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Introduction to Database Management CIS 244

Final Project

Monday, May 12, 2025

1. PROJECT SELECTION: Interior Design Firm
2. SYSTEM DESIGN REQUIREMENTS:

Gather Requirements:

For this database, I identified essential entities based on the operations of an interior design firm. These include clients (name, contact info, address, preferences), projects (name, dates, budget, status, assigned designer), designers (name, contact, specialty), vendors (company name, products, contact), products (item name, cost, vendor, category), and invoices (client, project, amount, date, status).

Document Process:

For my database project, I chose to model the operations of an Interior Design Firm. This decision was personally meaningful because my older brother owns a successful interior design business, and I’ve had the opportunity to witness his journey over the years. He started out designing homes for family and friends and eventually expanded to take on larger residential and commercial projects. Because of this personal connection, I wanted to build a database that not only fulfills the assignment requirements but could also reflect and potentially help a real business.

To better understand the functional needs of his company, I scheduled a detailed interview with him and observed some of his day-to-day operations. This helped me identify key processes that would benefit from a well-structured database system. The first and most obvious need was client management. He works with a variety of clients—homeowners, real estate developers, and small business owners. Each client has different expectations, budgets, and timelines. Keeping track of client contact information, project addresses, and style preferences is essential for maintaining strong client relationships and personalizing each project.

The second area we discussed was project tracking. Every design job is considered a separate project, with its own start and end dates, milestones, phases (consultation, design, sourcing, installation), and budget. These projects may involve coordination with contractors, suppliers, and other designers. My brother explained that being able to quickly view the status and budget of each project at a glance is one of his biggest operational needs. A centralized system that connects clients to their respective projects allows for better project oversight and resource planning.

We also explored how he manages his internal and external design team. Although he is the lead designer, he sometimes hires freelance designers, junior assistants, or interns, depending on the size of a project. This revealed the need for a Designer entity in my database, allowing each designer’s name, specialty, and contact info to be linked to specific projects. This structure supports future scalability if he grows his team.

Another major topic was vendor and product management. He works with many vendors who supply furniture, lighting, flooring, paint, hardware, and more. Each product is associated with a vendor, and each project often requires products from several vendors. Therefore, it made sense to create separate Vendor and Product tables with a many-to-many relationship between Products and Projects. This allows for flexible inventory tracking—useful for both budgeting and style referencing in future projects.

Billing and payment tracking came up next. My brother uses an invoicing system to charge clients in phases—typically a deposit, mid-project payment, and final payment. Each Invoice is linked to a specific project and includes the date, amount, and payment status (Paid, Unpaid, Pending). He noted that tracking payments manually or through spreadsheets can be inconsistent and time-consuming, especially when handling multiple projects. Including Invoices in the database supports accurate financial tracking and reduces the chance of missed payments or errors.

Finally, we discussed how he stores project archives. He wanted a way to reference previous projects for inspiration, reuse ideas, or make recommendations to clients. A good database could make it easy to retrieve past projects, view which products were used, and understand the associated costs and timelines. This adds long-term value to the database beyond day-to-day operations.

In conclusion, this interview and research process helped me identify the core entities needed for my database: Clients, Designers, Projects, Vendors, Products, Invoices, and ProjectProducts. Each table represents a key aspect of his business and is interconnected in a way that reflects how the real-world workflow happens. The database design I created is not just a classroom exercise but a potential tool that could be implemented to streamline operations, improve communication, and increase efficiency within an interior design firm.