger	Number of passengers	Integer	NO	NO
	travelRoute	Travel route	500 variable characters	NO	NO
Order	orderNo	Uniquely identifies an order	20 variable characters	NO	NO
	orderDate	Order date of an order	15 variable characters	NO	NO
	orderStatus	Order status of an order	1 variable characters	NO	NO
	totalPrice	The total price of the order	Decimal	NO	NO
	CustID	Foreign key references Customer(CustID)	8 variable characters	NO	NO
Payment	transactionNo	Uniquely identifies a payment	20 variable characters	NO	NO
	paymentDate	Date of the payment made	Date	NO	NO
	paymentMethod	Method of the payment made	20 variable characters	NO	NO
	totalPrice	The total price of the payment	Decimal	NO	NO
	orderNo	Foreign key references Order(orderNo)	20 variable characters	NO	NO
Bus_Booking_Order	bookingNo	Foreign key references Booking_Order(bookingNo)	20 variable characters	NO	NO
	orderNo	Foreign key references Order(orderNo)	20 variable characters	NO	NO
	plateNo	Foreign key references Bus(plateNo)	8 variable characters	NO	NO

## 5.0 Project Implementation

### 5.1 Structured Query Language

#### -----CREATING TABLES-----

```
CREATE TABLE CUSTOMER(  
CUST_ID          VARCHAR2(8) PRIMARY KEY,  
CUST_FNAME       VARCHAR2(20) NOT NULL,  
CUST_LNAME       VARCHAR2(20) NOT NULL,  
CUST_PHONE_NO    NUMBER NOT NULL,  
CUST_EMAIL       VARCHAR2(50) NOT NULL,  
CUST_PWORD       VARCHAR2(20) NOT NULL,  
SECURE_QUESTION  VARCHAR(100) NOT NULL)  
;
```

```
CREATE TABLE STAFF(  
STF_FNAME        VARCHAR2(20) NOT NULL,  
STF_LNAME        VARCHAR2(20) NOT NULL,  
USERNAME         VARCHAR2(20) PRIMARY KEY,  
STF_PHONE_NO     NUMBER NOT NULL,  
STF_EMAIL        VARCHAR2(50) NOT NULL,  
STF_PWORD        VARCHAR2(20) NOT NULL)  
;
```

```
CREATE TABLE BUS(  
PLATE_NO         VARCHAR2(8) PRIMARY KEY,  
MODEL_          VARCHAR2(50) NOT NULL,  
RENTAL          DECIMAL NOT NULL,  
AVAILABILITY_   VARCHAR2(15) NOT NULL)  
;
```

```
CREATE TABLE BOOKING_ORDER(  
BOOKING_NO       VARCHAR2(20) PRIMARY KEY,  
BUSMODEL         VARCHAR2(20) NOT NULL,  
PICKUPDATE       VARCHAR2(15) NOT NULL,
```

```
PICKUPTIME          VARCHAR2(20) NOT NULL,  
PICKUPADDRESS        VARCHAR2(120) NOT NULL,  
DROPOFFADDRESS       VARCHAR2(120),  
PASSENGER            NUMBER NOT NULL,  
TRAVELROUTE          VARCHAR2(500) NOT NULL)  
;
```

```
CREATE TABLE ORDER_  
(  
ORDER_NO             VARCHAR2(20) PRIMARY KEY,  
ORDER_DATE           VARCHAR2(15) NOT NULL,  
ORDER_STATUS         VARCHAR2(15) NOT NULL,  
TOTALPRICE           DECIMAL NOT NULL,  
CUST_ID              VARCHAR2(8) NOT NULL,  
FOREIGN KEY (CUST_ID) REFERENCES CUSTOMER(CUST_ID))  
;
```

```
CREATE TABLE PAYMENT(  
TRANSACTION_NO       VARCHAR2(20) PRIMARY KEY,  
PAYMENT_DATE         DATE NOT NULL,  
PAYMENT_METHOD       VARCHAR2(20) NOT NULL,  
TOTALPRICE           DECIMAL NOT NULL,  
ORDER_NO             VARCHAR2(20),  
FOREIGN KEY (ORDER_NO) REFERENCES ORDER_(ORDER_NO))  
;
```

```
CREATE TABLE BUS_BOOKING_ORDER(  
BOOKING_NO           VARCHAR2(20) REFERENCES BOOKING_ORDER(BOOKING_NO),  
ORDER_NO             VARCHAR2(20) REFERENCES ORDER_(ORDER_NO),  
PLATE_NO             VARCHAR2(8) REFERENCES BUS(PLATE_NO))  
;
```

-----SIGN UP (STAFF)-----

```
INSERT INTO STAFF
VALUES ('Peter', 'Tan', 'STF10062A', 0123456789, 'peter@gmail.com', '123456')
;
```

-----ADD BUS (STAFF)-----

```
INSERT INTO BUS
VALUES ('BJN 2731','Mini Bus 19-Seated',468,'Y')
;
```

```
INSERT INTO BUS
VALUES ('BJN 2738','Mini Bus 19-Seated',468,'Y')
;
```

```
INSERT INTO BUS
VALUES ('BJN 2743','Mini Bus 19-Seated',468 'Y')
;
```

```
INSERT INTO BUS
VALUES ('BJN 8267','Bus 25-Seated',540,'Y')
;
```

```
INSERT INTO BUS
VALUES ('BJN 2863','Bus 25-Seated',540,'N')
;
```

```
INSERT INTO BUS
VALUE ('BJN 7351','Bus 25-Seated',540,'Y')
;
```

```
INSERT INTO BUS
VALUES ('BJN 7388','Bus 40-Seated',809,'Y')
;
```

```
INSERT INTO BUS
VALUES ('BJN 2218','Bus 40-Seated',809,'N')
;
```

```
INSERT INTO BUS
VALUES ('BJN 6712','Bus 40-Seated',809,'N')
;
```

```
INSERT INTO BUS
VALUES ('BJN 6724','Bus 40-Seated',809,'N')
;
```

```
INSERT INTO BUS
VALUES ('VJN 2231','Van 16-Seated',338,'Y')
;
```

```
INSERT INTO BUS
VALUES ('VJN 2541','Van 16-Seated',338,'Y')
;
```

**-----UPDATE BUS INFO (STAFF)-----**

```
UPDATE BUS
SET AVAILABILITY_ 'Y'
WHERE PLATE_NO = 'BJN 2218'
;
```

**--DELETE BUS (STAFF)-----**

```
DELETE FROM BUS
WHERE PLATE_NO= 'BJN 2738'
;
```

**-----SIGN UP (CUSTOMER)-----**

```
INSERT INTO CUSTOMER
VALUES ('C210087', 'Ali', 'Bin Ahmad', 0128889999, 'aliahmad@gmail.com', '123456',
'ANSWER')
;
```

```
INSERT INTO CUSTOMER
VALUES('C210088', 'GENIE', 'LIEW', 0129876543, 'genie@example.com', 'passtestword',
'LIEW')
;
```

```
INSERT INTO CUSTOMER
VALUES ('C210043', 'Hannah', 'Joseph', 0134457788, 'hannah@gmail.com', 'hannah7788',
'JOSEPH')
;
```

#### -----DISPLAY CUSTOMER INFO (CUSTOMER)-----

```
SELECT CUST_FNAME || ' ' || CUST_LNAME "Customer Name", 'ID: ' || CUST_ID "Customer
ID"
FROM CUSTOMER
WHERE CUST_ID = 'C210087'
;
```

#### -----UPDATE CUSTOMER INFO (CUSTOMER)-----

```
UPDATE CUSTOMER
SET CUST_PHONE_NO=0134567890
WHERE CUST_ID ='C210087'
;
```

#### -----QUERY BUS (CUSTOMER)-----

```
SELECT MODEL_, RENTAL, AVAILABILITY_
FROM BUS
```



```
WHERE MODEL_ = 'Mini Bus 19-Seated'
```

```
;
```

```
SELECT MODEL_, RENTAL, AVAILABILITY_
```

```
FROM BUS
```

```
WHERE MODEL_ = 'Bus 40-Seated'
```

```
;
```

```
SELECT MODEL_, RENTAL, AVAILABILITY_
```

```
FROM BUS
```

```
WHERE MODEL_ = 'Van 16-Seated'
```

```
;
```

#### -----BOOKING BUS (CUSTOMER)-----

```
INSERT INTO BOOKING_ORDER
```

```
VALUES ('BK200342','Mini Bus 16-Seated',TO_DATE('31/ 1/2021', 'DD/MM/YYYY'),'08:00  
AM','UTM SKUDAI, JOHOR BAHRU','UTM SKUDAI, JOHOR BAHRU',10,'UTM -> PULAI SPRING  
RESORT ->Paradigm Mall')
```

```
;
```

```
INSERT INTO BOOKING_ORDER
```

```
VALUES ('BK200351', 'Mini Bus 19-Seated', TO_DATE('18/01/2021', 'DD/MM/YYYY'), '8:00  
AM', 'M25, Kolej Tun Dr Ismail, UTM Skudai, Johor', '-', 18, 'M25 to Paradigm Mall then to  
Sutera Mall back to pick up address')
```

```
;
```

```
INSERT INTO BOOKING_ORDER
```

```
VALUES ('BK200352', 'Bus 25-Seated', TO_DATE('20/01/2021', 'DD/MM/YYYY'), '9:00 AM',  
'73, Jalan Cempaka 34/12, 81000 Kulai, Johor', 'Don Hu Jurassic Park  
Kampung Sabak Aur, 84000 Muar, Johor', 25, 'Send us to Jalan Meriam, Pekan Muar, 84000  
Muar, Johor after the Jurassic Park  
Our hotel is at No 18-1, Taman Indah Jalan Haji Abdullah, 84000 Muar')
```

```
;
```

```

INSERT INTO BOOKING_ORDER
VALUES ('BK200353', 'Bus 25-Seated', TO_DATE('18/01/2021', 'DD/MM/YYYY'), '10:00 AM',
'Blok M01, Kolej Tun Dr Ismail,
UTM Skudai, Johor', 'Blok M01, Kolej Tun Dr Ismail,
UTM Skudai, Johor', 49, 'Send us to The Mall, Mid Valley Southkey
1, Persiaran Southkey 1, Southkey, 80150 Johor Bahru, Johor
Send us back to the drop off address at 9:00 PM')
;

