Database technology: 2021 – Assessment 3 (40% of total marks)

Title: CA3 - database evaluation and SQL

Issue date: Wednesday November 24th, 2021
Submission date: Monday November 29th, 2021 before 22:00
% Contribution to coursework mark: 40%
Type: Individual assignment
Feedback: Individual learner feedback will be provided through blackboard learn

Late submissions:
In accordance with LYIT policies on late submission, the following penalties will apply:

- The total marks available for an assessment be reduced by 15% for work up to one week late ie a grade of 50% would become (50*0.85) = 42.5%
- The total marks available be reduced by 30% for work up to two weeks late ie a grade of 60% would become (60*0.7) 42%
- Assessment work received more than two weeks late will receive a mark of zero.

Plagiarism:
Assignment submissions will be reviewed for plagiarism. Plagiarism is a form of cheating and is dishonest. Suspected incidents of plagiarism will be dealt with through the Institute's disciplinary procedures. More Info: www.lyit.ie/About/Policies-Publications/Quality-Assurance

Deliverables:
- A text file containing the SQL queries. **Worth 70%.**
- An evaluation of the appropriateness of the Kando database design and implementation in meeting the requirements of the Kando system specification detailing how the design or implementation could be improved. **Worth 30%.**

Assignment brief:

This assignment requires you to create several SQL queries that will retrieve data from the accompanying Kando database and evaluate the appropriateness of the given database solution. In order to complete the assignment, you must:

1. Download the accompanying file Kando.sql and **execute** the script to create the Kando database. Make sure that the Kando is the **default database** when you execute your queries.

2. Download the template.sql file and open it in MySQL Workbench**. Add your name, ID at the top of the file. Add your queries to the script directly after each question.** The questions are provided in comments (queries should be written after each comment). Save your script regularly.

3. Write appropriate queries for each of the questions below. Think about **what should be displayed in the resultset**, **what table(s)** you need to query**, what clauses/filtering** commands are required. Make sure to use appropriate alias names

for tables and for attributes for displaying in the result sets. When you are finished, save the template.sql script (with all queries) **as your student number** (L000XXXXX.sql)

4. Write a short report (**maximum three pages** including diagrams), critically evaluating the appropriateness of the design and implementation of the provided Kando database against the Kando system requirements. Your report should **recommend and justify** any enhancements or improvements that could be made. Your justification for enhancements should be based on relational database design theory and its application through SQL.

5. When you have completed the assessment, you should submit the following files to Blackboard learn:
    a. The solution to the SQL queries as L000XXXXX.sql (where L000XXXXX is your student number.
    b. Your report as L000XXXXX.docx or L000XXXXX.pdf.
    c. The completed assignment coversheet.

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Required queries and exemplar output

Question	Required data	Marks
Q1	List all of the users in the Kando database. List by First name, Surname in alphabetical order by Surname.	5
Q2	List the ID, Name and description of each board along with the user ID and name of each board owner.	5
Q3	List all of the users in the Kando database. List by Firstname, Surname in alphabetical order by Surname. Show if the account has been validated or not replacing '0' or '1' with 'no' or 'yes' as appropriate.	5
Q4	List the board ID, Board Name and the names of all of the members of the board "Product launch" (search by board name, not ID).	5
Q5	Modify your solution to Q4 by adding a column "board owner" and list "yes" or "no" for each member as appropriate.	10
Q6	Display the names of people who have been invited to the "Product launch" board, but have not accepted the invitation.	10
Q7	Modify your solution to Q6 to also show the person who invited the members who didn't accept the invitation to join the "Product launch" board.	10
Q8	For each card on the board with the name "Product launch", list the details of the card, the title of the column it is on, who created the card and member(s) that the card is assigned to.	10
Q9	For each card that has one or more checklists, list the Card ID, Card title, Due date and any corresponding check lists (list title and list items). Also list if the check list items are completed or not by specifying "Completed" or "No" cards and the team member assigned to the task.	10

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Q10	List the cards (ID, title, card title, column title), the card creator and assigned staff on the board “Product launch” that have not been completed.	10
Q11	For each person on the board “Product launch”, list the number of cards assigned to them. List by the total number of cards from highest to lowest.	10
Q12	List the Card ID, card name and description of all cards that are not labelled.	10

You must use column aliases to improve the readability of the displayed data.

