SECD2523 - 03

DATABASE

PROJECT PHASE 3

GROUP NAME : SPICE GIRLS

NO	NAME	MATRIC NUMBER
1	NOOR ALIYAH BINTI AHMAD SAUFI	A22EC0234
2	NUHA BINTI MOHAMED	A22EC0238
3	SERI NUR AYUNI BINTI SALIMI	A22EC0268
4	PUTERI NURIN I'RDINA BINTI FADZIL	A22EC0261
5	LUVLYNN JULIEAN DE JONES	A22EC0190

TABLE OF CONTENTS

1.0 Introduction

NexScholar is an app working for a better social networking platform and is designed for groups of people targeting students, academics, researchers and industry professionals. Created and curated by Dr. Ahmad Najmi and Dr. Muhammad Aliff from the Faculty of Computing at Universiti Teknologi Malaysia, in collaboration with Dr. Seah Choon Sen from Universiti Tun Razak, NexScholar provides a range of modules, such as events, scholarships and expert listings in one platform to ease and meet the needs of users within the academic and professional scope.

As NexScholar is striving to be a better app for all, they face difficulties and lacking in their features, and the solution to the problems surfacing is to create a better system – an integrated booking system as well as a centralized ticketing system. Prior to this, the users of this system need to manually go through processes of booking an event, hence this project focuses on developing a seamless and user-friendly booking system with the aim of making the current system more convenient and smooth.

In addition to that, the absence of a centralized ticketing system has led the system to have inefficient tracking of attendee reservations, availability and payments. Manual processes contribute to delays and potential errors in collecting and storing data of attendees. Furthermore, the platform lacks an automated communication system, as the users need to manually exert the effort to find information and confirm their choices. All in all, NexScholar does not have a feedback mechanism that could be useful to collect user's satisfaction evaluation and to identify areas of enhancement within the system.

By addressing these issues and current drawbacks, this project aims to revolutionize the event registration process within NexScholar. This implementation will assist administrators in managing registrations, monitoring payments and analyzing attendee data as well as to allow users to have a better experience in using this platform.

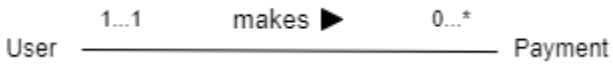
2.0 Overview of project

As part of this project, the conceptual Entity-Relationship Diagram (ERD) that was created in phase 3 will be transformed into a logical Entity-Relationship Diagram (ERD). The team intends to eliminate non-relational characteristics like many-to-many and complex relationships in order to achieve this goal. Following the completion of the logical ERD development, the relation schemas will be extracted and normalization will be performed using the Boyce-Codd Normal Form (BCNF) standard. Following the completion of this procedure, the final logical ERD will be generated, which will provide an accurate representation of the BCNF relations and will be ready to serve as the basis for the subsequent steps. Furthermore, the group will assess the logical ERD in relation to the transaction requirements of the system and revise the data dictionary based on the generated normalized relations. This will guarantee that the design satisfies all requirements and is suitable for the system. This method aids in the development of a reliable, accurate, and effective database design.

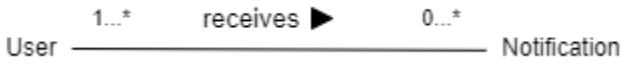
3.0 Database Conceptual Design

3.1 Updated Business Rules

- Each user can send zero or many feedback.
- Each feedback can be sent by a user.



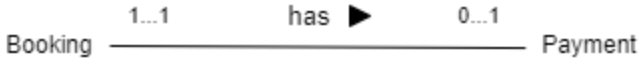
- Each user can make zero or many payments.
- Each payment can be made by only one user.



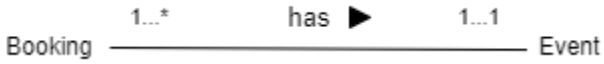
- Each user receives zero or many notifications.
- Each notification is received by one or more users.

- Each user attends one or many events.
- Each event is attended by one or many users.

- Each user makes one or many bookings.
- Each booking is made by one user.



- Each booking has zero or many payments.
- Each payment is made by one booking.



- Each booking has one event.

Each event can have one or many bookings.

3.2 Conceptual ERD

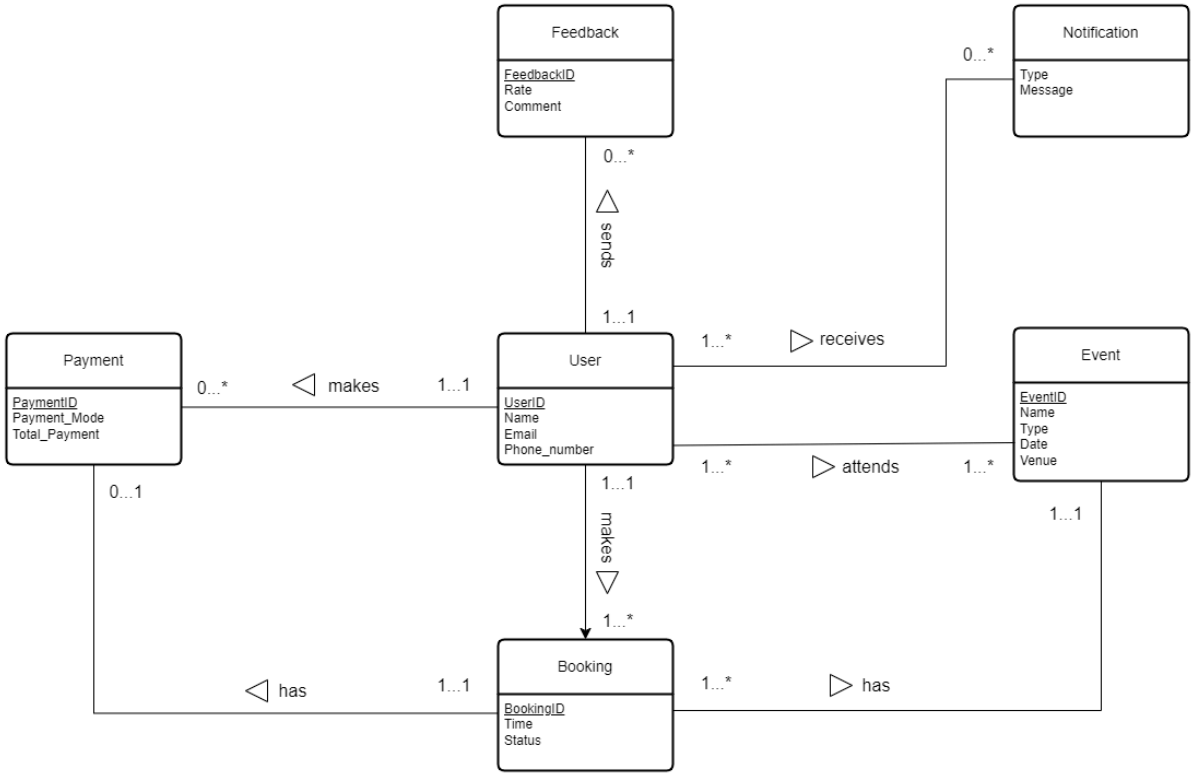


Figure 4.2: ERD of the Proposed System

The figure above illustrates the ERD for our proposed systems. It is crucial to implement an ERD in order to illustrate and identify the entities, relationships, primary keys, and myriad other information. For example, the instances of the said entities as shown in the ERD are User, Event, Booking, Payment, Feedback, and Notification.

