Faculty of Engineering and Information Sciences Session: **Autumn2022**

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# CSIT115 Data Base Project

**Scope**

This project is about designing a database. In this project you will design and implement a database for a small firm as per specified requirements.

# Important messages

**Please read the instruction for the project and submission guideline carefully. Any deviation from the project or submission guideline will eb penalized.**

**Date Due: week 9, Friday latest by 17:00PM**

1- Project can be done in groups of 3 to 4 students.

2- Project has 5 tasks to solve.

3- No submission would be accepted after 3 days passed the due date.

5- Project should be uploaded in the Moodle site. The Moodle site will be left open for three days after the deadline for the late submissions.

6- Each member of the group must fill in the fair contribution form and all the forms must be submitted along with the project.

7- Detection of plagiarism or copying of work will lead to severe penalty.

1. You may use UMLet (Free UML Tool for Fast UML Diagrams) for drawing the diagrams.

**Each group will be interviewed and each member will be asked very detailed questions regarding what they have implemented. Failure to answering the questions will be penalized by the reduction of mark in the project for that member.**

**Scenario (MM: 5)**

A veterinary system stores information about, customers, their pets, medication, and vaccines.

* The system should store customers name, address, and up to two telephone numbers for each customer.
* The system also stores information about customers’ pets, including name, color, sex, birthday, latest weight, breed, and species. Some species are dog, cat, bird, and horse. Some breeds are greyhound, beagle, Siamese, parrot, and quarter horse.
* The system also stores the name and price of medications that are routinely administrated to a pet, as well as special food. Information about medication includes the prescribed dosage, frequency of dosage, the diagnosis that prompted the prescription, and any special instructions.
* Similarly, information about special diet foods includes the amount, frequency, the diagnosis that prompted the food, and any special instructions.
* Each time, a customer visits the veterinary with his/her pet, the time and date of the visit, fee and purpose of the visit (sickness, health check, vaccination, receive special food) is recorded. Fee for doctor visit is 300AED, for health check is 150, for vaccination is 500AED, for receiving special food is the cost of the food.

The system tracks vaccinations for certain diseases such as rabies, distemper, measles, parvovirus, and leukemia. Legal requirements for protection from a disease vary with species.

* Several different vaccines may be available for some diseases. For example, there is both a one year and a three year vaccine for rabies. Instructions for administering a vaccine include how often the vaccine should be given and a dosage formula that takes into account the age and weight of the pet.
* Each time a pet is vaccinated, the system records the date, the disease being vaccinated (such as rabies), and the particular vaccine used. The system is used to generate proof of vaccination certificates that customers need in some locations to renew the pet’s license. Keep in mind that the pet names are not unique and to access a pet’s information its owner’s identity is always required.

**Task 1 (10 marks)**

Read and analyse the following narrative for a veterinary System.

The objective if this task is to construct a conceptual schema (ERD) for the specification of a database domain listed above.

It is not allowed to add any artificial identification attributes commonly known as "id" attributes to the specification listed above.

**Task 2: (10 marks)**

Convert the ERD created above to a set of tables. Write the CREATE TABLE statements.

**Task 3: (5 marks)**

Initialize the database with the following information.

* 5 customers
* 6 pets
* 4 medicine
* 3 vaccine
* 2 special food

Now create the following relationships:

* Each customer has at least one pet
* All pets are vaccinated with at least 2 vaccines, some with 3 vaccines.
* 3 pets have special food
* 2 pets have been administered medicine.
* 7 visits for 3 customers. (at least 2 visits per customer).

**Task 4: (16 marks)**

Write the following queries and show their output:

1. Show all the vaccination records for all pets.
2. Show the amount paid by customers for each visit.
3. Show the total amount of fees paid by customers for each months for last 3 months.
4. Show the pet with most visits.
5. Show the pets that never visited the clinic.
6. Show the pets that received all vaccines.
7. Show the name of the medicine or special food that was given to each pet. (IF statement).
8. Show the number of visits and amounts paid for each pet.

**Task 5: (14 marks)**

Create a dynamic web page which is connected to the data base and through the web page you can:

* See content of each table
* Run each query
* For a customer, you can show all records related to his/her pet.
* For a customer and pet, you can show all the records related to the pet and total cost and number of visits.

**Submission Guideline**

Your submission should include:

* Cover page which includes the names and student number of all group members
* For Task 1, it should include the ERD and any additional information required.
* For Task 2: a describe statement and its output that shows the definition of each table.
* For Task 3: a select \* and its output for each table that shows the content of the tables.
* For Task 4: The select statements and their output.
* For Task 5: a working webpage.
* Each member of group must submit a fair contribution form to declare their involvement in the project and others contribution.
* All the codes used should be included in a zip file and submitted. For each task the relevant code should be in a separate subdirectory.