

AY2019 Oct Semester – COURSEWORK ASSESSMENT

Module Code : C3219C

Module Name : Database and Data Models

INSTRUCTIONS TO CANDIDATES

- 1 This assignment paper consists of **TEN (10)** pages including this page.
- 2 Answer **ALL** questions.
- 3 You are to use MySQL Workbench and MySQL to draw the Entity Relationship Diagram for Question 1
- 4 The deadline for the assignment is 12 Dec 2019. Submit your solution in hardcopy in class to the lecturer.
- 5 Upload your softcopy solution together with the MySQLWorkbench file (.mwb file with data included) in LEO 2.0.
6. State any assumptions made.

For Official Use		
Question No.	Marks	Total
1	25	
2a	5	
2b	5	
2c	5	
2d	5	
2e	5	
Total		

Name : _____

Admin No. : _____

Yabai ! Experiences, a new start-up, intends to develop a web portal for its new business. The system will allow visitors coming to Singapore to interact with its residents who are keen to host them through a meal at their home. Read the functional requirements (See Annex A) for the new Yabai ! Experiences system.

Question 1

Design a database using MySQL Workbench and MySQL for the new Yabai ! Experiences system. In your Entity Relationship Diagram, show the following information clearly

- Table names and column names
- Relationships between the tables
- Primary Keys (PK) and foreign keys (FK) where applicable

You must create test data to generate at least 3 rows of results for each report in question 2 to show that the SQL query is successfully executed.

Question 2

- a. Write SQL statement to generate the list of booking requests which are still open for hosts to make offers. Sort the report showing with the nearest date of the visit from today on the first row.

Date of Visit	Meal	Requested Location	Name of Guest	Number of Participants	Expiry date of Request
26/11/2019	Lunch	Ang Mo Kio	Sunny Brown	2	16/10/2019
28/11/2019	Dinner	Toa Payoh	Akira Yoshino	1	15/10/2019
29/11/2019	Lunch	Bishan	Shohei Ohtani	6	17/10/2019

- b. Write SQL statement to generate the report showing the number of confirmed bookings by location for the period 1 Oct 2019 to 31 Dec 2019 The report should be sorted showing the location with the most number of bookings first.

Location	Region	Number of Confirmed Bookings
Bishan	Central	10
Pasir Ris	East	5
Clementi	West	3

- c. Write SQL statement to generate for management a report showing the amount received by the various hosts in the year 2019. Show the host with the most amount received first

Host Name	District	Average Rating	Total Amount Received (\$)
Fandi	Bishan	5.0	6000.10
Stefanie	Pasir Ris	4.8	5410.60
Pillay	Clementi	4.9	5211.31

- d. Write SQL statement to generate following statement for the host Stefanie for month of October 2019. Stephanie's email is "stefanie@myrp.com.sg"

Date	Description	Amount (\$)
1 October 2019	Registration Fee	-40.00
6 October 2019	Lunch with Yuki from Japan	45.00
14 October 2019	Dinner with Kim from South Korea	225.00

- e. Analyse the performance of the company for 2019 showing by country the guests are from. Note the sorting order.

Country	Number of Confirmed Bookings	Average Number of Participants Per Visit	Maximum Number of Participants Per Visit	Total Amount Collected From Bookings (\$)
New Zealand	513	3.3	8	76,180.00
Japan	714	2.5	7	80,325.00
Korea	616	2.6	9	72,072.00