3.2.1 Enhanced ERD (EERD)

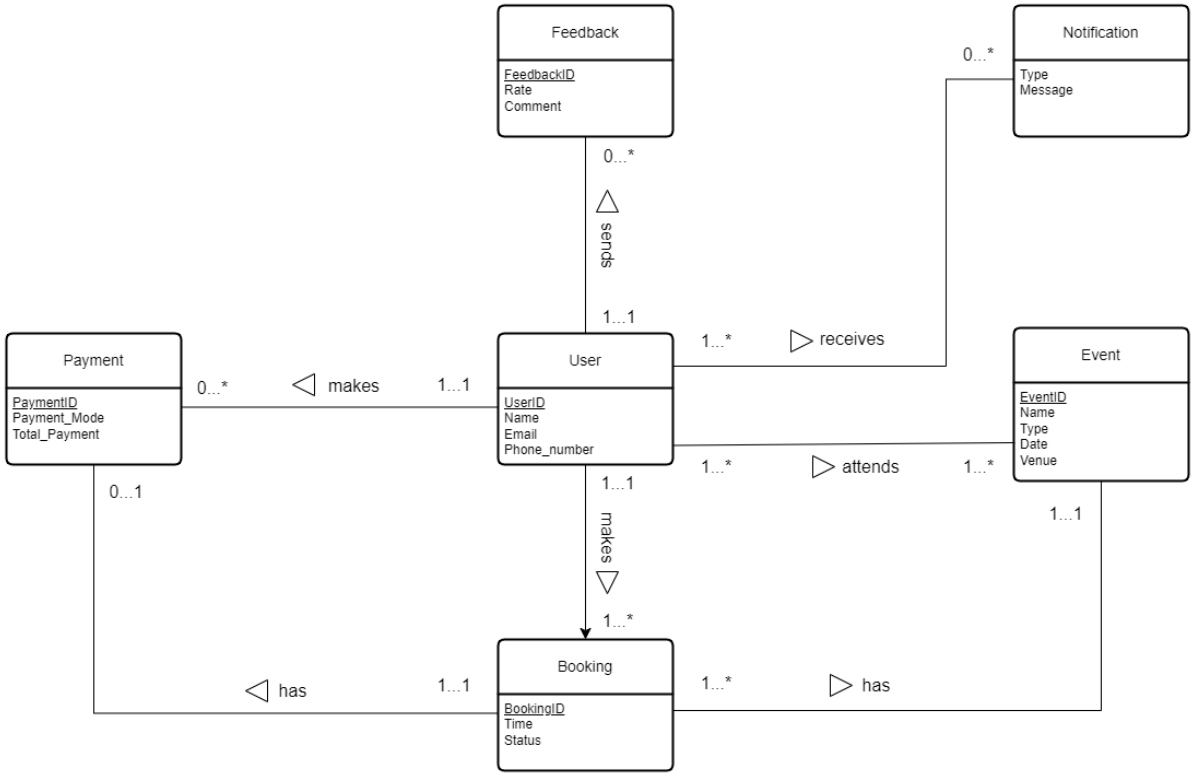


Figure 4.2.1: Enhanced ERD (EERD) of the Proposed System

The figure above illustrates the EERD for our proposed systems. It guides us to provide an enhanced visualization of the relationship between different entities in the system, by further incorporating additional concepts that are able to represent requirements of the system. However, because our system does not employ the specialization/generalization concept, the ERD and EERD are technically the same.

4.0 Database Logical Design

4.1 Logical ERD

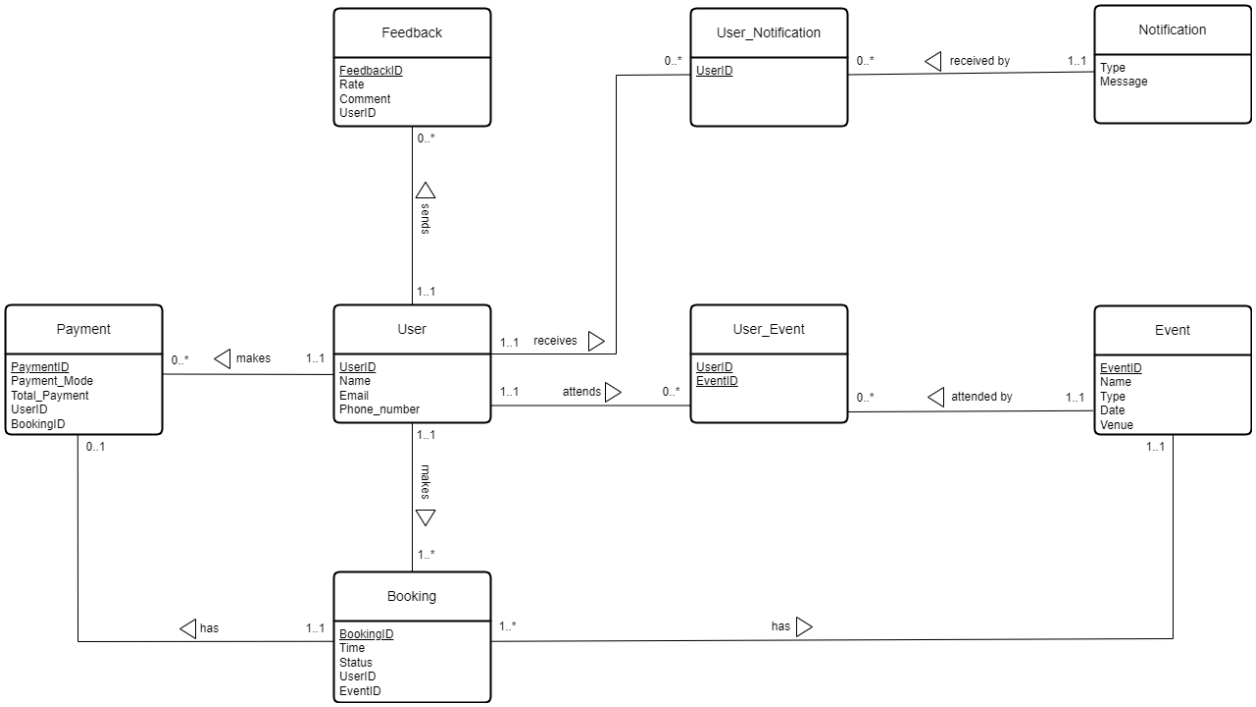


Figure 4.1 Logical ERD of the Proposed System

The figure above illustrates the logical ERD for our proposed systems. The ERD has been altered in order to provide a logical data model that represents the entities, relationships, and attributes identified in the previous conceptual ERD.