```

#### -----VIEW BOOKING (STAFF)-----

```

SELECT *
FROM BOOKING_ORDER
;

```

#### -----MANAGE BOOKING- CONFIRM BOOKING (STAFF)-----

```

INSERT INTO ORDER_
VALUES ('OR10056024', SYSDATE, 'Unpaid', 1425.00, 'C210087')
;

```

```

INSERT INTO ORDER_
VALUES ('OR10056086', SYSDATE, 'Unpaid', 468.00, 'C210088')
;

```

```

INSERT INTO ORDER_
VALUES ('OR10056064', SYSDATE, 'Unpaid', 455.00, 'C210043')
;

```

```

UPDATE ORDER_
SET TOTALPRICE = 445.00
WHERE ORDER_NO = 'OR10056086'
;

```

#### -----VIEW UNPAID ORDER (CUSTOMER)-----

```
SELECT ORDER_NO, ORDER_DATE, ORDER_STATUS, TOTALPRICE
FROM ORDER_
WHERE ORDER_STATUS ='Unpaid'
AND CUST_ID = 'C210087'
;
```

#### -----MAKE PAYMENT (CUSTOMER)-----

```
INSERT INTO PAYMENT
VALUES ('TN10056024', SYSDATE, 'Debit/Credit Card', 1425.00, 'OR10 5602 ')
;
```

```
UPDATE ORDER_
SET ORDER_STATUS = 'Paid'
WHERE ORDER_NO ='OR10056024'
;
```

#### -----VIEW BUS INFO (STAFF)-----

```
SELECT * FROM BUS
;
```

#### -----SEARCH ORDER (STAFF)-----

```
SELECT ORDER_NO
FROM ORDER_
WHERE ORDER_NO ='OR10056071'
OR ORDER_NO LIKE 'OR10056%'
;
```

#### -----VIEW ORDER (STAFF)-----

```
SELECT * FROM ORDER_
;
```

```

SELECT c.CUST_ID, c.CUST_FNAME, bbo.BOOKING_NO, bo.BUSMODEL, bbo.PLATE_NO,
o.ORDER_NO, o.ORDER_DATE, p.TOTALPRICE AS "Amount Paid"
FROM CUSTOMER c FULL JOIN ORDER_ o
ON c.CUST_ID = o.CUST_ID
FULL JOIN PAYMENT p
ON o.ORDER_NO = p.ORDER_NO
FULL JOIN BUS_BOOKING_ORDER bbo
ON bbo.ORDER_NO = p.ORDER_NO
FULL JOIN BOOKING_ORDER bo
ON bbo.BOOKING_NO = bo.BOOKING_NO
WHERE o.ORDER_NO = 'OR10056024'
;

```

#### -----MANAGE ORDER-ASSIGN PLATE NO (STAFF)-----

```

INSERT INTO BUS_BOOKING_ORDER
VALUES ('BK200342', 'OR10056024', 'BJN 6 12')
;

```

```

INSERT INTO BUS_BOOKING_ORDER
VALUES ('BK200342', 'OR10056024', 'BJN 6724')
;

```

```

INSERT INTO BUS_BOOKING_ORDER
VALUES ('BK200351', 'OR10056086', 'BJN 2731')
;

```

#### -----VIEW PAID ORDER (CUSTOMER)-----

```

SELECT ORDER_NO, ORDER_DATE, ORDER_STATUS, TOTALPRICE
FROM ORDER_
WHERE ORDER_STATUS = 'Paid'
AND CUST_ID = 'C210087'
;

```

```

SELECT o.ORDER_NO, o.ORDER_DATE, o.ORDER_STATUS, o.TOTALPRICE,
p.TRANSACTION_NO, p.PAYMENT_DATE, p.PAYMENT_METHOD, p.TOTALPRICE AS "Amount
Paid", bbo.PLATE_NO, b.MODEL_
FROM ORDER_ o JOIN PAYMENT p
ON o.ORDER_NO = p.ORDER_NO
JOIN BUS_BOOKING_ORDER bbo
ON bbo.ORDER_NO = p.ORDER_NO
JOIN BUS b
ON b.PLATE_NO = bbo.PLATE_NO
WHERE o.ORDER_NO = 'OR10056024'
;

```

**-----CALCULATE THE DISCOUNT RATE (STAFF)-----**

```

SELECT DISTINCT o.ORDER_NO, ROUND((TO_CHAR(b.RENTAL-
o.TOTALPRICE)/b.RENTAL*100, 2) AS "Percentage of Discount"
FROM BUS b JOIN BUS_BOOKING_ORDER bbo
ON b.PLATE_NO = bbo.PLATE_NO
JOIN ORDER_ o
ON o.ORDER_NO = bbo.ORDER_NO
WHERE o.ORDER_NO = 'OR10056086'
AND b.RENTAL = 468
;

```

## 5.2 Set of Queries for Each Transaction

---QUERIES---

SELECT \* FROM CUSTOMER;

SELECT \* FROM STAFF;

SELECT \* FROM BUS;

SELECT \* FROM BOOKING\_ORDER;

SELECT \* FROM ORDER\_;

SELECT \* FROM PAYMENT;

SELECT \* FROM BUS\_BOOKING\_ORDER;

### CUSTOMER

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_PHONE_NO	CUST_EMAIL	CUST_PWORD	SECURE_QUESTION
C210087	Ali	Bin Ahmad	134567890	aliahmad@gmail.com	123456	ANSWER
C210088	GENIE	LIEW	129876543	genie@example.com	passtestword	LIEW
C210043	Hannah	Joseph	134457788	hannah@gmail.com	hannah7788	JOSEPH

[Download CSV](#)

3 rows selected.

### STAFF

STF_FNAME	STF_LNAME	USERNAME	STF_PHONE_NO	STF_EMAIL	STF_PWORD
Peter	Tan	STF10062A	123456789	peter@gmail.com	123456

[Download CSV](#)

## BUS

PLATE_NO	MODEL_	RENTAL	AVAILABILITY_
BJN 2731	Mini Bus 19-Seated	468	Y
BJN 2743	Mini Bus 19-Seated	468	Y
BJN 8267	Bus 25-Seated	540	Y
BJN 2863	Bus 25-Seated	540	N
BJN 7351	Bus 25-Seated	540	Y
BJN 7388	Bus 40-Seated	809	Y
BJN 2218	Bus 40-Seated	809	Y
BJN 6712	Bus 40-Seated	809	N
BJN 6724	Bus 40-Seated	809	N
VJN 2231	Van 16-Seated	338	Y
VJN 2541	Van 16-Seated	338	Y

[Download CSV](#)

11 rows selected.

## BOOKING\_ORDER

BOOKING_NO	BUSMODEL	PICKUPDATE	PICKUPTIME	PICKUPADDRESS	DROPOFFADDRESS	PASSENGER	TRAVELROUTE
BK200342	Mini Bus 16-Seated	31-JAN-21	08:00 AM	UTM SKUDAI, JOHOR BAHRU	UTM SKUDAI, JOHOR BAHRU	10	UTM -> PULAI SPRING RESORT ->Paradigm Mall
BK200351	Mini Bus 19-Seated	18-JAN-21	8:00 AM	M25, Kolej Tun Dr Ismail, UTM Skudai, Johor	-	18	M25 to Paradigm Mall then to Sutera Mall back to pick up address
BK200352	Bus 25-Seated	20-JAN-21	9:00 AM	73, Jalan Cempaka 34/12, 81000 Kulai, Johor	Don Hu Jurassic Park Kampung Sabak Aur, 84000 Muar, Johor	25	Send us to Jalan Meriam, Pekan Muar, 84000 Muar, Johor after the jurassic park Our hotel is at No 18-1, Taman Indah Jalan Haji Abdullah, 84000 Muar
BK200353	Bus 25-Seated	18-JAN-21	10:00 AM	Blok M01, Kolej Tun Dr Ismail, UTM Skudai, Johor	Blok M01, Kolej Tun Dr Ismail, UTM Skudai, Johor	49	Send us to The Mall, Mid Valley Southkey 1, Persiaran Southkey 1, Southkey, 80150 Johor Bahru, Johor Send us back to the drop off address at 9:00 PM

[Download CSV](#)

4 rows selected.

## ORDER\_

ORDER_NO	ORDER_DATE	ORDER_STATUS	TOTALPRICE	CUST_ID
OR10056024	27-JAN-21	Paid	1425	C210087
OR10056086	27-JAN-21	Unpaid	460	C210088
OR10056064	27-JAN-21	Unpaid	455	C210043

[Download CSV](#)

3 rows selected.

