Green Juan
CIS 344, Spring 2026
Final Report

Introduction

This report covers the Career Networking Platform, a database project built for CIS 344. The idea behind the project was to model a real platform, specifically LinkedIn, and design a relational database that could support all of its core features. That meant figuring out what data the system needs to store, how that data connects, and how to set up the tables in a way that actually makes sense.

LinkedIn was picked as the mini world because it has a good amount of complexity without being impossible to manage. It covers users, companies, jobs, skills, posts, messages and connections. All those things talk to each other in different ways. That made it a solid choice for practicing database design.

1. Research and Interviews

To put together the system requirements, I looked at how LinkedIn actually works. I went through its features and thought about what data would need to be stored behind the scenes for each one. Things like job applications, connection requests, skill endorsement, and direct messages all needed to be broken down into tables and relationships.

I also spoke with Nicole Allen, a career specialist at Lehman College. She brought up something that shaped a big part of the design. She said a lot of students create a LinkedIn account and stop there, when really the content you put on it is what makes it useful. She pointed out that content shows up everywhere on the platform. It can be in a post, video or an educational section of LinkedIn learn. She described a LinkedIn profile as basically a professional resume that lives inside a user profile.

That conversation pushed me to treat content sharing as its own table in the database rather than just attaching it to post or messages.

2. Challenges

When I first started writing the SQL for this project, I named the main table USER. That seemed like the obvious choice. But when I invoked that word SQL wanted to call the function.

I forgot that USER is a reserved word in SQL built into the program database. It returns the name of whoever is logged into the database. So when I tried to create the table with the same name SQL was not comprehending my instructions. The fix was easy once I figured out what was going on. I renamed the table to USERS with an s at the end so SQL doesn't get confused. It makes sense, it's just the plural version of the word. It does not conflict with the built in function of SQL.

Besides that, the article really helped with the whole decision making. (https://www.geeksforgeeks.org/dbms/how-to-design-a-database-for-linkedin/)

Another challenge that came up was trying to get an appointment with Nicole Allen, the career specialist at Lehman College. When I did get a hold of her I basically had to walk and talk as she has a very busy schedule. I myself use LinkedIn so it wasn't really that hard to come up with tables.