4.2 Updated Data Dictionary

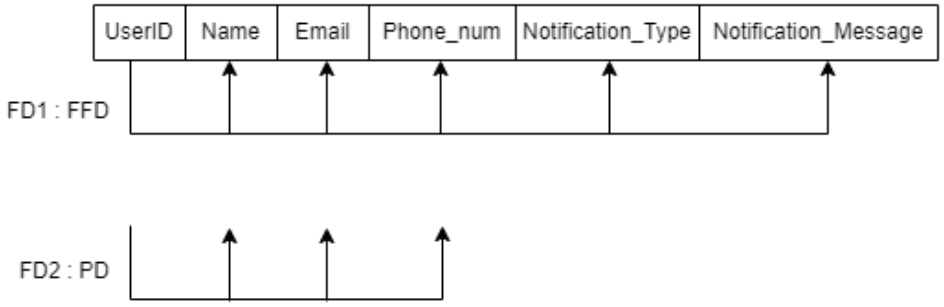
Entity name	Attributes	Data type & length	Nulls	Multi-valued	Multiplicity	Relationship	Entity name	Multiplicity
User	UserID	5 variable characters	No	No	1..1	sends	Feedback	0..*
	Name	30 variable characters	No	No	1..1	receives	User_Notification	0..*
	Email	30 variable characters	No	No	1..1	attends	User_Event	1..*
	Phone_number	11 numbers	No	No	1..1	makes	Payment	1..*
Event	EventID	5 variable characters	No	No	1..1	attended by	User_Event	0..*
	Name	20 variable characters	No	No	1..1	owned by	Booking	1..*
	Type	15 variable characters	No	No				
	Date	Date	No	No				
	Venue	30 variable characters	No	No				
Booking	BookingID	5 variable characters	No	No	1..*	made by	User	1..1
	Time	Date time	No	No	1..1	has	Payment	0..1
	Status	10 variable characters	No	No	1..*	has	Event	1..1
	User ID	5 variable	No	No	1..1	owned by	User	

		characters						
	EventID	5 variable characters	No	No	1..*	owned by	Event	
Payment	PaymentID	5 variable characters	No	No	0..*	made by	User	1..1
	Payment_mode	10 variable characters	No	No	0..1	owned by	Booking	1..1
	Total_Payment	5 number (2 digits for scale)	Yes	No				
	UserID	5 variable characters	No	No	0..*	owned by	User	1..1
	BookingID	5 variable characters	No	No	0..1	owned by	Booking	1..1
Feedback	FeedbackID	5 variable characters	No	No	0..*	sent by	User	1..1
	Rate	5 numbers	No	No				
	Comment	100 variable characters	Yes	No				
	UserID	5 variable characters	No	No	0..*	owned by	User	1..1
Notification	Type	15 variable characters	No	No	1..1	received by	User_Notification	0..*
	Message	500 variable characters	No	No				
User_Notification	UserID	5 variable characters	No	No	0..*	received by	User	1..1

Table 4.2 Updated Data Dictionary of the Proposed System

4.3 Normalization

4.3.1 Normalization for UserNotification



1NF:

Functional Dependency 1: Fully Functional Dependency

UserID → Name, Email, Phone_num, Notification_Type, Notification_Message

2NF:

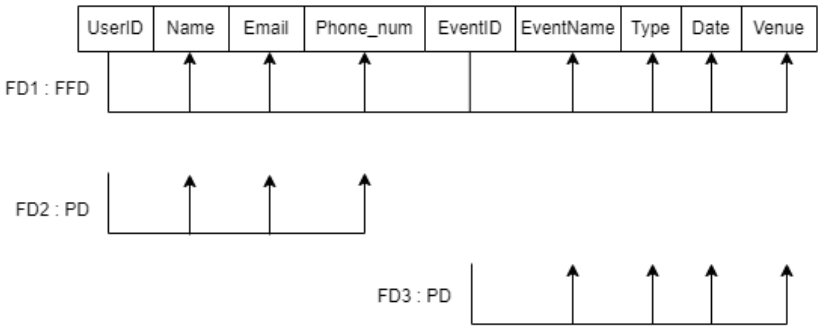
Functional Dependency 2: Partial Dependency

UserID → Name, Email, Phone_num

3NF:

There is no transitive dependency so the third normalization form is the same as the second normalization form.

4.3.2 Normalization for UserEvent



1NF:

Functional Dependency 1: Fully Functional Dependency

UserID, EventID → Name, Email, Phone_num, EventName, EventType, Date, Venue

2NF:

Functional Dependency 2: Partial Dependency

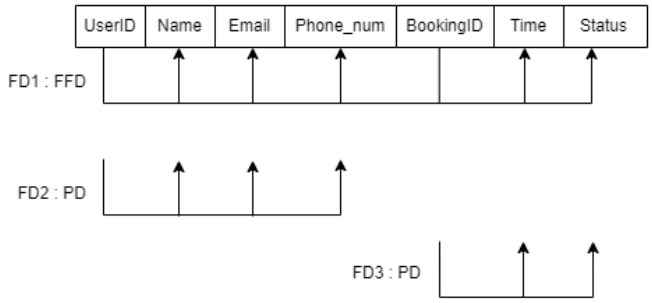
UserID → Name, Email, Phone_num

Functional Dependency 3: Partial Dependency

EventID → EventName, EventType, Date, Venue

There is no transitive dependency so the third normalization form is the same as the second normalization form.

4.3.3 Normalization for UserBooking



1NF:

Functional Dependency 1: Fully Functional Dependency

UserID, BookingID → Name, Email, Phone_num, Time, Status

2NF:

Functional Dependency 2: Partial Dependency

UserID → Name, Email, Phone_num

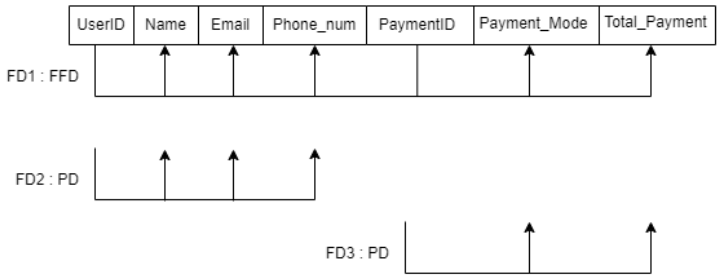
Functional Dependency 3: Partial Dependency

BookingID → Time, Status

3NF:

There is no transitive dependency so the third normalization form is the same as the second normalization form.

