International Employee Immigration Data Management

Milestone: Relational model

Group 4

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***International Employee Immigration Data Management***

Amogha and Abhishek

As a product-based company, Company X needs access to its employee immigration data for the critical functions of visa and green card sponsorship, guaranteeing strict adherence to legal standards and successfully navigating the challenging immigration processes. The organization can effectively manage work permit visas, green card sponsorships, and visa renewals by taking advantage of this database. This proactive approach not only protects the company from potential legal snares and penalties, but it also promotes workforce stability and continuity, enabling them to maintain their valued talent pool and greatly contribute to their growth and success within the United States. Furthermore, the diligent maintenance of accurate immigration records ensures that every employee has complete authority to work in the US, supporting an even more reliable and compliant staff.

Theory of ***International Employee Immigration Data Management***:

The company has seven departments: Software development, Data Science, Finance & Accounting, Human Resource, Research and development, customer support and service, and Product design & user experience. Employee can work in any department based on his/her expertise. The organization meticulously maintains key employee information, including visa type, green card availability, I-9 forms, employment history, contact details, pay details, and passport information, in this detailed approach.

For each **employee**, the company needs to record the employee ID, first name, last name, date of birth, Nationality, social security number (SSN), gender, age, Job title, Department.

For **Passport information**, company needs employee id, nationality, passport number, passport expiration date, passport issued date.

For **visa type**, their visa id, employee id, visa type name, visa expiration date, visa issued date will be recorded.

For **Green card availability**, company need to store the green card id, employee id, green card status, green card expiration date, green card issued date.

For **I-9 form**, company needs to save I-9 form id, employee id, date of form completion, document type, document number, document expiration date, e - verify result, status.

For **employment history**, employee id, work ex, previous company name, previous company location, previous job title, last working day.

For **contact information**, company needs to save employee id, phone number, address, email id.

For **salary information**, company needs to save employee id, department name, base salary, visa id.

**The process of managing work permit VISA and Green card sponsorship** needs to be recorded. Company needs to store the employee ID, first name, last name, phone number, email id, Nationality, visa id, base salary, green card id.

**The process of VISA renewal process should be recorded**. First, company need to know the employee id, first name, last name, visa type, visa id, visa expiration date, visa issued date, phone number, email id, nationality, passport number.

***Conceptual model (EER and UML diagrams)***

EER diagram:

A diagram of a company

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UML diagram:A diagram of a company

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***Relational model***

1. Employee(ID\_emp, DOB, SSN, Name, Gender, ID\_dept, Job title, Age, Phone\_No, Passport\_No, GreenCard\_ID, Form\_ID)

*FOREIGN KEY Phone\_No refers to Phone\_No in Contact ; NULL NOT ALLOWED*

*FOREIGN KEY Passport\_No refers to Passport\_No in Passport ; NULL NOT ALLOWED*

*FOREIGN KEY GreenCard\_ID refers to GreenCard\_ID in Green\_Card ; NULL ALLOWED*

*FOREIGN KEY Form\_ID refers to Form\_ID in I9-Form ; NULL ALLOWED*

1. Contact(Phone\_No, Email\_ID, Address, ID\_emp)
2. Works\_in(Project\_ID, ID\_emp, Hours)

*FOREIGN KEY Project\_ID refers to Project\_ID in Project ; NULL ALLOWED*

*FOREIGN KEY ID\_emp refers to ID\_emp in Employee ; NULL NOT ALLOWED*

1. Project(Project\_ID, Project\_start\_date, Project\_end\_date, Project\_name, Duration)
2. Belongs\_to(Dep\_ID, Project\_ID)

*FOREIGN KEY Project\_ID refers to Project\_ID in Project ; NULL NOT ALLOWED*

*FOREIGN KEY Dep\_ID refers to Dep\_ID in Department ; NULL NOT ALLOWED*

1. Department(Dep\_ID, Dep\_Name)
2. Previous\_works\_experience( ID\_emp, Num\_years\_exp, Prev\_Job\_title, Last\_working\_date, Prev\_company\_loc, Previous\_company\_name)
3. Passport(Passport\_No, Nationality, Passport\_exp\_date, Passport\_issue\_date, ID\_emp)

*FOREIGN KEY ID\_emp refers to ID\_emp in Employee ; NULL NOT ALLOWED*

1. I9-Form(Form\_ID, Document\_type, Form\_date\_completion, Form\_status, e\_verify\_result, Doc\_exp\_date, Doc\_No, ID\_emp)

