

Final Project

Building a Business Database

CS360 Database Analysis and Design

Assignment

The CS360 Final Project gives you the chance to become a business systems and database analyst, applying the concepts and techniques you learned in class to solve a fictitious (but styled like a real-world) business problem. "Holly's Paw Print's Factory" is a start-up company that split off from Sheltie Ltd., a worldwide supplier of boutique dog products. Former Desales Computer Science students developed and successfully bid on a new data network to support Sheltie's operation. As that company grew, the baked-goods portion of the business became large enough to warrant a spin-off company. Holly's Factory now focuses exclusively on providing high-end bakery treats and holistic in-house produced nutritional products for dogs. But with this quick growth came a glaring omission... a way to effectively manage customers, their pets, and maintain an active inventory and ordering system. Your job, in keeping with the tradition of Desales' MIT student entrepreneurship, is to develop and propose a business database to solve Holly's business challenges at an attractive price.

You will work in teams of two throughout the design and development of your solution. The final package will include a copy of the MySQL database, along with associated DDL and data models. The goal is for you to complete the end-to-end experience of building a business-style database in a controlled fashion. You can be creative and add additional components, so long as you meet the minimum requirements of the project.

Be sure you explain what you did and why you did it. Put your thinking caps on, and share ideas if you feel it is beneficial. Use me as a resource as well. Be creative and have fun.

Deliverable Requirements

Each student will submit a proposal package based on the scenario below. The package can take any form, including Word documents, or combination of Word document, Powerpoint presentation, Excel spreadsheet, or anything else necessary to complete the required elements. There is no requirement to collapse everything into a single document, although the student should submit one file to BlackBoard (ZIP file if needed), unless integrating charts/graphs/tables/images into one document.

The proposal package should include the following (you may arrange the individual components in the order that you feel is most effective at presenting the material):

- Title Page (must include name, date, course, instructor, title of proposal)
- Table of Contents
- Background of Project
- Statement of Problem (what business issue are you trying to address)
- Proposed Solution (what did you design and why, any additional features)
- Summary of Business Requirements (including any that you assumed or added)
- Lessons Learned (must be unique for each student)
- Conclusion (must be unique for each student)
- Appendix A – Journal (keep a journal with at least 10 entries as you build the project, successes, challenges, thoughts, ideas, etc.)

- Data Model (ER Diagram)
- Data Dictionary (explain what each component in your schema means e.g. sid is a Student ID which is a unique identifier...)
- List of Data Definition Language (DDL) necessary to reconstruct database
- Export of Database (MySQL export files) which include all test data

You are free to make assumption about things that are not included in the scenario. I only ask that you state those assumptions in your final package.

Submissions must be made in the Week 8 Final Project Assignment Bin by each team member. The final package should be a ZIP/compressed file named <TEAM NAME>_Final.zip. Submissions are due by the final date of the course as listed in the syllabus. No late submissions will be accepted!

Grading

Since this assignment is worth 30% of your grade, I would expect everyone to put the appropriate time and effort into creating a quality package. Your final grade will reflect the following components:

Design (logical/consistent) – ER/DDL	30%
mySQL Implementation	20%
Data Input and Testing - constraints	25%
Presentation (clarity/participation/uniformity)	25%
Total	100%

This project is designed to help you explore databases from a real-world perspective, having a bit of fun at the same time. It's not easy by any means, but it should be enjoyable. Have fun with it. Be creative with your approaches. Be creative with your presentation.

Scenario and Business Requirements

Holly's Paw Print's Factory requires a business database to manage its customer base, track inventory, and provide a mechanism for handling orders. The factory routinely contacts customers to perform surveys, provide coupons or other special offers, and generally ensure great customer service. The system must be able to maintain an owner's contact information, and track a pet's information back to that customer. Some of the specials include a free birthday cookie on the pet's birthday (blue or red depending on the dog's gender), reminders about holiday promotions, and a "Gold Paw" club for anyone spending more than \$100 in any given year.

Additional specific requirements are as follows:

- The database must allow for no more than 1 order per day per customer
- The database must track product inventory in real-time as ordered are processed
- Each order may be one of the following statuses: (Initiating, Payment Pending, Filling, Baking (if needed), Packaging, Shipping, Closed)
- The system does NOT track customer's financial information, but must be able to track modes of payment (check, credit card, Paypal)

To complete this assignment, you must have test data entered that meets the following minimums:

- At least 10 customers
- At least 2 customers will multiple pets
- At least 15 products
- At least 1 order in each of the statuses
- Demonstration of required functionality for promotions
 - Pet Birthday
 - Gold Paw Club

You may add additional functionality to improve the marketability of your solution. Be sure to document and explain any of those additions, and what business purpose they serve. Good luck.