4.3.4 Normalization for UserPayment



1NF:

Functional Dependency 1: Fully Functional Dependency

UserID, PaymentID ➔ Name, Email, Phone_num, Payment_Mode, Total_Payment

2NF:

Functional Dependency 2: Partial Dependency

UserID ➔ Name, Email, Phone_num

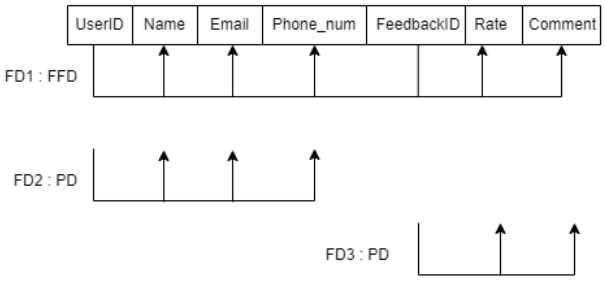
Functional Dependency 3: Partial Dependency

PaymentID ➔ Payment_Mode, Total_Payment

3NF:

There is no transitive dependency so the third normalization form is the same as the second normalization form.

4.3.5 Normalization for UserFeedback



1NF:

Functional Dependency 1: Fully Functional Dependency

UserID, FeedbackID ➔ Name, Email, Phone_num, Rate, Comment

2NF:

Functional Dependency 2: Partial Dependency

UserID → Name, Email, Phone_num

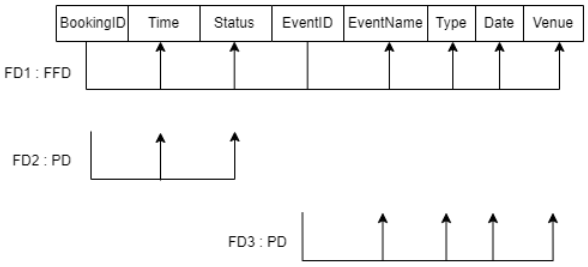
Functional Dependency 3: Partial Dependency

FeedbackID → Rate, Comment

3NF:

There is no transitive dependency so the third normalization form is the same as the second normalization form.

4.3.6 Normalization for BookingEvent



1NF:

Functional Dependency 1: Fully Functional Dependency

BookingID, EventID → Time, Status, EventName, EventType, Date, Venue

2NF:

Functional Dependency 2: Partial Dependency

BookingID → Time, Status

Functional Dependency 3: Partial Dependency

EventID → EventName, EventType, Date, Venue

3NF:

There is no transitive dependency so the third normalization form is the same as the second normalization form.

5.0 Relational DB Schemas (after normalization)

UserNotification(<u>UserID,</u> Name, Email, Phone_num, Notification_Type, Notification_Message)

PK: UserID

UserEvent(<u>UserID,</u> Name, Email, Phone_num, <u>EventID,</u> EventName, Type, Date, Venue)

PK: UserID, EventID

FK: UserID reference User(UserID)

FK: EventID reference Event(EventID)

UserBooking(<u>UserID,</u> Name, Email, Phone_num, <u>BookingID,</u> Time, Status)

PK: UserID, BookingID

FK: UserID reference User(UserID)

FK: BookingID reference Booking(BookingID)

UserPayment(<u>UserID,</u> Name, Email, Phone_num, <u>PaymentID,</u> Payment_Mode, Total_Payment)

PK: UserID, PaymentID

FK: UserID reference User(UserID)

FK: PaymentID reference Payment(PaymentID)

UserFeedback(<u>UserID,</u> Name, Email, Phone_num, <u>FeedbackID,</u> Rate, Comment)

PK: UserID, FeedbackID

FK: UserID reference User(UserID)

FK: FeedbackID reference Feedback(FeedbackID)

BookingEvent(<u>BookingID</u>, Time, Status, <u>EventID</u>, EventName, Type, Date, Venue)

PK: BookingID, EventID

FK: BookingID reference Booking(BookingID)

FK: EventID reference Event(EventID)

User(<u>UserID,</u> Name, Email, Phone_num)
PK: UserID

Event(<u>EventID</u>, EventName, Type, Date, Venue)
PK: EventID

Booking(<u>BookingID</u>, Time, Status, <u>UserID</u>, <u>EventID</u>)
PK: BookingID, UserID, EventID
FK: UserID reference User(UserID)
FK: EventID reference Event(EventID)

Payment(<u>PaymentID,</u> Payment_Mode, Total_Payment, <u>UserID</u>, <u>BookingID</u>)
PK: PaymentID, UserID, BookingID
FK: UserID reference User(UserID)
FK: BookingID reference Booking(BookingID)

Feedback(<u>FeedbackID,</u> Rate, Comment, <u>UserID</u>)
PK: FeedbackID, UserID
FK: UserID reference User(UserID)

6.0 SQL Statements (DDL & DML)

DDL:

CREATE TABLE Users

```
CREATE TABLE Users (
    UserID VARCHAR2 (5) CONSTRAINT UserID_pk PRIMARY KEY,
    Name VARCHAR2 (30) NOT NULL,
    Email VARCHAR2 (30) NOT NULL,
    Phone_number NUMBER(11) NOT NULL
);
```

Create table is used to create a new table titled Users. UserID has a data type of VARCHAR2 for strings that can contain 5 variable characters and is a primary key. Variable Name and Email are strings that can contain 30 variable characters and can not be null. Phone_number has a data type int number that can contain 11 numeric characters and can not be null.

CREATE TABLE Event

```
CREATE TABLE Event (

    EventID VARCHAR2 (5) CONSTRAINT EventID_pk PRIMARY KEY,

    EventName VARCHAR2 (20) NOT NULL,

    Types VARCHAR2 (15) NOT NULL,

    Dates DATE NOT NULL,

    Venue VARCHAR2 (30) NOT NULL

);
```

Create table statement is used to create a new table titled Event. EventID has a datatype of varchar2 and can contain 5 variable characters as well as the primary key. Variable EventName and Types can hold 20 and 15 string characters respectively and are not null. Dates hold date datatype and can not be a null, variable venue has a datatype of strings and can contain 30 string characters as well as can not be null.