*FOREIGN KEY ID\_emp refers to ID\_emp in Employee ; NULL NOT ALLOWED*

1. Green\_Card(GreenCard\_ID, GreenCard\_status, GreenCard\_exp\_date, GreenCard\_issue\_date, ID\_emp)

*FOREIGN KEY ID\_emp refers to ID\_emp in Employee ; NULL NOT ALLOWED*

1. Visa(Visa\_ID, Visa\_type, Visa\_exp\_Date, Visa\_Issue\_Date, ID\_emp)

*FOREIGN KEY ID\_emp refers to ID\_emp in Employee ; NULL NOT ALLOWED*

1. Budget(ID\_emp, Total\_Acc\_amt)
2. Visa\_Sponshership(ID\_emp, Legal\_Fee, Form\_Fill\_Fee)
3. On-Boarding(ID\_emp, Onboarding\_cost, Relocation\_cost)
4. Salary(ID\_emp, Base\_salary)

***DDL Commands:***

***Creating Tables:***

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1. Retrieve the names and phone numbers of all employees

* Select Name, Phone\_no
* From Employee;

1. List the department names along with the corresponding department IDs.

* Select Dep\_ID, Dep\_Name
* From Department;

1. Find the total number of employees in each department. Display the department name and the count of employees

* SELECT d.Dep\_Name, COUNT(e.ID\_emp) AS Employee\_Count
* FROM Department d
* LEFT JOIN Employee e ON d.Dep\_ID = e.ID\_dept
* GROUP BY d.Dep\_Name;

1. Retrieve the names and email addresses of employees who have a Passport

* SELECT e.Name, c.Email\_ID
* FROM Employee e
* JOIN Contact c ON e.ID\_emp = c.ID\_emp
* WHERE e.Passport\_No IS NOT NULL;

1. List the names of employees who have worked on projects and include the project names

* SELECT e.Name, p.Project\_name
* FROM Employee e
* JOIN Works\_in w ON e.ID\_emp = w.ID\_emp
* JOIN Project p ON w.Project\_ID = p.Project\_ID;

1. Find the projects that have not been assigned to any department. Display the project names

* SELECT p.Project\_name
* FROM Project p
* LEFT JOIN Belongs\_to b ON p.Project\_ID = b.Project\_ID
* WHERE b.Project\_ID IS NULL;

1. Retrieve the names of employees who have previous work experience and include the total number of years of experience

* SELECT e.Name, p.Num\_years\_exp
* FROM Employee e
* JOIN Previous\_works\_experience p ON e.ID\_emp = p.ID\_emp;

1. List the employees and their corresponding base salaries, ordering them from highest to lowest salary

* SELECT e.Name, s.Base\_salary
* FROM Employee e
* JOIN Salary s ON e.ID\_emp = s.ID\_emp
* ORDER BY s.Base\_salary DESC;

1. Find the employees who have a Green Card and are currently working on a project. Display their names and the project names

* SELECT e.Name, p.Project\_name
* FROM Employee e
* JOIN Green\_Card g ON e.ID\_emp = g.ID\_emp
* JOIN Works\_in w ON e.ID\_emp = w.ID\_emp
* JOIN Project p ON w.Project\_ID = p.Project\_ID;

1. Retrieve the names of employees who have worked on projects for more than 100 hours. Include the project names and the total hours worked

* SELECT e.Name, p.Project\_name, SUM(w.Hours) AS Total\_Hours\_Worked
* FROM Employee e
* JOIN Works\_in w ON e.ID\_emp = w.ID\_emp
* JOIN Project p ON w.Project\_ID = p.Project\_ID
* GROUP BY e.Name, p.Project\_name
* HAVING SUM(w.Hours) > 100;

1. List the employees who have not filled out the I9-Form. Display their names

* SELECT e.Name
* FROM Employee e
* LEFT JOIN "I9-Form" i ON e.ID\_emp = i.ID\_emp
* WHERE i.Form\_ID IS NULL;

1. Find the employees who have worked on projects in more than one department. Display their names and the departments

* SELECT e.Name, d.Dep\_Name
* FROM Employee e
* JOIN Works\_in w ON e.ID\_emp = w.ID\_emp
* JOIN Project p ON w.Project\_ID = p.Project\_ID
* JOIN Belongs\_to b ON p.Project\_ID = b.Project\_ID
* JOIN Department d ON b.Dep\_ID = d.Dep\_ID
* GROUP BY e.Name, d.Dep\_Name
* HAVING COUNT(DISTINCT d.Dep\_ID) > 1;