## PAYMENT

TRANSACTION_NO	PAYMENT_DATE	PAYMENT_METHOD	TOTALPRICE	ORDER_NO
TN10056024	27-JAN-21	Debit/Credit Card	1425	OR10056024

[Download CSV](#)

## BUS\_BOOKING\_ORDER

BOOKING_NO	ORDER_NO	PLATE_NO
BK200342	OR10056024	BJN 6712
BK200342	OR10056024	BJN 6724
BK200351	OR10056086	BJN 2731

[Download CSV](#)

3 rows selected.

### 1. Display Customer Info with customer ID C210087 (Menu Bar)

-----DISPLAY CUSTOMER INFO (CUSTOMER)-----

```
SELECT CUST_FNAME || ' ' || CUST_LNAME "Customer Name", 'ID: ' || CUST_ID "Customer ID"
FROM CUSTOMER
WHERE CUST_ID = 'C210087'
;
```

Customer Name	Customer ID
Ali Bin Ahmad	ID: C210087

### 2. Display the Bus details of model Mini Bus 19-seated

```
SELECT MODEL_, RENTAL, AVAILABILITY_
FROM BUS
WHERE MODEL_ = 'Mini Bus 19-Seated'
;
```

MODEL_	RENTAL	AVAILABILITY_
Mini Bus 19-Seated	468	Y
Mini Bus 19-Seated	468	Y



### 3. Display the Bus details of model Bus 40-seated

```
SELECT MODEL_, RENTAL, AVAILABILITY_  
FROM BUS  
WHERE MODEL_ = 'Bus 40-Seated'  
;
```

MODEL_	RENTAL	AVAILABILITY_
Bus 40-Seated	809	Y
Bus 40-Seated	809	Y
Bus 40-Seated	809	N
Bus 40-Seated	809	N

### 4. Display the Bus details of model Van 16-seated

```
SELECT MODEL_, RENTAL, AVAILABILITY_  
FROM BUS  
WHERE MODEL_ = 'Van 16-Seated'  
;
```

MODEL_	RENTAL	AVAILABILITY_
Van 16-Seated	338	Y
Van 16-Seated	338	Y

### 5. View unpaid order details (Customer)

-----VIEW UNPAID ORDER (CUSTOMER)-----

```
SELECT ORDER_NO, ORDER_DATE, ORDER_STATUS, TOTALPRICE  
FROM ORDER_  
WHERE ORDER_STATUS = 'Unpaid'  
AND CUST_ID = 'C210087'  
;
```

ORDER_NO	ORDER_DATE	ORDER_STATUS	TOTALPRICE
OR10056024	27-JAN-21	Unpaid	1425

[Download CSV](#)

## 6. Search order details (Staff)

```
-----SEARCH ORDER (STAFF)-----  
SELECT ORDER_NO  
FROM ORDER_  
WHERE ORDER_NO = 'OR10056071'  
OR ORDER_NO LIKE 'OR10056%'  
;
```

ORDER_NO
OR10056024
OR10056064
OR10056086

## 7. View paid order details (Customer)

```
-----VIEW PAID ORDER (CUSTOMER)-----  
SELECT ORDER_NO, ORDER_DATE, ORDER_STATUS, TOTALPRICE  
FROM ORDER_  
WHERE ORDER_STATUS = 'Paid'  
AND CUST_ID = 'C210087'  
;
```

ORDER_NO	ORDER_DATE	ORDER_STATUS	TOTALPRICE
OR10056024	27-JAN-21	Paid	1425

## 8. Display paid order details with payment information and bus information (Customer)

```
SELECT o.ORDER_NO, o.ORDER_DATE, o.ORDER_STATUS, o.TOTALPRICE, p.TRANSACTION_NO, p.PAYMENT_DATE, p.PAYMENT_METHOD, p.TOTALPRICE AS "Amount Paid", bbo.PLATE_NO, b.MODEL_  
FROM ORDER_ o JOIN PAYMENT p  
ON o.ORDER_NO = p.ORDER_NO  
JOIN BUS_BOOKING_ORDER bbo  
ON bbo.ORDER_NO = p.ORDER_NO  
JOIN BUS b  
ON b.PLATE_NO = bbo.PLATE_NO  
WHERE o.ORDER_NO = 'OR10056024'  
;
```

ORDER_NO	ORDER_DATE	ORDER_STATUS	TOTALPRICE	TRANSACTION_NO	PAYMENT_DATE	PAYMENT_METHOD	Amount Paid	PLATE_NO	MODEL_
OR10056024	27-JAN-21	Paid	1425	TN10056024	27-JAN-21	Debit/Credit Card	1425	BJN 6712	Bus 40-Seated
OR10056024	27-JAN-21	Paid	1425	TN10056024	27-JAN-21	Debit/Credit Card	1425	BJN 6724	Bus 40-Seated

## 9. Display order details of order number OR10056024 (Staff)

```
SELECT c.CUST_ID, c.CUST_FNAME, bbo.BOOKING_NO, bo.BUSMODEL, bbo.PLATE_NO, o.ORDER_NO, o.ORDER_DATE, p.TOTALPRICE AS "Amount Paid"
FROM CUSTOMER c FULL JOIN ORDER_ o
ON c.CUST_ID = o.CUST_ID
FULL JOIN PAYMENT p
ON o.ORDER_NO = p.ORDER_NO
FULL JOIN BUS_BOOKING_ORDER bbo
ON bbo.ORDER_NO = p.ORDER_NO
FULL JOIN BOOKING_ORDER bo
ON bbo.BOOKING_NO = bo.BOOKING_NO
WHERE o.ORDER_NO = 'OR10056024'
;
```

CUST_ID	CUST_FNAME	BOOKING_NO	BUSMODEL	PLATE_NO	ORDER_NO	ORDER_DATE	Amount Paid
C210087	Ali	-	-	-	OR10056024	27-JAN-21	1425

## 10. Calculate the percentage of discount for the order OR10056086 (Staff)

-----CALCULATE THE DISCOUNT RATE (STAFF)-----

```
SELECT DISTINCT o.ORDER_NO, ROUND((TO_CHAR(b.RENTAL-o.TOTALPRICE)/b.RENTAL*100, 2) AS "Percentage of Discount"
FROM BUS b JOIN BUS_BOOKING_ORDER bbo
ON b.PLATE_NO = bbo.PLATE_NO
JOIN ORDER_ o
ON o.ORDER_NO = bbo.ORDER_NO
WHERE o.ORDER_NO = 'OR10056086'
AND b.RENTAL = 468
;
```

ORDER_NO	Percentage of Discount
OR10056086	4.91

### 5.3 User Manual

Welcome to NW Bus Rental.

#### *Sign Up*

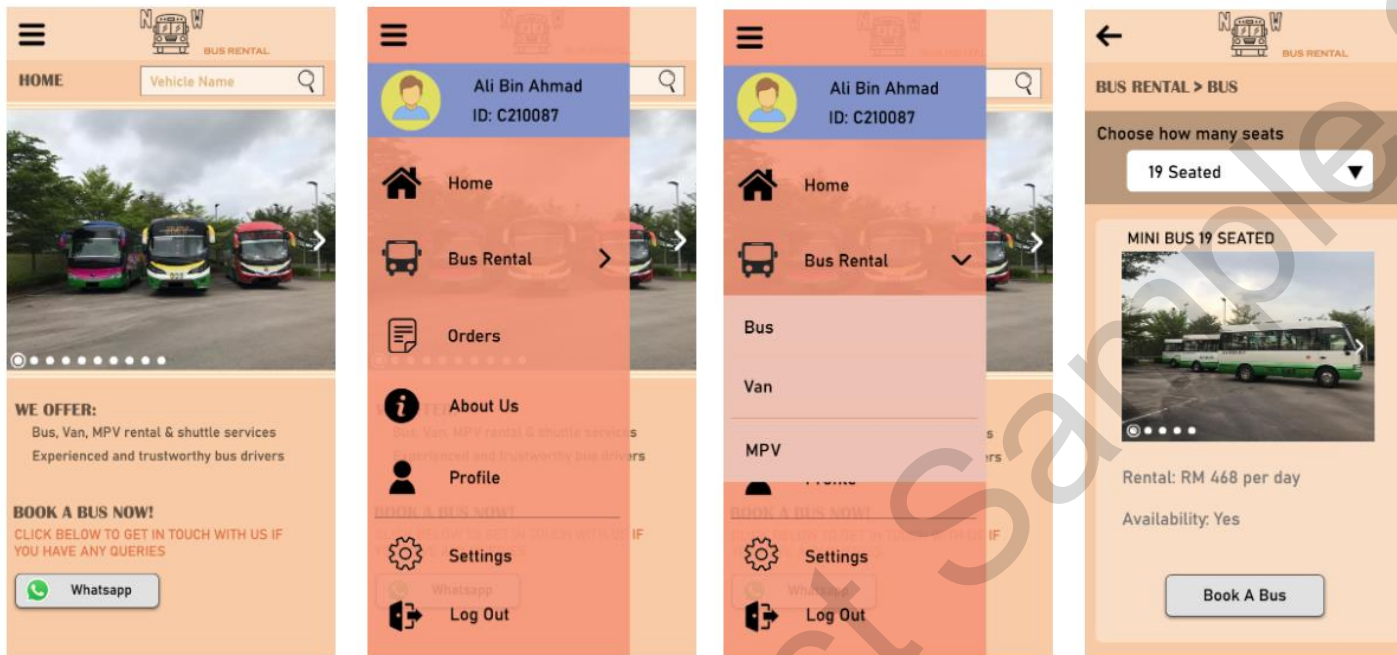
NW Bus Rental mobile application will require the customers to sign up an account by using their email before they can start to use the system. The staff will also have to sign up an account as well. For new customers, personal detail like first name, last name, phone number, email, password and security question are required to be filled. While for the staff, they will sign up an account and fill in the username with their Staff ID. This is for easy monitoring and managing purposes.

