DATABASES I/DATABASES

(2024-2025)

PROJECT: I LOVE PETS

SPECIFICATIONS AND GUIDELINES

PART II – Version 27th November 2024

Description

In this phase of the final project, the groups should promote the evolution of the database that results from the first phase of the project, implementing a set of rules that make sense in the I Love Pets data model. For the starting point of the groups to be equivalent, a version of a possible representation of the data model is provided – conceptual and physical data models and the SQL script to generate the database.

Part I specification and guidelines, namely parts of the text that described rules that weren't implemented in the first phase of the project, should be considered as contextual information for Part II of the project.

The implementation of the integrity and business rules must be made using triggers complemented by other database objects (e.g., stored procedures, functions, integrity constraints) if necessary. The main goal is to produce a database enriched with a set of rules implemented to enforce integrity and business rules.

Rules:

1. Write a function (GetPetSitterReviewGrading) that receives a pet sitter id and returns its review grading (VARCHAR(20)), calculated from its pet sitter rating. The grading follows the system:
    1.1. "Bad" if average rating < 2;
    1.2. "Medium" if 2 <= average rating < 3;
    1.3. "Good" if 3 <= average rating < 4;
    1.4. "Great" if average rating >= 4.

    In case there isn't a minimum of 3 ratings for that pet sitter, the review grading should be "Not enough reviews".

    Only sessions that already happened should be considered and consider the current timestamp for defining if a session already occurred or not.

2. (UPDATE) A session capacity cannot be updated if the new value is lower than the number of pets currently booked. If the update is from a number to null, it should be allowed.

3. (UPDATE) A booking can only be reviewed if its session already happened.

4. (INSERT) A message must always be between a pet sitter and a pet owner.

5. (INSERT) A pet owner can only book a session that meets all of the following criteria:
    5.1. The session to be booked is in the future;
    5.2. The number of pets for that session wasn't reached;
        5.2.1. If the session doesn't have a maximum number of pets, the validation should be done through the pet sitter's default maximum number of pets;
    5.3. The pet's breed is contained in one of the session's target breeds or the pet sitters' preferred breeds.
6. (INSERT) When a recurrent event is created, all the associated sessions should be automatically generated. The number of sessions generated will depend on the recurrence (daily, weekly, monthly, not recurrent). Example: for the following inputs: recurrence: weekly, session_start: 2-Oct-2024 09:00, session_end: 2-Oct-2024 10:00, recurrence_end_date : 31-Oct-2024. As the month of October has 5 Wednesdays, there should be generated 5 Sessions, where the session_start and session_end will be 2nd, 9th, 16th, 23rd, 30th of October from 09:00 to 10:00 respectively.
   Note: For simplification purposes, consider 1 week to be 7 days and 1 month to be 30 days.

Deliverables

1. Script with SQL code to implement business/integrity rules (e.g., triggers, functions, stored procedures, integrity restrictions) – one (1) single text file with ".sql" extension.
2. A text file with the identification (name and number) of all the group elements.

Guidelines

- For the evaluation of the 2nd delivery, the code created to implement the integrity/business rules will be analyzed and their execution tested through examples created by the professors. If the triggers created by the groups prevent the test samples from functioning normally, the work will be penalized. The test results will have a very significant weight in the final evaluation.
- The tests mentioned above will consider both individual record and batch operations in the database. Batch operations are operations (insert/update/delete) that include several rows in the same statement.
- The triggers' implementation should consider that for batch operations when in presence of mixed cases, i.e., correct rows together with incorrect rows, the DML operation (insert/update/delete) should be executed for the correct rows and not executed for the incorrect cases. If presented solutions opt to undo (rollback) all the operation when an error is detected just in part of the row set, the work will be penalized.

- The deliverables described above must be submitted in moodle in a single zipped file (.zip) following the template "DB_2024_2025_Delivery_2_AAAANNN" – AAAANNN is the student number of the group's delegate.
- Part II deadline is December 22, 2024. Files delivered after the deadline will not be accepted.

Document changelog

Date	Observations
27th November 2024	In question 1, the exercise scope is clarified. The pet sitter rating should be used to validate and then calculate the grading.
28th October 2024	Document made available to students.