CREATE TABLE Booking

```
CREATE TABLE Booking (
      BookingID VARCHAR2 (5) CONSTRAINT BookingID_pk PRIMARY
KEY,
    bookingTime TIMESTAMP NOT NULL,
    status VARCHAR2 (10) NOT NULL,
    userID VARCHAR2 (5),
    eventID VARCHAR2(5),
    FOREIGN KEY (userID) REFERENCES Users(UserID),
    FOREIGN KEY (eventID) REFERENCES Event(EventID)
);
```

Create table statement is used to create a new table titled Booking. Booking table has 4 variables namely BookingID, userBookedID, bookingTime and status. Only bookingTime has timestamp as the data type as it contains date of the booking, meanwhile other variables have varchar2 data type as they contain string characters. BookingID is the primary key. Both BookingID and UserBookedID can hold 5 strings while status can hold 10 characters. All variables can not be null. userId and EventID are both foreign keys referencing to Users and Event respectively.

CREATE TABLE Payment

```
CREATE TABLE Payment(
    PaymentID VARCHAR2(5) CONSTRAINT payment_pk PRIMARY KEY,
    Payment_mode VARCHAR2(10) NOT NULL,
    Total_Payment NUMBER(5,2),
    UserID VARCHAR2(5),
    BookingID VARCHAR2(5),
    FOREIGN KEY (UserID) REFERENCES Users(UserID),
    FOREIGN KEY (BookingID) REFERENCES Booking(BookingID)
);
```

Create table statement is used to create a new table titled Payment. PaymentID is a primary key that has a datatype of varchar2 that can contain 5 variable characters. Variable Payment_modehas a data type of varchar2 that can contain 10 variable characters and is set to not null. Total_Payment has a number data type that can hold 5 numeric characters with 2 decimal places. UserID and BookingID are both foreign keys referencing to Users and Booking tables respectively.

CREATE TABLE Feedback

```
CREATE TABLE Feedback(
      FeedbackID VARCHAR2(5) CONSTRAINT feedback_pk PRIMARY
KEY,
    Rate NUMBER(5) NOT NULL,
    Comment_ VARCHAR2(100),
    UserID VARCHAR2(5),
    FOREIGN KEY (UserID) REFERENCES Users(UserID)
);
```

Create table statement is used to create a new table titled Feedback. FeedbackID is a primary key that has a datatype of varchar2 that can contain 5 variable characters. Next, the variable rate has a datatype of number that can contain 5 numerical characters and is set to not null. The variable Comment_ has a datatype of varchar2 that can hold up to 100 characters. Lastly, UserID is a foreign key referencing to Booking table.

CREATE TABLE Notification

```
CREATE TABLE Notification(
    Type_ VARCHAR2(15) NOT NULL,
    Message VARCHAR2(500) NOT NULL
);
```

Create table statement is used to create a new table titled Notification that contains only two variables which are Type_ that has a datatype of varchar2 that can contain up to 15 variable characters. Next is variable Message that can contain up to 500 variable characters.

DML:

INSERT DATA INTO TABLE Users

```
INSERT INTO Users VALUES ('A001', 'Selena Gomez',
'rareBeauty@gmail.com', '0116734219');
INSERT INTO Users VALUES ('A002', 'Taylor Swift',
'red1989@gmail.com', '0195578920');
INSERT INTO Users VALUES ('A003', 'Justin Bieber',
'jb@yahoo.com', '0134695046');
INSERT INTO Users VALUES ('A004', 'Hailey Bieber',
'rhode@gmail.com', '0147780239');
INSERT INTO Users VALUES ('A005', 'Shawn Mendes',
'sm@hotmail.com', '0123456789');
INSERT INTO Users VALUES ('A006', 'Ariana Grande',
'rem@gmail.com', '0146759903');
INSERT INTO Users VALUES ('A007', 'Bruno Mars',
'bruno@hotmail.com', '0176899912');
INSERT INTO Users VALUES ('A008', 'Lady Gaga',
'ladygg@gmail.com', '0141233342');
INSERT INTO Users VALUES ('A009', 'Drake',
'anitamaxwynn@gmail.com', '0192564458');
INSERT INTO Users VALUES ('A010', 'Mariah Carey',
'aiwfciy@hotmail.com', '0150203443');
```

```
INSERT INTO Users VALUES ('A011', 'Britney Spears',
'itsbritneyb@gmail.com', '0116768901');
INSERT INTO Users VALUES ('A012', 'Rihanna',
'badgalriri@yahoo.com', '0196721198');
INSERT INTO Users VALUES ('A013', 'Zayn Malik',
'1d@yahoo.com', '0187724561');
INSERT INTO Users VALUES ('A014', 'Steve Lacy',
'stevelacy@gmail.com', '0139982043');
INSERT INTO Users VALUES ('A015', 'Boy Pablo',
'roypablo@gmail.com', '0186923301');
INSERT INTO Users VALUES ('A016', 'Daniel Caesar',
'daniel@hotmail.com', '0199912765');
INSERT INTO Users VALUES ('A017', 'Frank Ocean',
'ocean@yahoo.com', '0172433391');
INSERT INTO Users VALUES ('A018', 'Freddie Mercury',
'queen@hotmail.com', '0185920504');
INSERT INTO Users VALUES ('A019', 'Olivia Rodrigo',
'guts@gmail.com', '0148935512');
INSERT INTO Users VALUES ('A020', 'Jennie Kim',
'blackpink@gmail.com', '0116921912');
```

INSERT INTO statement is used to insert values into the table Users. For each INSERT INTO statement, there are new values for each Users variable to be inserted.

INSERT DATA INTO TABLE Event

```
INSERT INTO Event VALUES ('E056', 'CPP Basics Clinic',
'Education', '29-DEC-2023', 'MPK3');
INSERT INTO Event VALUES ('E057', 'Cookie Night',
'Entertainment', '16-APR-2024', 'N24');
INSERT INTO Event VALUES ('E058', 'SUSKOM', 'Sports',
'23-NOV-2023', 'Sports Hall');
INSERT INTO Event VALUES ('E059', 'StartUp', 'Seminar',
'9-JAN-2024', 'N28');
INSERT INTO Event VALUES ('E060', 'Hackathon', 'Competition',
'20-MAY-2024', 'L50');
```

INSERT INTO statement is used to insert values into the table Event. For each INSERT INTO statement, there are new values for each Event variable to be inserted.

