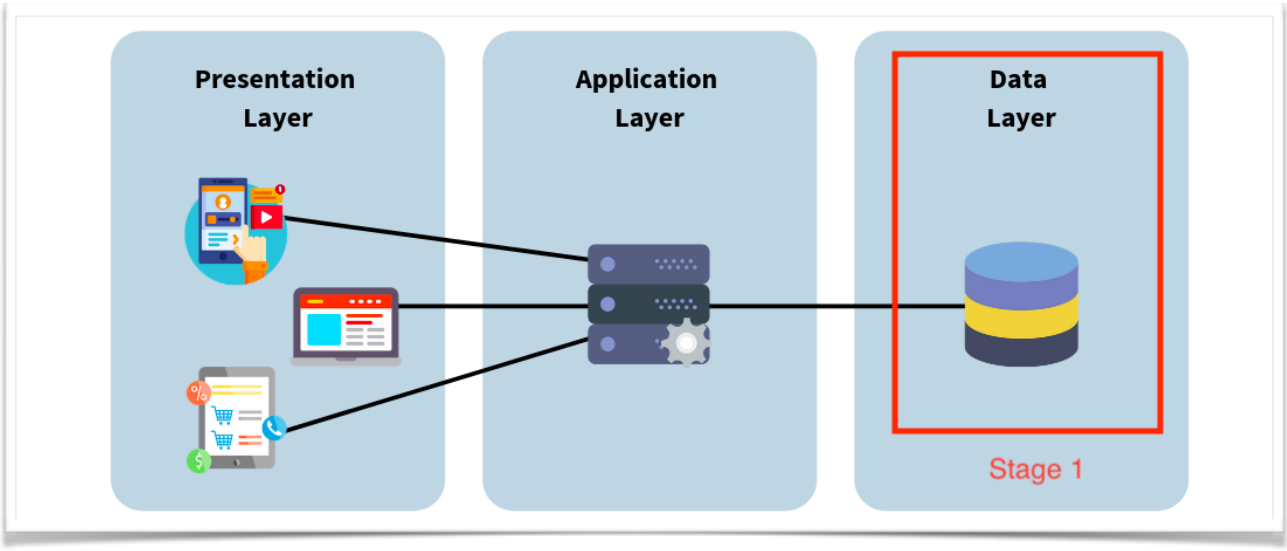
DATABASE MANAGEMENT SYSTEMS 1 - ASSIGNMENT 3



Group assignment description

Assignments 3&4 are group assignments.

Number of members in a group: up to 4

Note 1: Members you have chosen for Assignment 3 will also be working with you in Assignment 4. Despite the fact, that up to 4 members allowed, you are strongly advised to have 4 people in a group. The assignments might be heavy to implement for a single person, so plan your resources wisely.

Note 2: In assignment 3 you will be developing an architecture and a database for a real world application (Data Layer on a picture). Further, in assignment 4 we will ask you to implement the front part of the application (Application layer on a picture).

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ASSIGNMENT 3 - TASKS (DEADLINE: 22 NOVEMBER 23.59 PM)

TOTAL NUMBER OF POINTS: 40

TASK 1 (5 points)

Pick up a real world structure that needs database and create a short user story on it.

Example. University database user story: University database holds records of students. Each student provides personal information (name, surname, IIN, birthdate, etc.). University has several faculties. Each faculty has name, number of people in a faculty, head of faculty, etc. University provides set of courses to the students. Each course has name, course number, room, number of credits etc.

…So in this way you can continue…

Requirements:

1. Make sure you have at least 10 objects described, but no more than 15.
2. Make sure each of your objects holds at least 10 attributes but no more than 15.
3. Pick up any setting from real world, where there is user interaction is going on - meaning that there is a need to store information on it.

Some examples might be: University database, Pharmacy database, Bank database, Oil company database, Online-shop database, etc.

NOTE: For the most creative ideas bonus points will be awarded.

TASK 2 (5 points)

Create ER-diagram for you story created in TASK 1.

Requirements:

1. Identify and show all your entities, relations, and attributes
2. Make sure you follow the story and do not miss any information
3. Do not forget to put cardinalities
4. Do not forget to show any partial/total participations, weak/strong entities, if there are any

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TASK 3 (20 points)

Create the actual database for your story on your installed software.

Requirements:

1. Present your code for creating the database and all the tables with its columns(attributes) inside
2. Follow the requirements from TASK 1:
   - 10<=Number of tables<=15,
   - 10<=Number of columns in each table <=15
3. Enforce all necessary constraints
4. Make sue your tables are normalized (at least at 3NF)
5. Insert at least 100 records in total (you can distribute it like 10 records per each table, or it can be distributed unevenly depending on your story)
6. Create parametrized stored procedures for at least 2 tables on INSERT, UPDATE, DELETE from table.
   - Pick up a parameter and tables on your preference
   - Make sure that your choice is consistent with your story and logically there is a need in real world to update, insert or delete data from your chosen tables.

TASK 4 (10 points)

Deliver a group presentation on your created database

Your presentation should include:

1. Brief description of your chosen scenario
2. ER-diagram
3. Live demonstration of your database structure
4. Live demonstration of work of your stored procedures
5. Make sure each person speaks up

NOTE: The most creative presentations will be awarded bonus points.

DELIVERABLES:

1. Submit TASKS 1,2 and 3 in .word or .pdf format to moodle by the **DEADLINE (22 November, 23.59 PM).** Make sure to present all your code and ER-diagrams, along with user story texts. All member groups must submit the file, presumably members of the same group will deliver one document for the assignment.

2. Presentations can be prepared before your corresponding practice lesson time, no need to submit them to moodle.