Annex A: Functional Requirements for the Yabai ! Experiences System

The Yabai ! Experiences system must provide the following functionality

Registration

- The system will allow hosts to register at the Yabai ! Experiences website.
The information in the registration form include
 - Username which is the email id
 - Password
 - Name
 - Mobile number
 - Home address
 - Birth date
 - Nationality
 - Bank name
 - Bank account number
 - My Location: The host will chose from a list of pre-determined locations specified by the administrator to indicate where their house is at. They can indicate only one location.
 - Language(s) they are conversant in and whether it is basic, intermediate or advanced for each of them
 - Write-up about themselves and what they can offer to the guests
- The system will allow guests to register at the Yabai ! Experiences website.
The information in the registration form include
 - Username which is the email id
 - Password
 - Name
 - Mobile number (Optional)
 - Birth Date (Optional)
 - Nationality
 - Language(s) they are conversant in and whether it is basic, intermediate or advanced for each of them
 - Write-up about themselves
- During registration, the host will be required to pay a registration fee using his or her credit card. No registration fee is required by the guest. There is no need to keep the credit card information in the database.
- Hosts must be screened and be verified by the administrator before they can view booking requests and make offers. No screening is required for guests.

Making a Booking and Making Offers

- The guest first makes a booking request. In the request, the guest will specify
 - the number of adults and number of children who will be going
 - the preferred location of the host
 - the date of the visit
 - the meal type by selecting from 2 choices (lunch from 12noon to 2pm or dinner from 6pm to 8pm)
 - a message to the host giving the background on their visit to Singapore and the participants who are with him or her, as well as any food allergies or restrictions of the participants.
- The booking request is open for 3 days for hosts to make offers. Hosts whose homes are near the preferred location indicated by the guest will be able to view the booking request as well as the write-up the guest wrote about himself or herself during registration. Hosts can respond to the booking request by making an offer to the booking request. The host can also include a message to the guest in their offer.
- The guest can decide which offer to accept from the list of offers received. When an offer is received, the guest can read the write-up which the host has written about himself or herself in his or her profile during registration. The guest has 3 days to accept an offer from the time the deadline for making offers is closed.
- When accepting an offer, the guest is required to make online payment via credit card. No credit card information is stored in the database. The amount is calculated based on the number of participants and the cost per participant. This amount is paid to Yabai ! Experiences. (Yabai Experiences will transfer the amount less 10% commission to the host after the fulfilment of the service)
- The booking request is confirmed once an offer is accepted by the guest.
- A booking request can have the following status: Pending, Confirmed or Cancelled
- An offer can have the following status: Pending, Accepted or Cancelled

Sending Messages

- For each booking, hosts and guests can post messages via the system to each other to arrange on where to meet etc.

Managing Cancellations

- The system will allow the guest to cancel his or her booking request if it is still “Pending”.

For “Confirmed” bookings, no refund will be given back to the guest if cancellation is done less than 48 hours to the date of the visit. 50% will be refunded if the cancellation is done 2 to 7 days to the date of the visit, and full refund if it is more than 7 days to the date of the visit.

- The system will allow the host to cancel his or her offer only if it is still “Pending”.

After the Visit

- After the service is fulfilled, the system make a payment to the host after deducting the 10% commission charged by Yabai ! Experiences.
- At the end of the service, the system shall allow both the host and the guest to give their feedback online on their experiences
 - A numerical rating of 1-5 is given for each experience (5 for an excellent experience an 1 for a poor experience)
 - The host or guest can also give a textual feedback. This is optional.
 - They will also indicate on the feedback form whether their feedback is “Public” i.e. other users of the system can also view their feedback.
 - The system shall capture the date and time the feedback was made
- Feedback is optional.
- The host and guest will only be able to view the feedback for the meals which they participated in. They will be able to view feedback indicated as “Public”.

Other Administration Functions

- The system shall allow the administrator to manage the list of locations in Singapore e.g. Clementi, Pasir Ris, Toa Payoh etc, and classify them into regions namely North, South, East, West and Central.

The locations will be used by the host to indicate which location(s) their house is at, as well as by the guest to indicate their preferred location for the visit.

- The administrator will be able to blacklist hosts or guests who violates the terms and conditions. Blacklisted hosts and guests will no longer be able to use the service.
- The administrator will be able to indicate in the system the flat fee to be charged to each guest for a meal and the one-time registration fee for the host.