INSERT DATA INTO TABLE Booking

```
INSERT INTO Booking VALUES ('B0101', '27-DEC-2023 9:00:02',
'BOOKED', 'A001', 'E056');
INSERT INTO Booking VALUES ('B0102', '10-APR-2024 9:30:50',
'BOOKED', 'A002', 'E057');
INSERT INTO Booking VALUES ('B0103', '18-NOV-2023 5:25:20',
'PAID', 'A003', 'E058');
INSERT INTO Booking VALUES ('B0104', '29-DEC-2023 11:45:01',
'PENDING', 'A004', 'E059');
INSERT INTO Booking VALUES ('B0105',  '1-NOV-2023 12:59:40',
'CANCELED', 'A005', 'E058');
INSERT INTO Booking VALUES ('B0106',  '20-DEC-2023 12:59:40',
'BOOKED', 'A006', 'E056');
INSERT INTO Booking VALUES ('B0107',  '15-MAY-2024 5:09:56',
'PAID', 'A007', 'E060');
INSERT INTO Booking VALUES ('B0108',  '15-DEC-2023 2:32:23',
'CANCELED', 'A008', 'E056');
INSERT INTO Booking VALUES ('B0109',  '16-MAY-2024 10:19:46',
'PENDING', 'A009', 'E060');
INSERT INTO Booking VALUES ('B0110',  '22-DEC-2023 7:34:57',
'BOOKED', 'A010', 'E056');
```

```
INSERT INTO Booking VALUES ('B0111',  '15-DEC-2023 9:57:12',
'CANCELED', 'A011', 'E056');
INSERT INTO Booking VALUES ('B0112',  '27-DEC-2023 4:12:00',
'BOOKED', 'A012', 'E059');
INSERT INTO Booking VALUES ('B0113',  '18-MAY-2024 12:34:42',
'CANCELED', 'A013', 'E060');
INSERT INTO Booking VALUES ('B0114',  '17-NOV-2023 11:56:21',
'BOOKED', 'A014', 'E058');
INSERT INTO Booking VALUES ('B0115',  '11-MAY-2024 6:13:08',
'PAID', 'A015', 'E060');
INSERT INTO Booking VALUES ('B0116',  '11-APR-2024 2:16:32',
'BOOKED', 'A016', 'E057');
INSERT INTO Booking VALUES ('B0117',  '15-NOV-2023 7:46:57',
'PAID', 'A017', 'E058');
INSERT INTO Booking VALUES ('B0118',  '17-DEC-2023 2:25:12',
'PENDING', 'A018', 'E056');
INSERT INTO Booking VALUES ('B0119',  '12-APR-2024 10:36:07',
'BOOKED', 'A019', 'E057');
INSERT INTO Booking VALUES ('B0120',  '15-APR-2024 12:45:13',
'BOOKED', 'A020', 'E057');
```

INSERT INTO statement is used to insert values into the table Booking. For each INSERT INTO statement, there are new values for each Booking variable to be inserted.

INSERT DATA INTO TABLE Payment

```
INSERT INTO Payment VALUES('RX001', 'FPX', 8.00,'A001','B0101');
INSERT INTO Payment VALUES('RX012', 'CREDIT', 5.00,'A002','B0102');
INSERT INTO Payment VALUES('RX003', 'FPX', 11.00,'A003','B0103');
INSERT INTO Payment VALUES('RX004', 'DEBIT', 50.00,'A004','B0104');
INSERT INTO Payment VALUES('RX016', 'CREDIT', 2.00,'A006','B0106');
INSERT INTO Payment VALUES('RX007', 'CREDIT', 8.00, 'A007','B0107');
INSERT INTO Payment VALUES('RX007', 'CREDIT/DEBIT', 8.00, 'A007','B0107');
INSERT INTO Payment VALUES('RX008', 'E-WALLET', 10.00,'A008','B0108');
INSERT INTO Payment VALUES('RX009', 'FPX', 5.00,'A009','B0109');
INSERT INTO Payment VALUES('RX010', 'FPX', 10.00,'A010','B0110');
```

```
INSERT INTO Payment VALUES('RX011', 'DEBIT',
20.00,'A011','B0111');
INSERT INTO Payment VALUES('RX002', 'FPX',
15.00,'A012','B0112');
INSERT INTO Payment VALUES('RX013', 'FPX',
10.00,'A013','B0113');
INSERT INTO Payment VALUES('RX014', 'DEBIT',
5.00,'A014','B0114');
INSERT INTO Payment VALUES('RX015', 'E-WALLET',
12.00,'A015','B0115');
INSERT INTO Payment VALUES('RX006', 'E-WALLET',
2.00,'A016','B0116');
INSERT INTO Payment VALUES('RX017', 'CREDIT', 2.00,
'A017','B0117');
INSERT INTO Payment VALUES('RX018', 'E-WALLET',
3.00,'A018','B0118');
INSERT INTO Payment VALUES('RX019', 'E-WALLET',
5.00,'A019','B0119');
INSERT INTO Payment VALUES('RX020', 'FPX',
8.00,'A020','B0120');
```

INSERT INTO statement is used to insert values into the table Payment. For each INSERT INTO statement, new data is inserted into each Payment variable.

INSERT DATA INTO TABLE Feedback

```
INSERT INTO Feedback VALUES('F0011', 5, 'This event very educational', 'A001');
INSERT INTO Feedback VALUES('F0014', 2, 'system crash when I try to make my booking the first time.', 'A014');
INSERT INTO Feedback VALUES('F0012', 5, 'This event shined bright like a diamond.', 'A012');
INSERT INTO Feedback VALUES('F0013', 3, 'The MC light up my night like nobody else.', 'A013');
INSERT INTO Feedback VALUES('F0015', 1, 'REFUND MY MONEY!!!!', 'A015');
INSERT INTO Feedback VALUES('F0016', 1, 'This event is very boring…', 'A016');
INSERT INTO Feedback VALUES('F0017', 2, 'The event seems very unorganized', 'A017');
INSERT INTO Feedback VALUES('F0018', 3, 'No vegetarian food option!', 'A018');
INSERT INTO Feedback VALUES('F0019', 4, 'This event is very fun and engaging.', 'A019');
INSERT INTO Feedback VALUES('F0020', 5, 'Will definitely go to this event again!', 'A010');
```

```
INSERT INTO Feedback VALUES('F0021', 5, 'The event was a blast! Great entertainment and atmosphere.', ‘A001’);
INSERT INTO Feedback VALUES('F0022', 1, 'I knew this event was trouble when I walked in, shame on the organizer!', ‘A002’);
INSERT INTO Feedback VALUES('F0023', 2, 'The venue were hard to find and very uncomfortable in my opinion.', ‘A003’);
INSERT INTO Feedback VALUES('F0024', 5, 'I hope UTM makes more educational events like this!', ‘A004’);
INSERT INTO Feedback VALUES('F0025', 3, 'The event was ok.', ‘A005’);
INSERT INTO Feedback VALUES('F0026', 4, 'I learned a lot from this event.’, ‘A006’);
INSERT INTO Feedback VALUES('F0027', 2, 'The event is not engaging’, ‘A007’);
INSERT INTO Feedback VALUES('F0028', 1, 'Oh baby this event was toxic.', ‘A011’);
INSERT INTO Feedback VALUES('F0029', 4, 'This event is very entertaining.', ‘A009’);INSERT INTO Feedback VALUES('F0030', 5, 'Love the fun activities in this event.', ‘A010’);
```

INSERT INTO statement is used to insert values into the table Feedback. For each INSERT INTO statement, there are new values for each Feedback variable to be inserted.