The image displays four sequential mobile app screens for the NW Bus Rental application, illustrating the sign-up process. The first screen is the login/sign-up selection screen, featuring the NW Bus Rental logo and a 'LOG IN | SIGN UP' button. The second screen is the login screen, with fields for 'Email / Phone number' and 'Password', and a 'Log In' button. The third and fourth screens are the sign-up screens, each with a 'New Customer' and 'Staff/Admin' toggle. The 'New Customer' screen has fields for 'First Name', 'Last Name', 'Phone number', 'Email', 'Password', 'Security Question', and 'Answer'. The 'Staff/Admin' screen has fields for 'First Name', 'Last Name', 'Username', 'Phone number', 'Email', and 'Password'. Both sign-up screens have a 'Sign Up' button.

#### *Log In*

Customers - Login by using email or phone number and password.

Staff - Login by using username and password.



### View

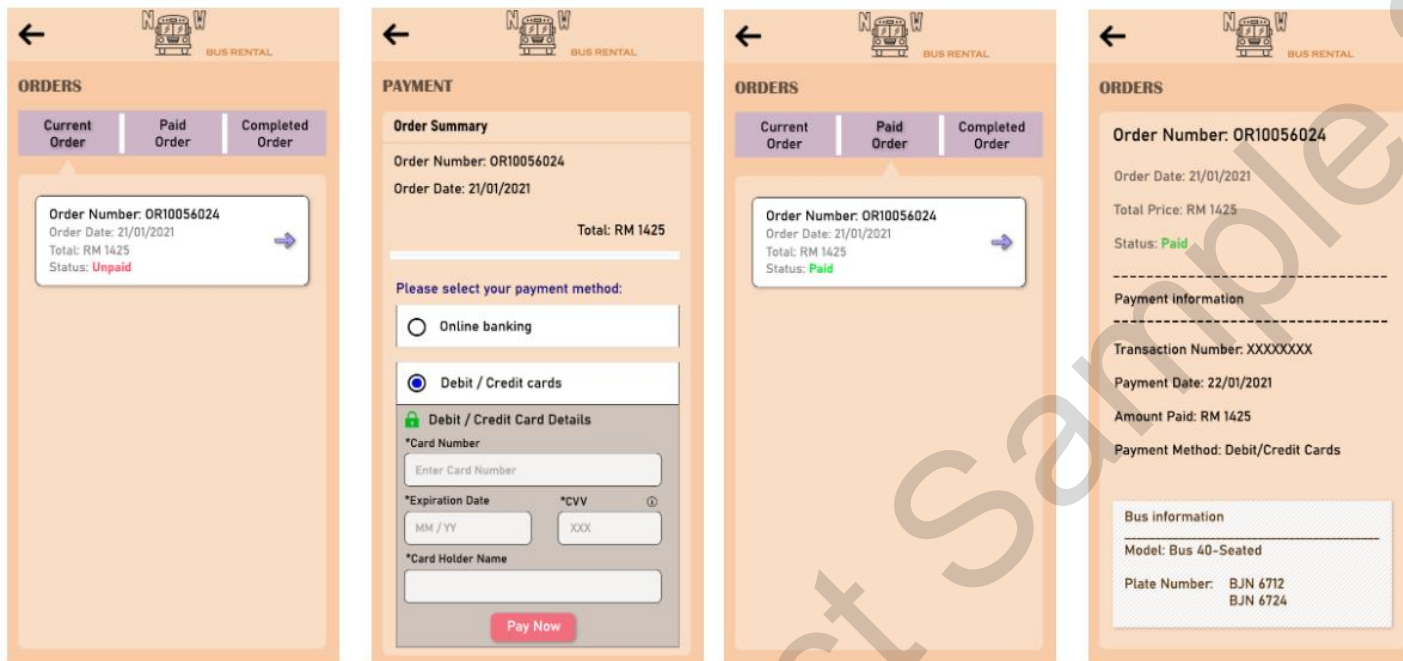
- Customers can contact us directly on the main page via WhatsApp for any enquiries.
- Go through the Menu bar by pressing the menu button on the top left corner.
- View the rental by choosing the categories: Bus, Van and MPV.
- Inside each category, choose the number of seats in the drop down list.
- Rental (per day) and availability will be displayed.
- Click on the “Book A Bus” to navigate to the booking interface.

The image displays four sequential screenshots of a mobile application for bus and van rental. Each screen has a back arrow and a 'BUS RENTAL' header with a bus icon.

- Screen 1: BUS RENTAL > BUS**  
 Section: Choose how many seats  
 Dropdown menu: 40 Seated (selected), 19 Seated, 25 Seated, 44 Seated  
 Image: A green and yellow bus  
 Rental: RM 809 per day  
 Availability: Yes  
 Button: Book A Bus
- Screen 2: BUS RENTAL > BUS**  
 Section: Choose how many seats  
 Dropdown menu: 40 Seated (selected)  
 Section: BUS 40 SEATED  
 Image: A green and yellow bus  
 Rental: RM 809 per day  
 Availability: Yes  
 Button: Book A Bus
- Screen 3: BUS RENTAL > VAN**  
 Section: Choose how many seats  
 Dropdown menu: 16 Seated (selected)  
 Section: VAN 16 SEATED  
 Image: A white van  
 Rental: RM 338 per day  
 Availability: Yes  
 Button: Book A Van
- Screen 4: BOOKING PAGE**  
 Section: Choose the vehicle model  
 Dropdown menu: Vehicle Model  
 Pick Up Date: 01/01/2021  
 Pick Up Time: 08:00 AM  
 Pick Up Address: Enter the exact location (include street, city, postcode)  
 Drop Off Address (optional): Enter the exact location (include street, city, postcode)  
 Number of Passengers: 10  
 Travel Route: May include detailed description or planned schedule  
 Button: Submit

### **Booking**

- To book a bus, customers need to enter the booking details such as bus model, pick up date, pick up time, pick up address, drop off address, number of passengers and travel route.
- All fields are required to be filled except the drop off address (optional).
- Travel route may include detailed description or schedule.
- Click 'Submit' once you have done.



### Payment

- Customers can pay for their order once it has been verified by our staff/admin. (Current Order)
- Customers can pay via online banking or debit/credit cards.
- Customers can view the bus information if and only if they have made the payment. (Paid Order)
- Completed Order is similar to the order history.

## 5.4 Interfaces with SQL Statements

**Screen 1: Login/Signup**

NORTH-WEST  
BUS RENTAL

**LOG IN | SIGN UP**

OR

Continue with Google

**Screen 2: Login/Signup**

Email / Phone number

For staff/admin, please use username in this field.

Password

Forgot password?

Log In

**Screen 3: Signup (New Customer)**

New Customer Staff/Admin

First Name

Last Name

Phone number

Email

Password

Security Question

Security Question ▼

Answer

Sign Up

**Screen 4: Signup (Staff/Admin)**

New Customer Staff/Admin

First Name

Last Name

Username

Phone number

Email

Password

Password

Sign Up

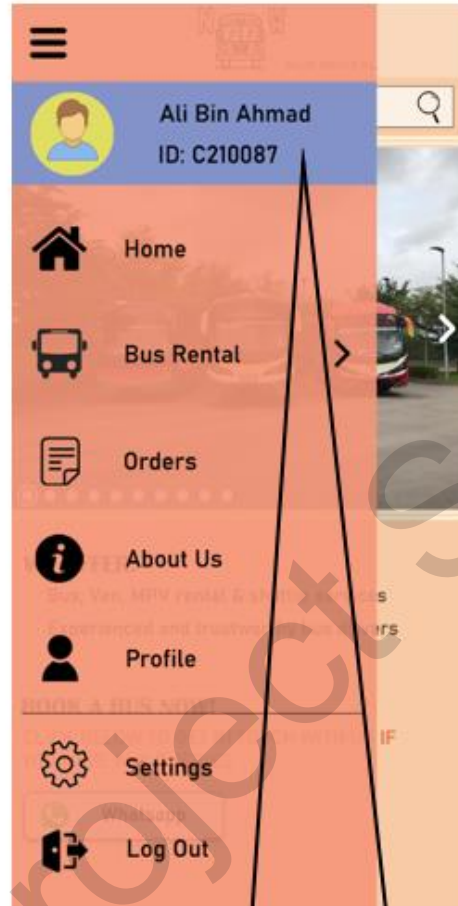
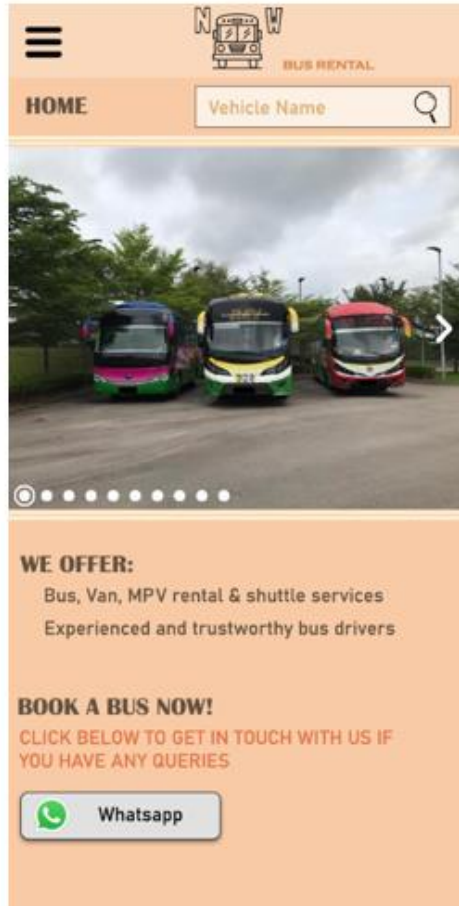
**Callout 1 (Customer):**

```
INSERT INTO CUSTOMER
VALUES ('C210087', 'Ali', 'Bin
Ahmad', 0128889999,
'aliahmad@gmail.com', '123456',
'ANSWER')
;
```

