

DESCRIPTION OF THE MIS 3720 PROJECT

The project for MIS 3720 is an opportunity to apply your database knowledge to the solution of a practical business problem. Each project team (teams are usually 3 or 4 people) will perform the following tasks:

- 1) Select a business problem.
- 2) Design a relational database that can be queried to get answers to address the business problem. (Focus of the problem is retrieval.)
- 3) Implement the database as an ACCESS relational database. The implementation must include:
 - a) All the tables with forms and sufficient data inserted.
 - b) Implemented queries to provide answers to the business problem. Design and implement reports to display the query results.
 - c) A menu-driven user interface implemented in Access for your database application. The user interface should take a user perspective, not Access' perspective of tables, queries, forms, and reports.
 - d) Forms for data maintenance (adding, deleting, and changing data). You must have a least one multi-table form.
- 4) Write a project report describing the business problem and documenting the database system you have developed. (The content of this report is given on the next page.)
- 5) Present the problem and database design in class

BUSINESS PROBLEM SELECTION

Select a problem that you are familiar with – something from your work experience is usually a good idea. Also, select a problem for which information retrieval (rather than computation) is an important part of the problem solution.

PROJECT GRADING

10%	Business problem	10%	Intermediate inputs
30%	Design	10%	Project Report format
25%	Implementation	15%	Presentation and in-class questions

CONTENTS OF THE PROJECT REPORT

1) Business Problem

Describe the business problem. (Be sure to describe the problem, not your solution. Developing a database is a solution, not a problem.) Describe relevant aspects of the business organization. Then discuss how a database will help solve this problem.

2) Database Design

The conceptual design of the database should be specified in ALL of the following three forms:

- a) an entity-relationship diagram (using Visio)
- b) an Access relationship diagram (using Access)
- c) third (or higher) normal form relations (in standard relational form)

The database design must be fully described, as follows:

- a) describe the purpose of each table
- b) after describing a table, list and describe each attribute in that table and explain why it is included in the database (that is, how does each attribute help to address the business problem?). Indicate which attributes are primary keys, which are foreign keys, and the table to which the foreign key refers (essentially, you are producing a data dictionary)
- c) describe all the relationships captured in your database and the assumptions behind each. For example, why is an assumption of a 1:N relationship reasonable? or why is it appropriate to assume that particular values are unique?

3) User documentation

- a) Document the user interface and the forms. Include screen shots of all the forms and samples of all the reports. (Your project report should be complete, without having to refer to your database.)
- b) Document your queries and reports in a form understandable by a user. That is, describe the queries in terms of the business problem, how to run the queries, and what the queries produce. Also, include the SQL code for each query and the output from running each one.

4) Implementation issues

- a) Discuss where data quality problems are likely to occur. Include recommendations for ensuring the quality of the data.
- b) Provide space estimates for your database for several reasonable estimates of the number of records (see handout on space estimates).
- c) Explain your choice of indexes and how they provide efficient answers to your business problem.
- d) Discuss backup and recovery.

PROJECT SCHEDULE

Class

4. M, Jan. 27 TURN IN: Project problem description
 (include the people in your group, a several paragraph problem description, and a first guess at the entities in your database)
5. Th, Jan. 30 Project descriptions will be returned with comments
6. M, Feb. 3 TURN IN: Draft of your database design
 (include your revised problem description, an E-R diagram, and standard form relations)
7. Th, Feb. 6 Designs will be returned with comments
9. Th, Feb. 13 TURN IN: (1) Revised database design (include your problem description, E-R diagram, and relations)
 (2) Access table design and relationships diagram
 and (3) a list of queries to be implemented (Not implemented yet)
 (approximately 10 queries of varying difficulty)
10. M, Feb. 17 Revised database designs and query lists will be returned with comments
13. M, Mar. 2 Project groups present in class
 TURN IN: Submit your complete Project Report, MS Access DB, and Powerpoint slides through Canvas.