

Overview

The main goal of the project is to develop a database application for a client for a sales system. The system should include purchases and sales in addition to warehouse(s). Thus, the client should be some kind of organization that has substantial transactions (both financial, and physical e.g. products). The project is one of the main assessment criteria of this course and must be approved by the instructor by end of phase 0 (see below). Any projects not approved by the instructor will not be graded. Each student is required to actively participate and contribute to every phase of the project. Substantial programming must be done by each and every student in the group (**two students per group**).

Details

The students are expected to obtain the system and database requirements from the client. The project must be approved by the instructor. Students are expected to construct an ER diagram from the information gathered with meeting the client.

Phases

The project will be delivered in multiple phases. Each phase must be handed in to the instructor (one submission per group)

1. **Phase 0:** Project Idea: This is the project preliminary idea along with the client and contact information. One project idea per student group (students are required to split into groups of 2 during this phase).

Due Date: Week 2.

2. **Phase 1:** Requirements Document: This should contain the project scope and description, and some information about your client. The project description must include information about the expected entities and relationships your client requires. You should also describe the technology you intend to use. In addition, based on the project description provided, you must provide at least 20 sample queries demonstrating the functionality of your database application. Below are sample queries provided for reference to guide your task completion.

- Retrieve details of all branches located in a specific city.
- Retrieve the names, positions, and salaries of staff members at a specific branch, sorted by staff name.
- Retrieve the names of all Managers at each branch, sorted by branch number.
- Retrieve the title, category, and availability of all products at a specified branch, sorted by category.
- Retrieve the title, category, and availability of all products supplied by a specific supplier at a specified branch, sorted by the warehouse entry date.
- Retrieve the total number of products in each category at a given branch, sorted by supplier.

Due Date: Week 4.

3. **Phase 2:** Preliminary Design Document: This concerns with designing an entity-relationship diagram for your project in addition to the information contained in the previous phase.

Due Date: Week 6.

4. **Phase 3: Prototype** This phase concerns with developing a prototype. The prototype should include a complete database, and a fully functional module.

Due Date: Week 7.

5. **Phase 4: Final Project + Project Report:** This phase includes all previous phases in addition to the fully functional project. You are required to present a demo of your project and submit complete functional code and working project; in addition a complete project report that includes the ER diagram and conversion to relational tables and their respective normalization is also required to be submitted.

Due Date: two weeks before end of teaching (tentative).

Assessment Criteria

Final project submission must include source code, database design and tables, and executable file (in case of java-executable jar). Specific one-to-one appointments will be assigned to each student by the instructor. Each student will be graded only if he/she attends the appointment and according to the following criteria:

- 1) Completeness (if not working/fail to connect to a database, automatic fail)
- 2) Group work - everyone should have programmed! Any student who has not programmed or programmed very little will receive a failing grade.
- 3) GUI and usability (a simple interface for each table to insert/update/delete/select is not enough)
- 4) Database design.
- 5) Data Queries: many good query reports should be programmed (sql queries of data) e.g. Total sales for a certain period of time, e.g. number of books reserved for a certain period of time. e.g. number of free rooms in a school in certain time, etc. . Each student will be individually assessed on the data query reports he/she programmed.

Students failing to attend their final grade discussion appointment will receive a failing grade.

Honor Code

All work on this project must be your **own work that has been worked on this semester only**. You are not allowed to submit projects or parts of projects that are not your own. You are not allowed to copy code from your peers. You are not allowed to copy code from your instructor. You are not allowed to copy code from videos or social media (e.g. Facebook, YouTube, etc..). You are not allowed to copy code from AI applications/websites such as chatGPT/Google Gemini. Furthermore, you are not allowed to share your code with other students (beyond your current student group) – even after you finish this class. You are also not allowed to work on your project with other students other than your current student group. In addition, you are not to ask others to show their work to you or write parts of the code for you. Finally, any assistance you receive, must be properly indicated and referenced accurately.

كل العمل في هذا المشروع يجب أن يكون عملك الخاص وتم عمله خلال هذا الفصل فقط. لا يُسمح لك بتقديم أو تسليم مشاريع أو أجزاء من مشاريع غير خاصة بك. غير مسموح لك بنسخ الكود من زملائك/زميلاتك. غير مسموح لك بنسخ الكود من معلمك. لا يُسمح لك بنسخ الكود من مقاطع الفيديو أو الوسائط الاجتماعية (مثل Facebook و YouTube وغيرها). علاوة على ذلك، لا يُسمح لك بمشاركة الكود الخاص بك مع طلاب آخرين (ما عدا مجموعتك الطلابية الحالية) - حتى بعد الانتهاء من هذا الفصل. كما لا يُسمح لك بالعمل في مشروعك مع طلاب آخرين غير مجموعتك الحالية. كما أنك لن تطلب من الآخرين إظهار أعمالهم لك أو كتابة أجزاء من الكود لك. أخيرًا، يجب الإشارة إلى أي مساعدة تتلقاها بشكل صحيح والإشارة إليها بدقة.