**Callout 2 (Staff):**

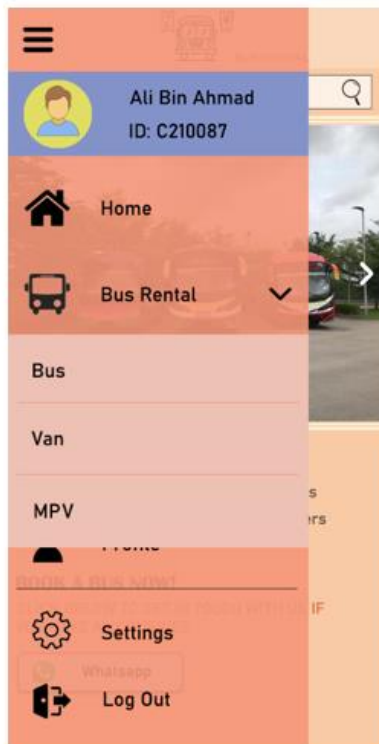
```
INSERT INTO STAFF
VALUES ('Peter',
'Tan', 'STF10062A', 0123456789,
'peter@gmail.com', '123456')
;
```



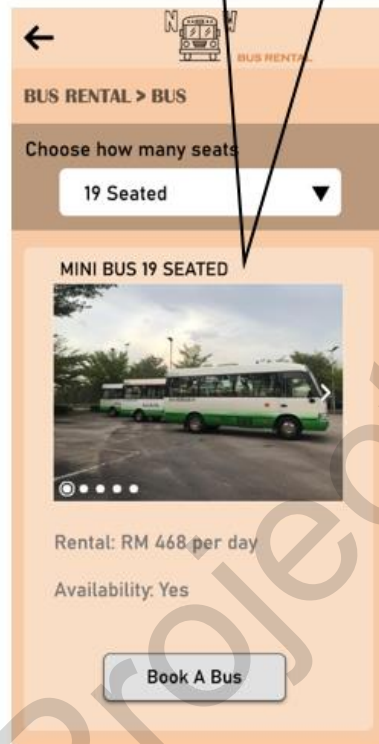


```
SELECT CUST_FNAME || ' ' ||
CUST_LNAME, 'ID: ' || CUST_ID
FROM CUSTOMER
WHERE CUST_ID = 'C210087'
;
```

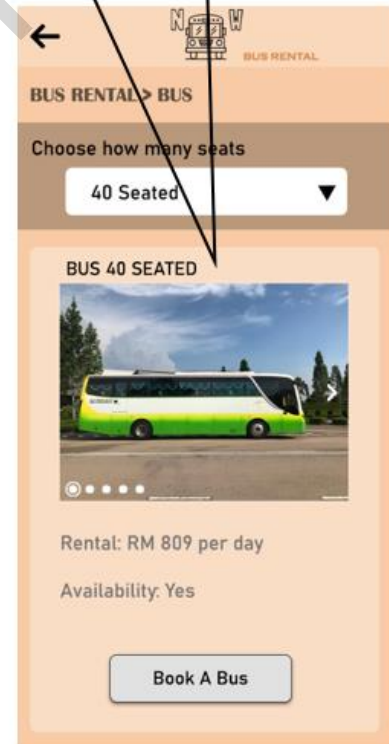
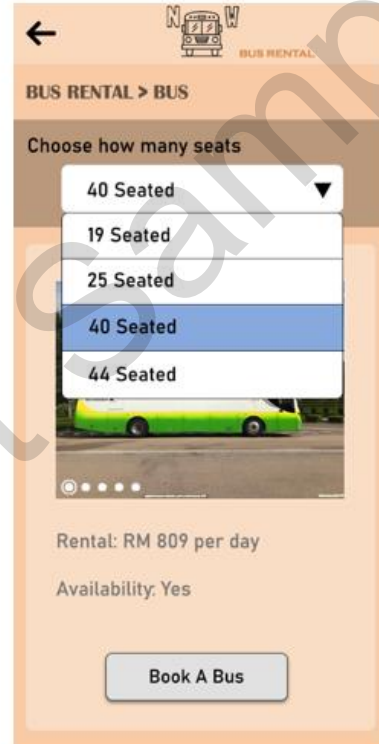
```
UPDATE CUSTOMER
SET CUST_PHONE_NO=0134567890
WHERE CUST_ID = 'C210087';
```



SELECT MODEL\_, RENTAL,  
AVAILABILITY\_  
FROM BUS  
WHERE MODEL\_= 'Mini Bus 19-  
Seated';



SELECT MODEL\_, RENTAL,  
AVAILABILITY\_  
FROM BUS  
WHERE MODEL= 'Bus 40-Seated';



```

SELECT MODEL_, RENTAL, AVAILABILITY_
FROM BUS
WHERE MODEL_ = 'Van 16-Seated'
;

```

BUS RENTAL > VAN

Choose how many seats

16 Seated

VAN 16 SEATED

Rental: RM 338 per day

Availability: Yes

Book A Van

BOOKING PAGE

Choose the vehicle model

Vehicle Model

Pick Up Date

01/01/2021

Pick Up Time

08:00 AM

Pick Up Address

Enter the exact location (include street, city, postcode)

Drop Off Address (optional)

Enter the exact location (include street, city, postcode)

Number of Passengers

10

Travel Route

May include detailed description or planned schedule

Submit

BOOKING PAGE

Choose the vehicle model

Vehicle Model

Confirm Submit?

Note: This cannot be undone.

No Yes

Submit

BOOKING PAGE

Choose the vehicle model

Vehicle Model

We have received your booking information.


Note: You will be notified once the order is verified. Insert other information here, you may also check it in Orders.

Submit

```

INSERT INTO BOOKING_ORDER
VALUES ('BK200351', 'Mini Bus 19-Seated', TO_DATE ('18/01/2021',
'DD/MM/YYYY'), '8:00 AM', 'M25, Kolej Tun Dr Ismail, UTM Skudai, Johor', '-',
18, 'M25 to Paradigm Mall then to Sutera Mall back to pick up address')
;

```



**ORDERS**

Current Order | Paid Order | Completed Order


Order Number: OR10056024

Order Date: 21/01/2021

Total: RM 1425

Status: **Unpaid**

```
SELECT ORDER_NO, ORDER_DATE,
ORDER_STATUS, TOTALPRICE
FROM ORDER_
WHERE ORDER_STATUS = 'Unpaid'
AND CUST_ID = 'C210087'
;
```



**PAYMENT**

**Order Summary**

Order Number: OR10056024

Order Date: 21/01/2021

Total: RM 1425

Please select your payment method:

☐ Online banking

☒ Debit / Credit cards

**Debit / Credit Card Details**

\*Card Number

Enter Card Number


\*Expiration Date \*CVV

MM / YY XXX

\*Card Holder Name

Pay Now

```
INSERT INTO PAYMENT
VALUES ('TN10056024',
SYSDATE, 'Debit/Credit
Card', 1425.00,
'OR10056024')
;
```



**ORDERS**

Current Order | Paid Order | Completed Order


Order Number: OR10056024

Order Date: 21/01/2021

Total: RM 1425

Status: **Paid**

```
SELECT ORDER_NO,
ORDER_DATE,
ORDER_STATUS, TOTALPRICE
FROM ORDER_
WHERE ORDER_STATUS
='Paid'
AND CUST ID = 'C210087'
```



