

Objective

To gain an understanding of information system, and database concepts and knowledge of a major database product through the implementation of a real world database problem in Microsoft Access.

Grade

The finished project will count as 15% of your grade. A grade will be assigned based on the minimum requirements met, the complexity of the application, and the completeness of the implementation of the application in Access.

You are allowed (and encouraged) to work in a team of at most two people. All the people in the team will share the same project grade.

Project Description

This project consists of the implementation of a real-world database problem in Microsoft Access. This project will have the following implementation components:

- 1) Requirements for the tables
 - a) A minimum of three major database tables, all interrelated in one-to-many or many-to-many relationships.
 - b) At least one of these tables must have a minimum of 30 records, and fields suitable for totaling and grouping on a report.
 - c) The other two tables must have a minimum of 10 records each.
 - d) Fields must be defined as appropriate for the field content, and primary and secondary keys assigned as appropriate.
 - e) Tables must be normalized so that data redundancy is eliminated and
 - f) Referential integrity must be enforced between the tables.
- 2) A minimum of two separate minor database tables, containing values to be used for validating the values of one field in one of your major database tables, and for the contents of a list box or combo box on a form.
- 3) A minimum of five queries involving selection based on appropriate criteria. At least one select query must select fields from multiple related tables. There must be at least one parametrized query.
- 4) A minimum of four forms, one for each of the tables.
 - a) At least one of the forms must be a main/sub form.
 - b) At least one form must have a list box or combo box, whose values are derived from the minor database table.
 - c) Multi-page tabbed forms must be used when appropriate – do not use separate forms when a multi-page form is sufficient.
- 5) At least three reports based on the major databases or based on queries based on the major databases. At least one of these reports will be a report that involves grouping of data. At least one of these reports will be a summary report. All reports will have appropriate headers and/or footers. Reports contents must make good business sense.

- 6) Additional application elements (more tables, queries, forms, reports, etc.), although not required, can be included to make the application "complete."
- 7) A (single space) final report is required outlining the following points.
 - a) The business scenario for the application, describing what business problem the application is trying to solve. This should be fully descriptive, and should cover at least one page.
 - b) A description of the application, describing how the various forms, queries and reports would be used to solve the business problem. This should take about a page.
 - c) Your impressions of your application: this area might describe what problems you experienced in building your application, how complete your project addressed the business problem (and in what ways you might expand on your project to fulfill the business problem), and your impressions of how Access was able to assist you in solving the business problem. This should take about a page.

Project Proposal

There are several sources you can draw upon to base your project.

- Look for applications at work. Talk to your supervisor or coworkers about potential applications.
- Talk to your friends that have jobs, but make sure you understand the proposed application.
- Look for applications around you. Look for "cataloging" applications for your collecting hobby. Are you in a club or campus organization that could benefit from such a project?
- Talk to your parents about applications they might have at their work.
- Think about applications based on your experience dealing with various administrative processes at Pepperdine, such as admissions, financial aid, registration, etc.
- Read through problems in the books to help spark ideas for other applications.

Project proposal requirements:

- 1) The project proposal should be typed (not handwritten).
- 2) This should be about two to three pages long, single-spaced,
- 3) It should include the following sections *in this order*:
 - a) A description of the business problem in narrative form paying particular attention to the information management issues.
 - b) An overview discussion of what sorts of data will need to be stored in and information generated from the database. Think of the database as a "black box" where you put data in and get information out.
 - c) A general description of the database that will solve the above problem.
 - i) A description of the major tables,
 - ii) A description of the major queries, forms and reports that will be needed to address the business problem. Be sure to explain how each item addresses the business problem. You don't actually create the queries, forms and reports.

Due Dates

The following are the milestones for your project. You will be graded on each milestone. 5% will be deducted for each day late of each milestone. **Retain all printouts in a pocket folder with brads.** Submit the folder with the diskette and *all* previously graded and ungraded documents for each milestone.

BE SURE TO KEEP YOUR OWN COPY OF ALL WORK!!

- 1) **Milestone #1, See OWLSPACE:** Upload your proposal to Owl-space. Submit your type written project proposal in class. **Put your work in a folder! You will lose points if your work is not submitted in a folder.**
- 2) **Milestone #2, See OWLSPACE:** Upload to OWLSPACE a revised proposal, a database with tables **partially** filled with sample data, relationship layout showing table links. Print the relationship diagram. At least two queries must be operational, one of which must involve multiple tables. Turn in your project folder with all the required printed documents and the previously graded documents.
- 3) **Milestone #3, See OWLSPACE:** Turn in the project folder with the following:
 - a) The database should contain
 - i) sufficient sample data to illustrate all the one-to-many and many-to-many relationships in the database design.
 - ii) forms with validity checks – the user should be able to enter all the necessary data using appropriate forms. Most one-to-many relationships will require a Main/Subform. Make the forms user-friendly.
 - iii) a printout out of the database design documentation,
 - iv) a printout of the database relationship diagram, and a revised proposal.
 - v) all required queries: see requirement #3 of the Project Description.
 - b) The revised proposal should explain the purposes of the forms and the queries.

[Click on this link for more details on how to do the above items.](#)

- 4) **Milestone #4, See OWLSPACE:**
 - a) Create and print appropriate database reports as required in item #5 of the project description.
 - b) Write up and print the final project report as required in item #7 of the project description.
 - c) There should be a one-page description of what the queries accomplish.
 - d) Be sure to revise the project proposal and database as per any instructions from previous milestones.
 - e) Turn in the complete project folder, plus upload all documents and database. This folder should contain all required documents (final report, query descriptions, database report printouts, proposal, etc) and all previously graded milestones of the project.