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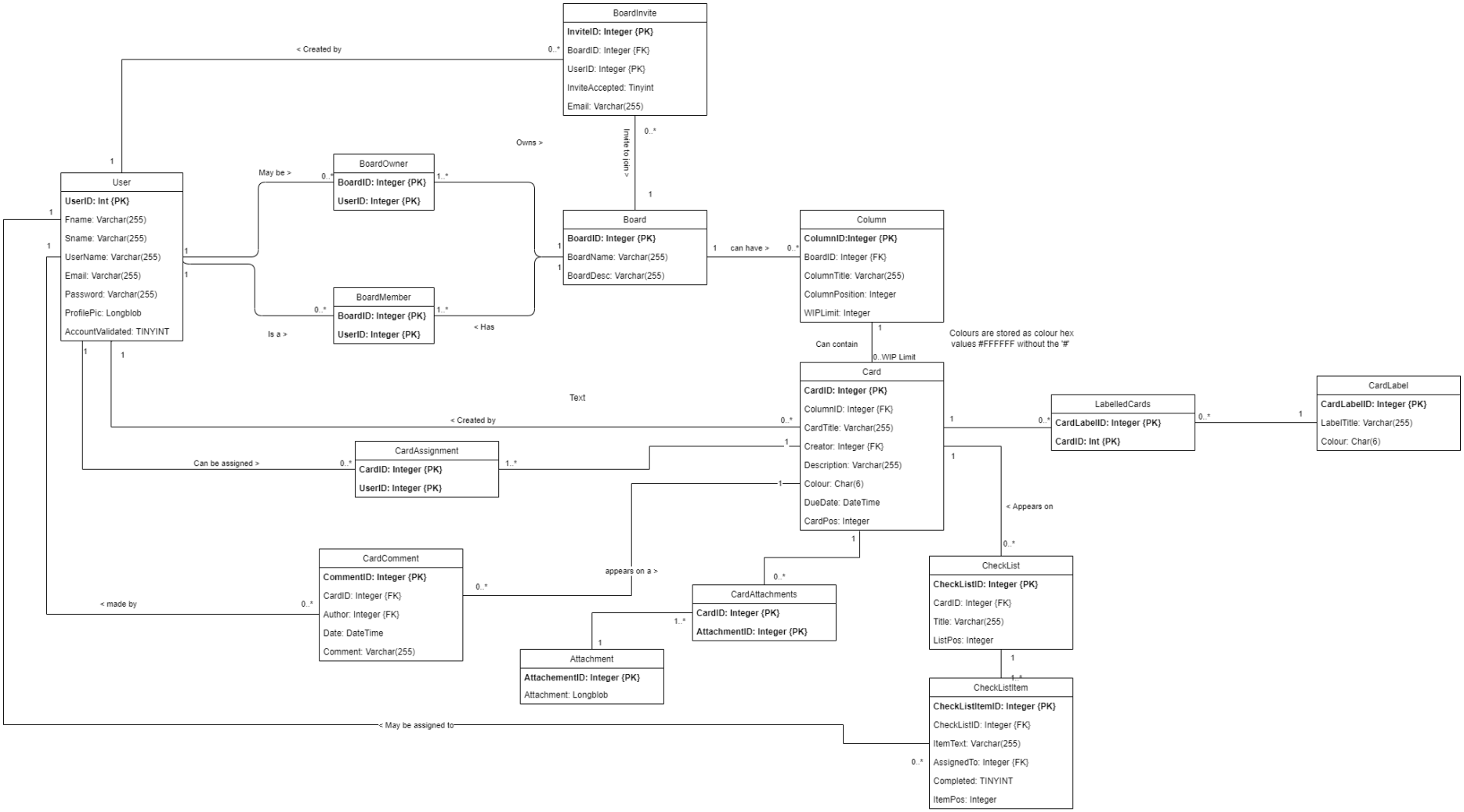

Figure 1: Conceptual design of the Kando database

Note that the physical implementation of the database may vary slightly from the conceptual design. For example, column names may be different. Check the physical implementation in MYSQL workbench.