**ORDERS**

Order Number: OR10056024

Order Date: 21/01/2021

Total Price: RM 1425

Status: **Paid**

Payment information

Transaction Number: TN10056024

Payment Date: 22/01/2021

Amount Paid: RM 1425

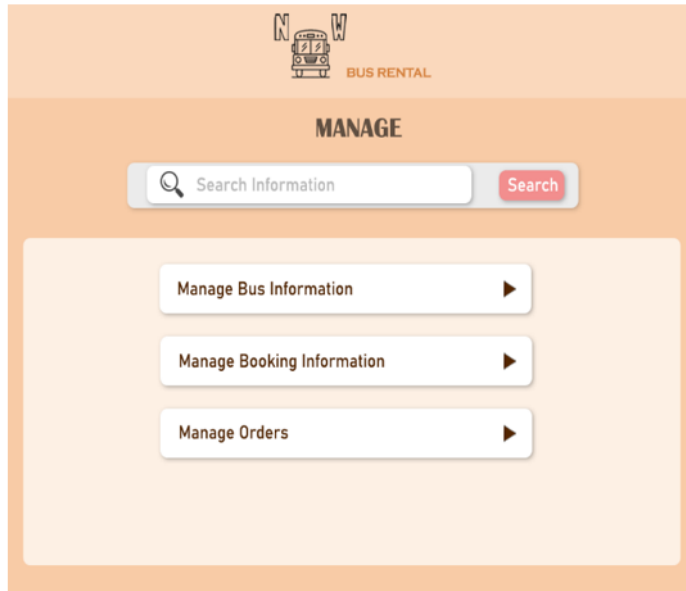
Payment Method: Debit/Credit Cards

Bus information

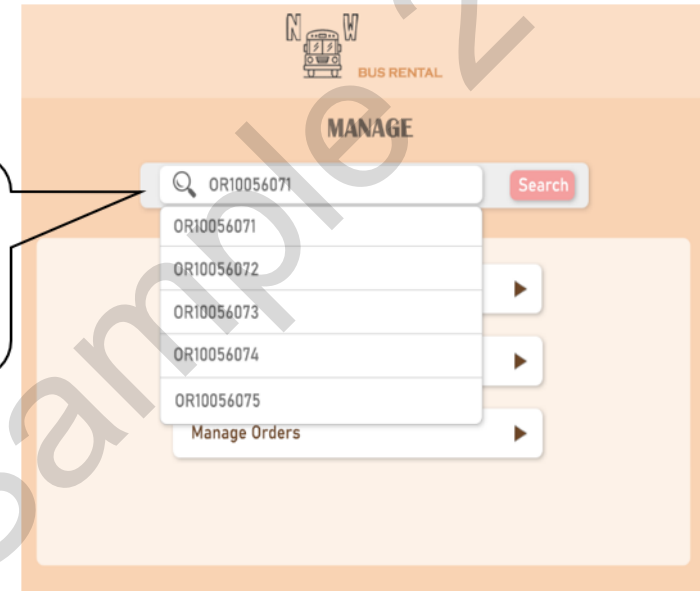
Model: Bus 40-Seated

Plate Number: BJN 6712  
BJN 6724

```
SELECT o.ORDER_NO, o.ORDER_DATE,
o.ORDER_STATUS, o.TOTALPRICE,
p.TRANSACTION_NO, p.PAYMENT_DATE,
p.PAYMENT_METHOD, p.TOTALPRICE AS
"Amount Paid", bbo.PLATE_NO, b.MODEL_
FROM ORDER_ o JOIN PAYMENT p
ON o.ORDER_NO = p.ORDER_NO
JOIN BUS_BOOKING_ORDER bbo
ON bbo.ORDER_NO = p.ORDER_NO
JOIN BUS b
ON b.PLATE_NO = bbo.PLATE_NO
WHERE o.ORDER_NO = 'OR10056024'
;
```



SELECT ORDER\_NO  
FROM ORDER\_  
WHERE ORDER\_NO  
='OR10056071'  
OR ORDER\_NO LIKE  
'OR10056%'  
;



**MANAGE BUS INFORMATION**

**Add New Bus** Showing 10 rows per page

Plate No	Model	Rental (per day)	Availability	Action
BJN 2731	Mini Bus 19-Seated	468	Y	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 2738	Mini Bus 19-Seated	468	Y	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 2743	Mini Bus 19-Seated	468	Y	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 8267	Bus 25-Seated	540	Y	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 2863	Bus 25-Seated	540	N	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 7351	Bus 25-Seated	540	Y	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 7388	Bus 40-Seated	809	Y	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 2218	Bus 40-Seated	809	N	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 6712	Bus 40-Seated	809	N	<input checked="" type="checkbox"/> <input type="checkbox"/>
BJN 6724	Bus 40-Seated	809	N	<input checked="" type="checkbox"/> <input type="checkbox"/>

SELECT \*  
FROM BUS;

**MANAGE BUS INFORMATION**

Inserting New Bus Information...

Plate Number

Model

Rental (RM)

Availability (Y/N)

**Add New Bus**

INSERT INTO BUS VALUES  
( 'BJN 2218', 'Bus 40-Seated',  
809, 'N');

**MANAGE BUS INFORMATION**

Inserting New Bus Information...

Plate Number


Model

Rental (RM)

Availability (Y/N)

**Add New Bus**

**New bus added!**

←  BUS RENTAL

**MANAGE BUS INFORMATION**

Updating Bus Information...


Plate Number

Model

Rental (RM)

Availability (Y/N)

UPDATE BUS  
SET AVAILABILITY\_ = 'Y',  
WHERE PLATE\_NO = 'BJN 2218';

←  BUS RENTAL

**MANAGE BUS INFORMATION**

Updating Bus Information...

Plate Number

Model

Rental (RM)

Availability (Y/N)

☒ ☐

Bus information updated!



MANAGE BUS INFORMATION

Showing 10 rows per page

Plate No	Model	Rental (per day)	Availability	Action
BJN 2731	Mini Bus 19-Seated	468	Y	
BJN 2738	Mini Bus 19-Seated	468	Y	
BJN 2743	Mini Bus 19-Seated	468	Y	
BJN 8267	Bus 25-Seated	540	Y	
BJN 2863	Bus 25-Seated	540	N	
BJN 7351	Bus 25-Seated	540	Y	
BJN 7388	Bus 40-Seated	809	Y	
BJN 2218	Bus 40-Seated	809	N	
BJN 6712	Bus 40-Seated	809	N	
BJN 6724	Bus 40-Seated	809	N	

DELETE FROM BUS  
WHERE PLATE\_NO= 'BJN  
2738';

MANAGE BUS INFORMATION

Showing 10 rows per page

Plate No	Model	Rental (per day)	Availability	Action
BJN 2731	Mini Bus 19-Seated	468	Y	
BJN 2738	Mini Bus 19-Seated	468	Y	
BJN 2743	Mini Bus 19-Seated	468	Y	
BJN 8267	Bus 25-Seated	540	Y	
BJN 2863	Bus 25-Seated	540	N	
BJN 7351	Bus 25-Seated	540	Y	
BJN 7388	Bus 40-Seated	809	Y	
BJN 2218	Bus 40-Seated	809	N	
BJN 6712	Bus 40-Seated	809	N	
BJN 6724	Bus 40-Seated	809	N	

**Confirm delete?**

Note: This cannot be undone.

MANAGE BUS INFORMATION

Showing 10 rows per page

Plate No	Model	Rental (per day)	Availability	Action
BJN 2731	Mini Bus 19-Seated	468	Y	
BJN 2738	Mini Bus 19-Seated	468	Y	
BJN 2743	Mini Bus 19-Seated	468	Y	
BJN 8267	Bus 25-Seated	540	Y	
BJN 2863	Bus 25-Seated	540	N	
BJN 7351	Bus 25-Seated	540	Y	
BJN 7388	Bus 40-Seated	809	Y	
BJN 2218	Bus 40-Seated	809	N	
BJN 6712	Bus 40-Seated	809	N	
BJN 6724	Bus 40-Seated	809	N	

The information for BJN 2738 has been deleted.



**BUS RENTAL**

### MANAGE BOOKING

Showing 6 rows per page

Booking No	Bus Model	Pick-Up Date	Pick-Up Time	Pick-Up Address	Drop-Off Address	No of passengers	Travel Route
✓ BK200301	Mini Bus 19-Seated	16/01/2021	8:00 AM	M21, Kolej Tun Dr Ismail, UTM Skudai, Johor	-	38	M21 to Paradigm Mall then to Suter's Mall back to pick up address
□ BK200302	Bus 25-Seated	20/01/2021	9:00 AM	T3, Jalan Cempaka 34/02, 80000 Kulai, Johor	Desaru Coast, 80000 Muar, Johor	25	Send us to Jalan Meriam, Pekan Muar, 84000 Muar, Johor after the jamak park Our hotel is at No 16-1, Taman Indah Jalan Haji Abdullah, 84000 Muar
□ BK200303	Bus 25-Seated	20/01/2021	10:00 AM	Block M08, Kolej Tun Dr Ismail, UTM Skudai, Johor	Block M08, Kolej Tun Dr Ismail, UTM Skudai, Johor	49	Send us to The Mall, Mid Valley Southkey 1, Persiaran Southkey 1, Southkey, 80000 Johor Bahru, Johor Send us back to the drop off address at 9:00 PM
□ BK200304	Bus 40-Seated	22/01/2021	12:00 PM	PK2-PK1 (Bus Stop) - UTM Lingshan 10km, 80700 Johor Bahru, Johor	Classical Hotel, No 47, Jalan 40 Muar, 84000 Muar, Malaysia	38	3:30 PM Sultan Ismail Bridge 4:30 PM Tanjung Emas Park 5:30 PM Sultan Ibrahim Jamek Mosque
□ BK200305	Mini Bus 19-Seated	23/01/2021	8:00 PM	Paradigm Mall, Jalan Berlingguit Skudai, Taman Bukit Meruak, 81200 Johor Bahru, Johor	Taman Rekreasi Tasik Bahau, 72000 Bahau, Negeri Sembilan	19	Just send to the drop off address.
□ BK200306	Bus 40-Seated	30/01/2021	10:30 AM	M21, Kolej Tun Dr Ismail, UTM Skudai, Johor	Adventure Waterpark, Perisiran Pantai, Desaru Coast, 81930 Bandar Ponnasari, Johor, Malaysia	40	M21 KTD1 → Desaru Coast 4:30 PM from Desaru Coast → M21 KTD1

SELECT \*  
FROM BOOKING\_ORDER  
;

**BUS RENTAL**

### MANAGE BOOKING

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✓

Booking Confirmed!