INSERT DATA INTO TABLE Notification

```
INSERT INTO Notification
VALUES('reminder', 'REMINDER: C++ BASICS CLINIC' ||chr(10)||
'DATE: 29 DECEMBER 2023' ||chr(10)|| 'TIME: 9.30 AM'
||chr(10)|| 'VENUE: MPK3');
INSERT INTO Notification
VALUES('reminder', 'REMINDER: COOKIE NIGHT' ||chr(10)||
'DATE: 16 APRIL 2024' ||chr(10)|| 'TIME: 8.30 PM' ||chr(10)||
'VENUE: N24');
INSERT INTO Notification
VALUES('confirmation', 'SUSKOM BOOKING CONFIRMED');
INSERT INTO Notification
VALUES('announcement', 'STARTUP BOOKING FAILED');
INSERT INTO Notification
VALUES('cancellation', 'HACKATHON BOOKING CANCELLATION');
```

INSERT INTO statement is used to insert values into the table Notification. For each INSERT INTO statement, new values are inserted for each Notification variable.

QUERIES

1) Display the booking made by each user

```
SELECT *

FROM Users u

JOIN Booking b

    ON u.UserID = b.UserBookedID;
```

USERID	NAME	EMAIL	PHONE_NUMBER	BOOKINGID	BOOKINGTIME	STATUS	USERID	EVENTID
A001	Selena Gomez	rareBeauty@gmail.com	116734219	B0101	27-DEC-23 09.00.02.000000 AM	BOOKED	A001	E056
A002	Taylor Swift	red1989@gmail.com	195578920	B0102	10-APR-24 09.30.50.000000 AM	BOOKED	A002	E057
A003	Justin Bieber	jb@yahoo.com	134695046	B0103	18-NOV-23 05.25.20.000000 AM	PAID	A003	E058
A005	Shawn Mendes	sm@hotmail.com	123456789	B0105	01-NOV-24 12.59.40.000000 PM	CANCELED	A005	E060
A006	Ariana Grande	rem@gmail.com	146759903	B0106	20-DEC-24 12.59.40.000000 PM	BOOKED	A006	E061
A007	Bruno Mars	bruno@hotmail.com	176899912	B0107	15-MAY-24 05.09.56.000000 AM	PAID	A007	E062
A008	Lady Gaga	ladygg@gmail.com	141233342	B0108	15-DEC-24 02.32.23.000000 AM	CANCELED	A008	E063
A009	Drake	anitamaxwynn@gmail.com	192564458	B0109	16-MAY-24 10.19.46.000000 AM	PENDING	A009	E064
A010	Mariah Carey	aiwfciy@hotmail.com	150203443	B0110	22-DEC-24 07.34.57.000000 AM	BOOKED	A010	E065
A011	Britney Spears	itsbritneyb@gmail.com	116768901	B0111	15-DEC-24 09.57.12.000000 AM	CANCELED	A011	E066
A012	Rihanna	badgalriri@yahoo.com	196721198	B0112	27-DEC-24 04.12.00.000000 AM	BOOKED	A012	E067
A013	Zayn Malik	1d@yahoo.com	187724561	B0113	18-MAY-24 12.34.42.000000 PM	CANCELED	A013	E068
A014	Steve Lacy	stevelacy@gmail.com	139982043	B0114	17-NOV-24 11.56.21.000000 AM	BOOKED	A014	E069
A015	Boy Pablo	roypablo@gmail.com	186923301	B0115	11-MAY-24 06.13.08.000000 AM	PAID	A015	E070
A016	Daniel Caesar	daniel@hotmail.com	199912765	B0116	11-APR-24 02.16.32.000000 AM	BOOKED	A016	E071
A017	Frank Ocean	ocean@yahoo.com	172433391	B0117	15-NOV-24 07.46.57.000000 AM	PAID	A017	E072
A018	Freddie Mercury	queen@hotmail.com	185920504	B0118	17-DEC-24 02.25.12.000000 AM	PENDING	A018	E073
A019	Olivia Rodrigo	guts@gmail.com	148935512	B0119	12-APR-24 10.36.07.000000 AM	BOOKED	A019	E074
A020	Jennie Kim	blackpink@gmail.com	116921912	B0120	15-APR-24 12.45.13.000000 PM	BOOKED	A020	E075

To select all Users table, the SELECT * FROM Users statement is used. JOIN statement is used to join UserID on User table with UserBookedID from Booking table. This is to sort the data by the common columns of both Users and Booking tables.

2) Sort the Event table by their event date

```
SELECT *

FROM Event

ORDER BY dates;
```

EVENTID	EVENTNAME	TYPES	DATES	VENUE
E058	SUSKOM	Sports	23-NOV-23	Sports Hall
E056	CPP Basics Clinic	Education	29-DEC-23	MPK3
E059	StartUp	Seminar	09-JAN-24	N28
E057	Cookie Night	Entertainment	16-APR-24	N24
E060	Hackathon	Competition	20-MAY-24	L50

SELECT* FROM Event statement is used to select all from Event table. To sort them according to the dates of the events, ORDER BY statement is used.

3) Show the payment made that is above RM5

```
SELECT * FROM Payment

WHERE Total_payment > 5

ORDER BY paymentID;
```

PAYMENTID	PAYMENT_MODE	TOTAL_PAYMENT	USERID	BOOKINGID
RX001	FPX	8	A001	B0101
RX002	FPX	15	A012	B0112
RX003	FPX	11	A003	B0103
RX004	DEBIT	50	A004	B0104
RX005	E-WALLET	15	A005	B0105
RX007	CREDIT	8	A007	B0107
RX008	E-WALLET	10	A008	B0108
RX010	FPX	10	A010	B0110
RX011	DEBIT	20	A011	B0111
RX013	FPX	10	A013	B0113
RX015	E-WALLET	12	A015	B0115
RX020	FPX	8	A020	B0120

To select all the variables from Payment table that satisfy the condition of Total_payment more than RM5, the SELECT * FROM Payment statement is used with WHERE Total_payment > 5 statement to prompt the system to display Total_payment that is more than 5 only. To sort the data according to the PaymentID, ORDER BY statement is used. Only payment with Total_payment that is more than 5 are displayed.

