INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
Semester 1, 2015/2016
INFO 2102 Database Systems 2

PROJECT

Business Scenario: IIUM Exhibition Management System

Every year, International Islamic University Malaysia (IIUM) organize the International Research, Invention and Innovation Exhibition (IRIIE). The aim of this event is to provide the opportunity for IIUM and researchers from different Universities to exhibit their research project at global level. Ultimately expose their research works and products to the potential investors and industry partners. The current practice is for each Kulliyyah in IIUM to rotate and take turn every year in managing the submission of posters and products, registration and judging process for the participants. The management of IRIIE is therefore different for each Kulliyyah with its own process done informally through the phone or email while others are more formal with forms to fill up and approval signature required from the Head of Research.

IIUM wish to have a database application that will standardize and ease the process of managing the research exhibition across all participants. The Research Management Center (RMC) has been appointed to take the lead in developing this application. The database application system will:

- Allow the participant to register for a research project. The maximum number of TWO entries per participant as the main exhibitor. There will be two track programs: fundamental research and product. The registration is confirmed once payment is made. IIUM researchers are paid for by IIUM but need approval from Head of Research. Registration and payment must be made before the dateline.
- Enable editing of registration details. The participant can modify their details on the registration forms. For example, change author details, change details on research project, upload updated poster and delete registration. No refund will be given for cancelling registration.
- Enable handling of the judging process. The participant will be assigned two independent judges. One internal judge from IIUM and one external judge from other Universities. Judges will be evaluating posters and products based on novelty, usefulness, commercial potential, presentation and demonstration. A date, time slot and location will be allocate to the participants for the last portion of the evaluation criteria.
- Enable calculation of winners. The scores for each participant will be calculated and ranked the top three from each track to select the GOLD, SILVER and BRONZE winner respectively.

It is your duty to propose, design and implement a database application that can address the above requirements as well as store the necessary details related to research exhibition system. The tasks breakdown for the project are detailed out below:

PROJECT GUIDELINES:

Due date of project deliverables:

	Task
1.	Draft report (ER/EER diagram and Data Dictionary)
2.	SQL script (Tables and sequences)
3.	SQL queries PL/SQL

Task 1

1. Identify all the entities and attributes. You can add necessary attributes to the identified entities.
2. Specify the business rules based on your scenario, and draw the ER/EER diagram and Relational Schema to show the relationships between the entities and attributes. Schema should be normalized.
3. Create the data dictionary for the above schema.

Submit the **hardcopy report** containing business rules, ER/EER diagram, relational schema, and data dictionary to IT department.

Task 2

Write a script to create tables and sequences based on the ER/EER diagram.

Populate each table with not more than 15 records (practical representation of the business scenario). The objective is to ensure that you understand how to read an ER/EER diagram and know how to create tables, sequences and also table constraints. Please ensure that your script contains these items:

- Drop table statements.
- Create table statements complete with primary key and foreign key declarations (make sure that you give a proper name to each constraint).
- Drop sequence statements.
- Create sequence statements. At least one (1) sequence is created and used.
- Insert record statements.

Submit the **hard copy report and softcopy scripts** to IT department.

Task 3

1. Write the SQL queries to answer the following problems:
    a. Show the participants, registrations, and judges' assignments. Show ONLY the participant's name, track option, research title, and judges' names.
    b. Find the sum of payments paid by each University including IIUM.
    c. Show details of participant who have made more than two (2) registration at any time.
    d. Find the registration with its affiliation that has the MOST bookings at any time and between IIUM and other researchers from different Universities.

2. Write the PL/SQL script to create two (2) procedures, two (2) functions and anonymous blocks. The procedures and functions are to access the database for use and reporting purposes. The procedures and functions should consider the administration and management activities of IIUM exhibition management system. You will be judged not only on working procedures and functions but also on complexity.

Submit the **hardcopy of the final completed Tasks 1, 2 and 3** and **softcopy scripts** to IT department.