The Order No is OR10056086.

Please enter the total price:

Booking No	Bus Model	Pick-Up Date	Pick-Up Time	Pick-Up Address	Drop-Off Address	No of passengers	Travel Route
✓ BK200301	Mini Bus 19-Seated	16/01/2021	8:00 AM	M21, Kolej Tun Dr Ismail, UTM Skudai, Johor	-	38	M21 to Paradigm Mall then to Suter's Mall back to pick up address
□ BK200302	Bus 25-Seated	20/01/2021	9:00 AM	T3, Jalan Cempaka 34/02, 80000 Kulai, Johor	Desaru Coast, 80000 Muar, Johor	25	Send us to Jalan Meriam, Pekan Muar, 84000 Muar, Johor after the jamak park Our hotel is at No 16-1, Taman Indah Jalan Haji Abdullah, 84000 Muar
□ BK200303	Bus 25-Seated	20/01/2021	10:00 AM	Block M08, Kolej Tun Dr Ismail, UTM Skudai, Johor	Block M08, Kolej Tun Dr Ismail, UTM Skudai, Johor	49	Send us to The Mall, Mid Valley Southkey 1, Persiaran Southkey 1, Southkey, 80000 Johor Bahru, Johor Send us back to the drop off address at 9:00 PM
□ BK200304	Bus 40-Seated	22/01/2021	12:00 PM	PK2-PK1 (Bus Stop) - UTM Lingshan 10km, 80700 Johor Bahru, Johor	Classical Hotel, No 47, Jalan 40 Muar, 84000 Muar, Malaysia	38	3:30 PM Sultan Ismail Bridge 4:30 PM Tanjung Emas Park 5:30 PM Sultan Ibrahim Jamek Mosque
□ BK200305	Mini Bus 19-Seated	23/01/2021	8:00 PM	Paradigm Mall, Jalan Berlingguit Skudai, Taman Bukit Meruak, 81200 Johor Bahru, Johor	Taman Rekreasi Tasik Bahau, 72000 Bahau, Negeri Sembilan	19	Just send to the drop off address.
□ BK200306	Bus 40-Seated	30/01/2021	10:30 AM	M21, Kolej Tun Dr Ismail, UTM Skudai, Johor	Adventure Waterpark, Perisiran Pantai, Desaru Coast, 81930 Bandar Ponnasari, Johor, Malaysia	40	M21 KTD1 → Desaru Coast 4:30 PM from Desaru Coast → M21 KTD1

INSERT INTO ORDER\_  
VALUES ('OR10056086', SYSDATE, 'Unpaid',  
468.00, 'C210088')  
;

SELECT \*  
FROM ORDER\_ ;

**MANAGE ORDERS**

Search Information Search

Assign Plate No Showing 10 rows per page

Order No	Customer ID	Order Date	Order Status	Total Price	View Order Details	Action
OR10056058	C210015	21/01/2021	Completed	468	<a href="#">View</a>	<input type="checkbox"/>
OR10056059	C210024	21/01/2021	Unpaid	1436	<a href="#">View</a>	<input type="checkbox"/>
OR10056060	C210027	21/01/2021	Paid	1518	<a href="#">View</a>	<input checked="" type="checkbox"/>
OR10056061	C210019	21/01/2021	Unpaid	809	<a href="#">View</a>	<input type="checkbox"/>
OR10056062	C210076	21/01/2021	Paid	809	<a href="#">View</a>	<input checked="" type="checkbox"/>
OR10056063	C210048	21/01/2021	Paid	378	<a href="#">View</a>	<input checked="" type="checkbox"/>
OR10056064	C210043	22/01/2021	Unpaid	455	<a href="#">View</a>	<input type="checkbox"/>
OR10056065	C210054	22/01/2021	Unpaid	910	<a href="#">View</a>	<input type="checkbox"/>
OR10056066	C210063	22/01/2021	Unpaid	540	<a href="#">View</a>	<input type="checkbox"/>
OR10056067	C210037	22/01/2021	Unpaid	1425	<a href="#">View</a>	<input type="checkbox"/>

Plate number(s) has been assigned successfully.

**MANAGE ORDERS**

Search Information Search

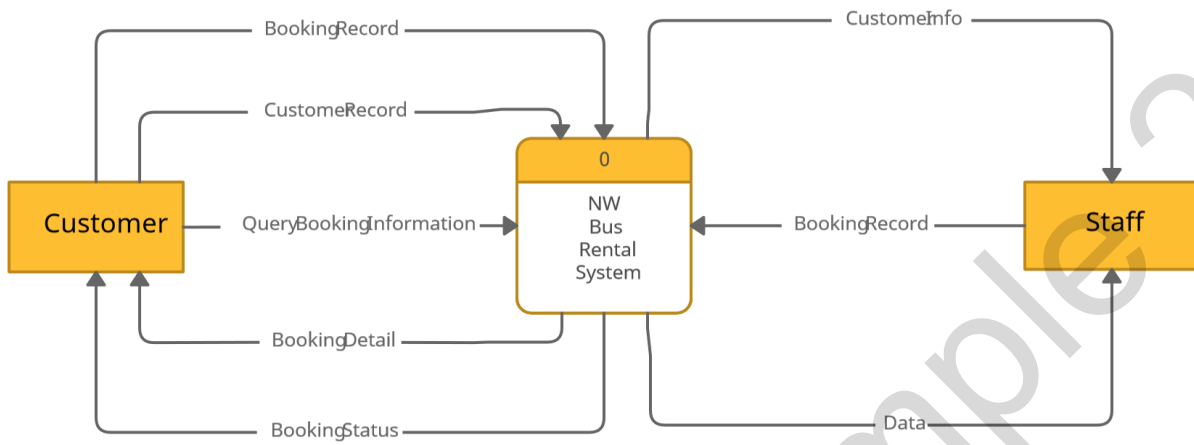
Assign Plate No Showing 10 rows per page

Order No	Customer ID	Order Date	Order Status	Total Price	View Order Details	Action
OR10056058	C210015	21/01/2021	Completed	468	<a href="#">View</a>	<input type="checkbox"/>
OR10056059	C210024	21/01/2021	Unpaid	1436	<a href="#">View</a>	<input type="checkbox"/>
OR10056060	C210027	21/01/2021	Paid	1518	<a href="#">View</a>	<input checked="" type="checkbox"/>
OR10056061	C210019	21/01/2021	Unpaid	809	<a href="#">View</a>	<input type="checkbox"/>
OR10056062	C210076	21/01/2021	Paid	809	<a href="#">View</a>	<input checked="" type="checkbox"/>
OR10056063	C210048	21/01/2021	Paid	378	<a href="#">View</a>	<input checked="" type="checkbox"/>
OR10056064	C210043	22/01/2021	Unpaid	455	<a href="#">View</a>	<input type="checkbox"/>
OR10056065	C210054	22/01/2021	Unpaid	910	<a href="#">View</a>	<input type="checkbox"/>
OR10056066	C210063	22/01/2021	Unpaid	540	<a href="#">View</a>	<input type="checkbox"/>
OR10056067	C210037	22/01/2021	Unpaid	1425	<a href="#">View</a>	<input type="checkbox"/>

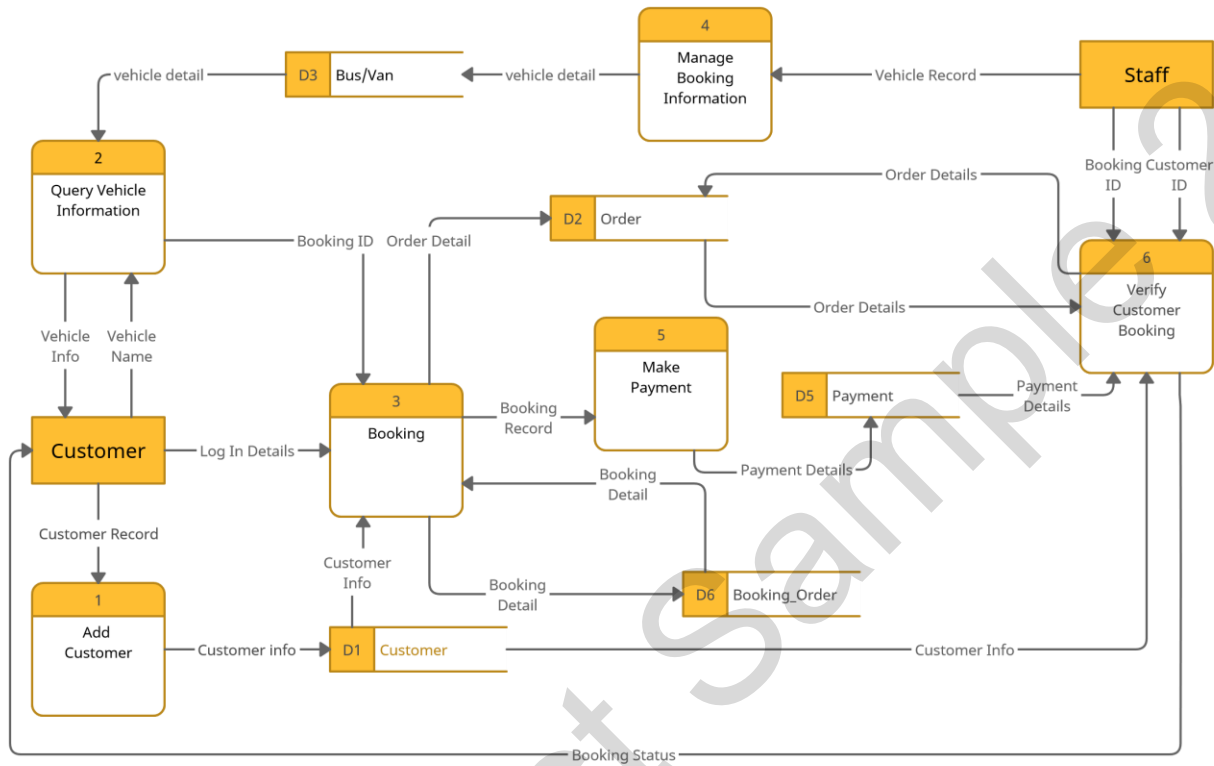
INSERT INTO BUS\_BOOKING\_ORDER  
VALUES ('BK200342', 'OR10056024', 'BJN  
6724') ;

