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For this project I went with the mini-world of Career Networking Platform. I felt this was a good option because it represents systems like LinkedIn and Indeed that are popular for job searching and professional networking. The mini-world presents the basic components that represent real-world platforms by focusing on essentials functions such as user accounts, professional profiles, job postings, applications, messaging, and the company page.

In order to develop requirements for the Career Networking Platform, I researched LinkedIn and Indeed by reviewing their sites, product guides, and blog posts. This process supported narrowing down the basic features that entail making a career networking platform and a user's experience. Specifically, from LinkedIn's official site, I took features or area related to creating detailed professional profiles, networking with the user, messaging others, and following companies. I included a resume upload, job posting, application tracking, job alerts, and company information from Indeed's official guides and blog content. I used these findings to derive the functional requirements of the mini-world.

Following the requirements gathering phase, I proceeded to convert all of the requirements into entities and relationships in the database. The primary entities in this case were User, Profile, Experience, Company, JobPosting, Application, Connection, and Message; I

selected these entities to represent an important piece of the platform. For example, each User has one Profile that contains their professional experience and has the potential to reference multiple Experience entries. An Experience entry is tied to a Company entry as well, to represent a previous employer. A Company entry can also reference many JobPosting entries, but each JobPosting entry is tied to a single Company entry. JobPosting entries are tied to Users, because recruiters are the ones sharing the job postings. The Application entry reflects the connection between Users and JobPostings, which is an important feature of the system that reflects the many-to-many relationship between an applicant and a JobPosting.

The relationship decisions were made to be consistent with real-world workflows. A one-to-one identifying relationship was used for User and Profile, while Profile and Experience and Company and JobPosting were modeled as one-to-many. User and JobPosting were also one-to-many, as recruiters can post multiple jobs. Applications served as a join entity enforcing the dependency on both User and JobPosting and allowed statuses like "applied" or "hired." Connections between Users were modeled as a self-referencing many-to-many relationship, while Messages captured communications by recording both sender and receiver. By basing each of these design choices on examples from LinkedIn and Indeed, the schema reflects real-world functionality.

References

Indeed. n.d. 18 September 2025. <https://www.indeed.com/>.

LinkedIn. n.d. 18 September 2025. <https://www.linkedin.com/>.