Initial Entity Relationship Diagram

Layoff Management System

Database Management and Database Design

Project By

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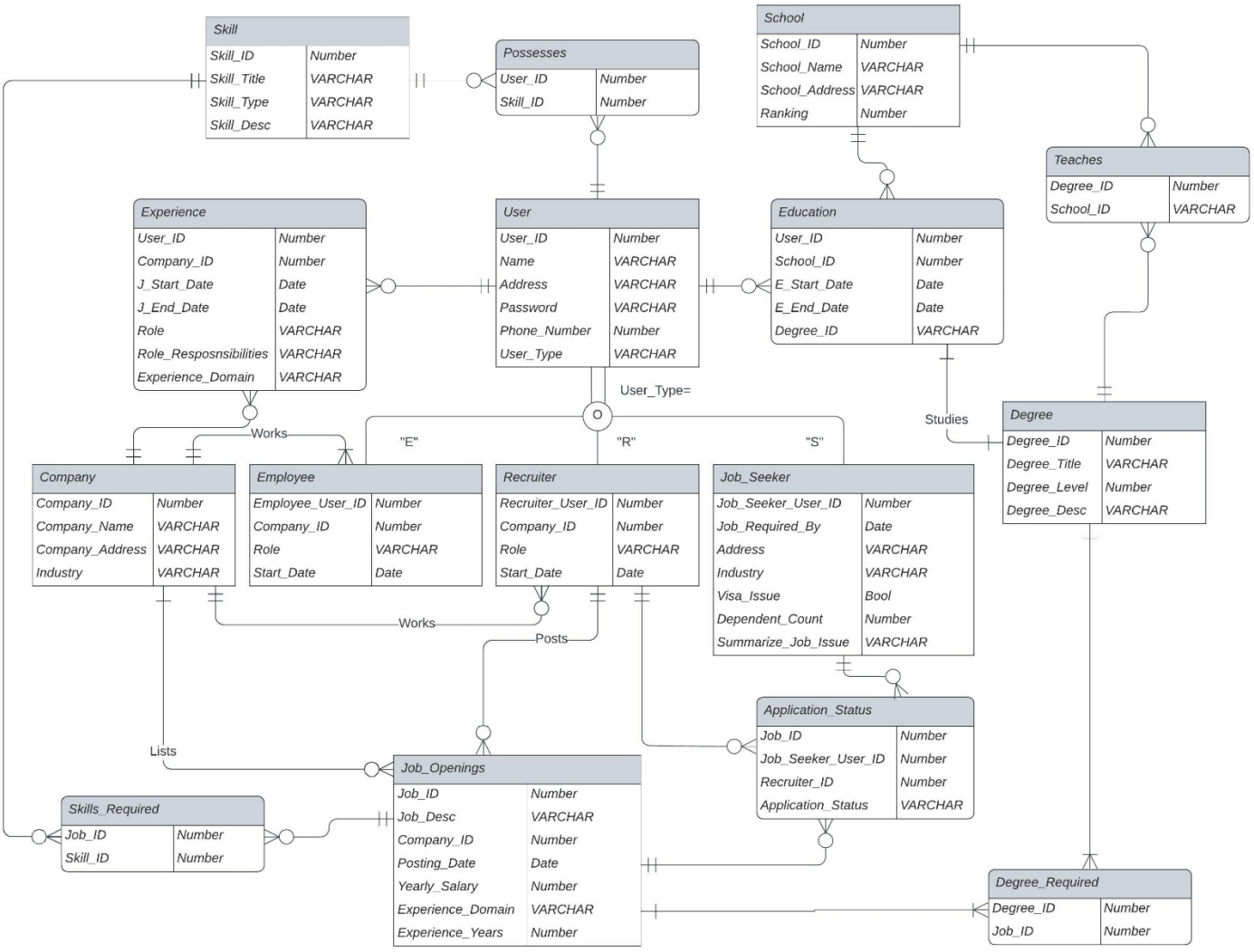
Business Problem and Solution:

The business problem focuses on managing layoffs for people with a variety of priorities, such as visa statuses, economic recession, and personal conditions, who are in dire need of employment. To acknowledge this problem , a well-structured database is being built to provide a platform for job seekers and providers in difficult market conditions. The system focuses on tracking information from both the job seekers and providers such as company data, recruiter requirements, employee data, job openings and other constraints. This DBMS shall have different types of users such as Employee, Recruiter, Job seeker, and different levels of data accessibility to configure their roles. Status tracking, such as Application status of a job seeker shall be integrated to avoid situations where a job seeker is offered multiple jobs and also to identify unemployed. This system focuses on creating a comprehensive and centralized database system for Job seekers and companies, with unwanted data redundancy.

Entity Relationship Diagram:



The above ERD contains following Entities:

Supertype:

- User [**User_ID,** Name, Address, Password, Phone_Number, User_Type, SocialMediaLink]

Subtype:

- Employee [**Employee_User_ID**, Company_ID(FK), Role, Start_Date]
- Recruiter [**Recruiter_User_ID**, Company_ID(FK), Role, Start_Date]
- Job_Seeker [**Job_Seeker_User_ID**, Job_Required_By, Address, Industry, Visa_Issue, Dependant_Count]

User and Job Opening Related Entities

- School [**School_ID**, School_Name, School_Address, Ranking]
- Skill [**Skill_ID**, Skill_Title, Skill_Type, Skill_Desc]
- Company [**Company_ID**, Company_Name, Company_Address, Industry]
- Degree [**Degree_ID**, Degree_Title, Degree_Level, Degree_Desc]
- Job Openings [**Job_ID**, Job_Desc, Company_ID(FK), Posting_Date, Yearly_Salary, Experience_Domain, Experience_Years]

Associative Entities

- Experience [**User_ID, Company_ID, Role**, J_Start_Date, J_End_Date, Role_Responsibilities, Experience_Domain]
- Education [**User_ID, School_ID, Degree_ID**, E_Start_Date, E_End_Date]
- Possesses [**User_ID, Skill_ID**]
- Teaches [**Degree_ID, School_ID**]
- Skill_Required [**Job_ID, Skill_ID**]
- Degree_Required [**Degree_ID, Job_ID**]
- Application_Status [**Job_ID, Job_Seeker_User_ID, Recruiter_ID,** Application_Status]

Business Rules:

- A Recruiter posts multiple job openings. A Job-Opening must be posted by one Recruiter.
- A Job Seeker may apply for multiple jobs. 1 Job might be applied by multiple Job Seekers.
- One Recruiter may change the Application Status associated with multiple Job Seekers and multiple Job openings.
- A User possesses multiple Skills, one skill might be possessed by multiple users.
- One Job opening may have multiple skills required; 1 Skill might be required by multiple Job Openings.
- Multiple employees and Recruiters may work for 1 Company. An Employee must work for 1 Company while A recruiter might work for 1 Company.
- 1 Job Opening may have multiple degrees required. A Degree required must be in at least one Job opening.
- A User may have education from multiple Schools. A School might have multiple Users to have education in.
- One School teaches multiple Degrees. 1 Degree might be taught by multiple Schools.
- A User may have experience with Multiple Companies. A Company may have multiple users to have experience in.