## 5.5 Data Flow Diagram (DFD)

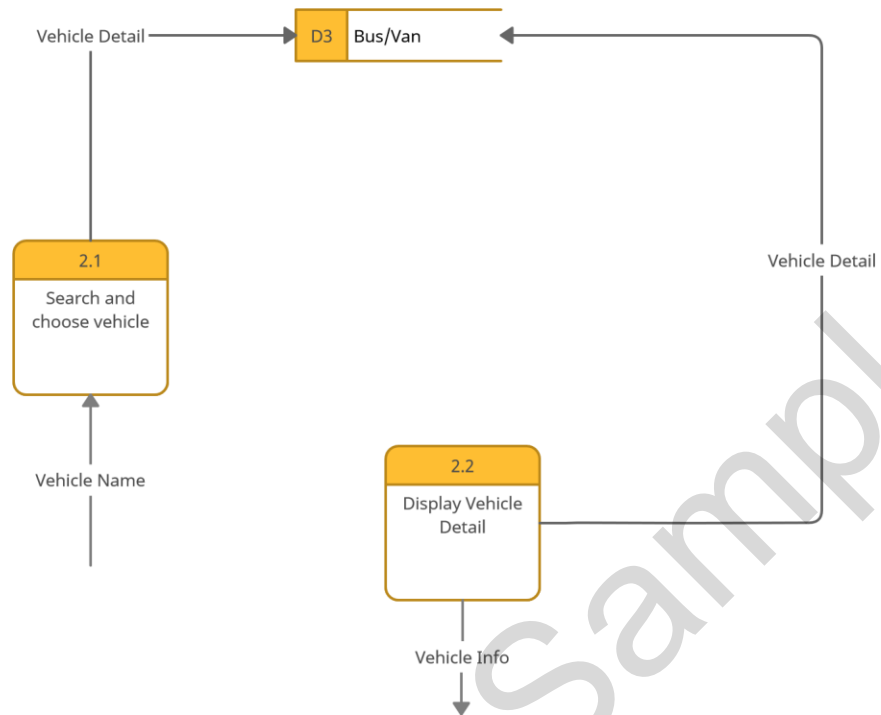
### 5.5.1 Context Diagram



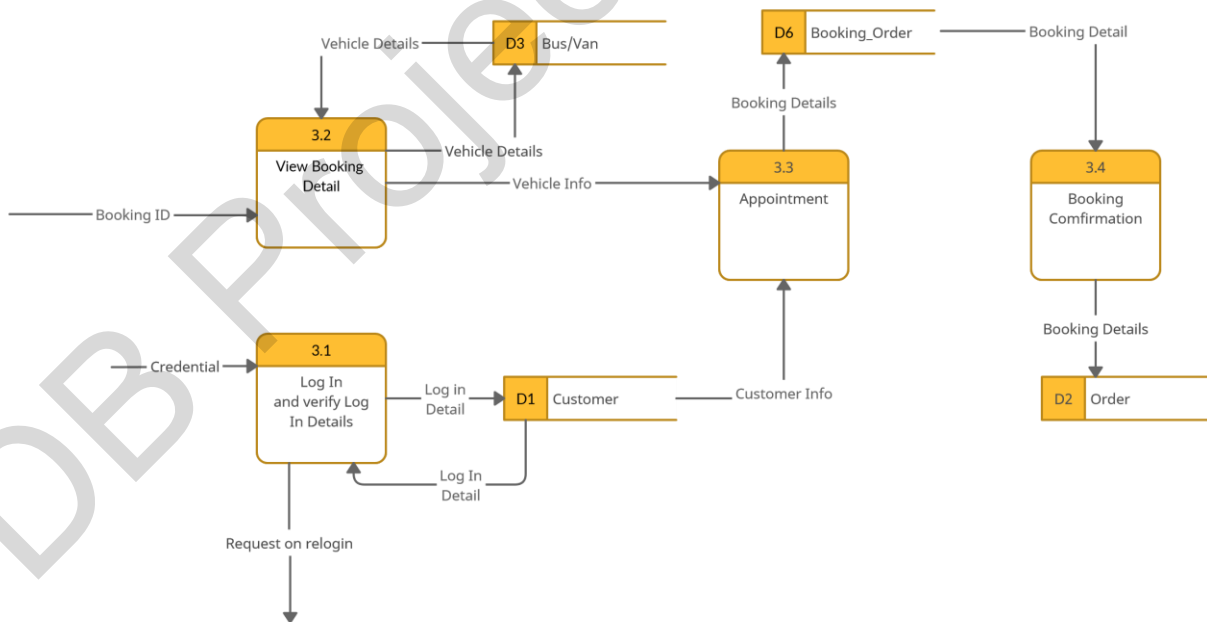
### 5.5.2 Diagram 0



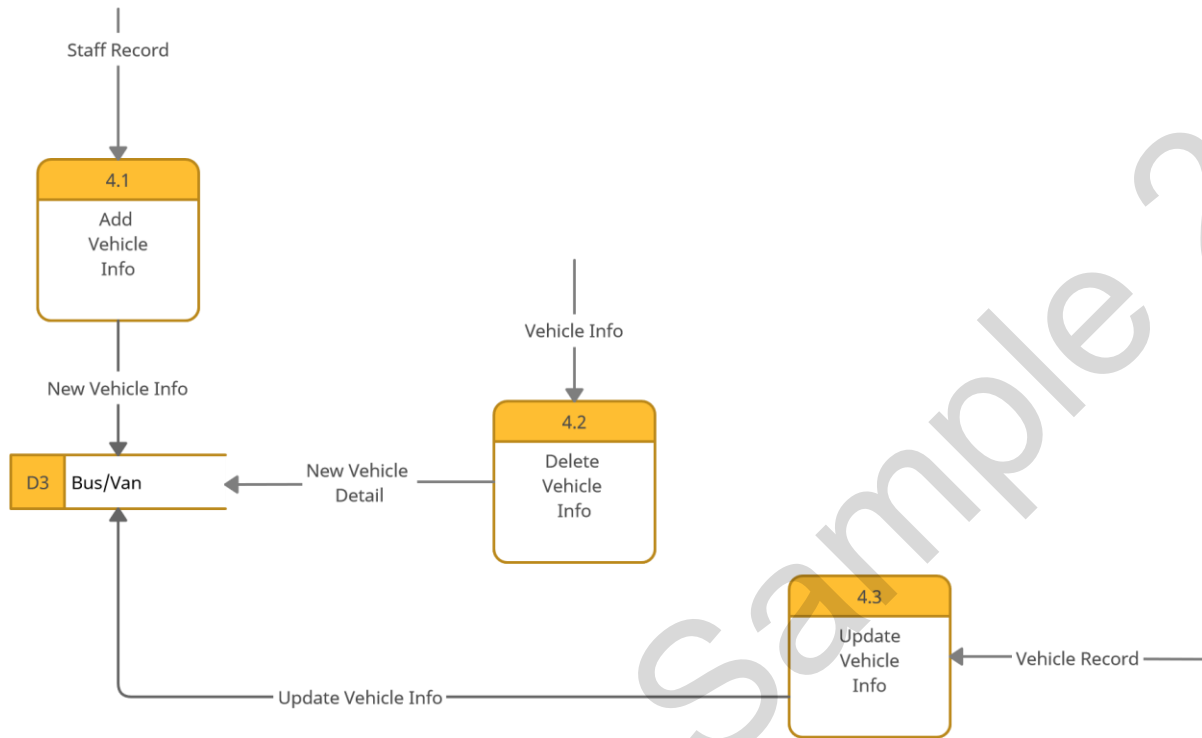
### 5.5.3 Child Diagram of Process 2



### 5.5.4 Child Diagram of Process 3



### 5.5.5 Child Diagram of Process 4



### 5.5.6 Child Diagram of Process 6