4) Display feedback details based on rating in decreasing order

```
SELECT * FROM Feedback

ORDER BY Rate DESC;
```

FEEDBACKID	RATE	COMMENT_	USERID
F0011	5	This event very educational	A001
F0030	5	Love the fun activities in this event.	A010
F0012	5	This event shined bright like a diamond.	A012
F0024	5	I hope UTM makes more educational events like this!	A004
F0021	5	The event was a blast! Great entertainment and atmosphere.	A001
F0020	5	Will definitely go to this event again!	A010
F0029	4	This event is very entertaining.	A009
F0026	4	I learned a lot from this event.	A006
F0019	4	This event is very fun and engaging.	A019
F0025	3	The event was ok.	A005
F0018	3	No vegetarian food option!	A018
F0013	3	The MC light up my night like nobody else.	A013
F0023	2	The venue were hard to find and very uncomfortable in my opinion.	A003
F0017	2	The event seems very unorganized	A017
F0014	2	system crash when I try to make my booking the first time.	A014
F0027	2	The event is not engaging	A007
F0028	1	Oh baby this event was toxic.	A011
F0022	1	I knew this event was trouble when I walked in, shame on the organizer!	A002
F0015	1	REFUND MY MONEY!!!!	A015
F0016	1	This event is very boring…	A016

SELECT* FROM Feedback statement is used to select all data from Feedback table. To sort them according to the rate in decreasing order, ORDER BY Rate DESC statement is used.

5) Display the user's name in alphabetical order.

```
SELECT *
FROM Users
ORDER BY Name;
```

USERID	NAME	EMAIL	PHONE_NUMBER
A006	Ariana Grande	rem@gmail.com	146759903
A015	Boy Pablo	roypablo@gmail.com	186923301
A011	Britney Spears	itsbritneyb@gmail.com	116768901
A007	Bruno Mars	bruno@hotmail.com	176899912
A016	Daniel Caesar	daniel@hotmail.com	199912765
A009	Drake	anitamaxwynn@gmail.com	192564458
A017	Frank Ocean	ocean@yahoo.com	172433391
A018	Freddie Mercury	queen@hotmail.com	185920504
A004	Hailey Bieber	rhode@gmail.com	147780239
A020	Jennie Kim	blackpink@gmail.com	116921912
A003	Justin Bieber	jb@yahoo.com	134695046
A008	Lady Gaga	ladygg@gmail.com	141233342
A010	Mariah Carey	aiwfciy@hotmail.com	150203443
A019	Olivia Rodrigo	guts@gmail.com	148935512
A012	Rihanna	badgalriri@yahoo.com	196721198
A001	Selena Gomez	rareBeauty@gmail.com	116734219
A005	Shawn Mendes	sm@hotmail.com	123456789
A014	Steve Lacy	stevelacy@gmail.com	139982043
A002	Taylor Swift	red1989@gmail.com	195578920
A013	Zayn Malik	1d@yahoo.com	187724561

SELECT* FROM Users statement is used to select all data from Users table. To sort them according to alphabetical order, ORDER BY Name statement is used.

6) **Display the booking made along with its payment details by increasing order in total payment.**

```
SELECT *
FROM Users u
JOIN Payment p
ON u.UserID = p.UserID
ORDER BY p.Total_payment;
```

USERID	NAME	EMAIL	PHONE_NUMBER	PAYMENTID	PAYMENT_MODE	TOTAL_PAYMENT	USERID	BOOKINGID
A016	Daniel Caesar	daniel@hotmail.com	199912765	RX006	E-WALLET	2	A016	B0116
A006	Ariana Grande	rem@gmail.com	146759903	RX016	CREDIT	2	A006	B0106
A017	Frank Ocean	ocean@yahoo.com	172433391	RX017	CREDIT	2	A017	B0117
A018	Freddie Mercury	queen@hotmail.com	185920504	RX018	E-WALLET	3	A018	B0118
A002	Taylor Swift	red1989@gmail.com	195578920	RX012	CREDIT	5	A002	B0102
A019	Olivia Rodrigo	guts@gmail.com	148935512	RX019	E-WALLET	5	A019	B0119
A014	Steve Lacy	stevelacy@gmail.com	139982043	RX014	DEBIT	5	A014	B0114
A009	Drake	anitamaxwynn@gmail.com	192564458	RX009	FPX	5	A009	B0109
A020	Jennie Kim	blackpink@gmail.com	116921912	RX020	FPX	8	A020	B0120
A001	Selena Gomez	rareBeauty@gmail.com	116734219	RX001	FPX	8	A001	B0101
A007	Bruno Mars	bruno@hotmail.com	176899912	RX007	CREDIT	8	A007	B0107
A013	Zayn Malik	1d@yahoo.com	187724561	RX013	FPX	10	A013	B0113
A008	Lady Gaga	ladygg@gmail.com	141233342	RX008	E-WALLET	10	A008	B0108
A010	Mariah Carey	aiwfciy@hotmail.com	150203443	RX010	FPX	10	A010	B0110
A003	Justin Bieber	jb@yahoo.com	134695046	RX003	FPX	11	A003	B0103
A015	Boy Pablo	roypablo@gmail.com	186923301	RX015	E-WALLET	12	A015	B0115
A005	Shawn Mendes	sm@hotmail.com	123456789	RX005	E-WALLET	15	A005	B0105
A012	Rihanna	badgalriri@yahoo.com	196721198	RX002	FPX	15	A012	B0112
A011	Britney Spears	itsbritneyb@gmail.com	116768901	RX011	DEBIT	20	A011	B0111
A004	Hailey Bieber	rhode@gmail.com	147780239	RX004	DEBIT	50	A004	B0104

To select all data from Users and Payment table, the SELECT * FROM Users u statement is used along with JOIN Payment p statement to join UserID on User table with UseID from Payment table. This is to sort the data by the common columns of both Users and Booking tables. This data is sort by increasing total payment by using ORDER BY p.Total_payment statement.

7.0 Summary

The proposed system aims to enhance the current system by adding new features that could accelerate the process and limit the shortcomings, such as current manual processes, unreliable payment system and fragmented data handling. The proposal introduces a centralized ticketing system and automated systems for booking and feedback mechanism. It includes an event reservation process, a dedicated payment gateway and refund process, together with feedback from users. Conceptual ERD as well as logical ERD have been discussed to further show the design and flow of the new system. With these proposed features, the goal is to ease the administrators, making sure that the management of users' data will enhance more efficiently and effectively. All the new proposed features also intend to address the issues faced by the current system, ensuring a better user experience and overall a better system for NexScholar.