# CASE STUDY

# Objective: On doing this case study the associates will be able to do the conceptual and logical design of a given database specification. They will be also able to create tables without anomalies.

**Prerequisite:** The knowledge of E-R diagram, The mapping of E-R diagram to tables, and the Normalization of tables.

**SKILLS Concepts:** E-R diagram, Mapping of E-R diagram to tables, and the Normalization process up to 3NF.

**Duration:** 5 hrs

**Scenario setup:** In this case-study you have to prepare a database design for an online job portal. This system will be available on the internet for access to all people. Using this website, employers will be able to post their job openings and the job seekers can provide their information on the site so that the system will intimate the job seekers the jobs for which they are eligible to apply. To make use of this system the employers and the job seekers have to register themselves with the site.

During the registration the system provides a unique Id to both employers and job seekers. During the registration both the employers and the job seekers have to provide the following details : Name, Address, e-mail address, Phone number, User name, Password, whether the person who registers is an employer or the job seeker. During the registration the employer must provide all the details of his/her company as well as job details. The company’s details include name of the company, address, Phone number, and yearly turn over, level of the company, and the number of employees.

For the companies whose MMC level is below 5, the owners themselves should register as employers. Assume that one employer owns only one company located at a single place. Once all the jobs offered by a company got filled up, the company’s details together with the job details and the corresponding employer’s details also gets deleted from the database.

The details of MMC 5 level companies located at all over the world are already maintained in the database. Once an opening arises in any one of these companies at any location, a corresponding employer representing the company has to register in the site together with the job details, but he/she does not have to give the company’s details(except the name and the location) since those details already exist in the database. Assume that one employer can register for a company located at one location. If any opening arises for the sane company at another location some other employer should register for that. Once all the openings of a company corresponding to an employer are filled up, the employer’s details and the job details will be deleted from the database.

The job seekers must also provide the following details during registration : Date of Birth, Highest Qualification, Skills the job seeker possesses and the experience in months for each of his/her skill. The registered employer can post his/her job opening with the following details : Job Title, Job description, yearly package, skills required for the job, minimum number of years of experience for each required skill, total experience required(in months), number of vacancies, the company in which the openings exist, and the contact person’s name and phone number, and the date and place of interview. The system searches the appropriate jobs for each job seeker and sends the job details through e-mail.

**Deliverables:**

1. A neat E-R diagram that shows the entities (together with attributes), relationship among the entities and the cardinalities of the relationships.
2. Normalized Tables

**Common mistakes:**

One possible E-R diagram:

**Job Portal**

Requires

Job

Offers

Company

Represents

Skill

Has

Jobseeker

Employer

User

Job

**Co**

1. Should there be subtypes of Company called MMC5 and Low-level companies ?

Company

BelowLevelCompany

MMCLevel\_Five

This subtyping is not needed since these two subtypes neither have any specific attributes attached to it nor have any specific relationship with any other entity.

1. Is the following variation in the E-R diagram is correct for the given context ?

Job

Company

Owns

Offers

Employer

Yes this is also a correct design. The reason is because of the following business rule: If the company is below MMC level 5, we assume that the owner is the employer and the he/she owns only one company. If the company is MMC level5, we assume that only one employer can represent a company located at one location.

(3) Should we make subtypes of Employer as owner and represented since they have

different relationships with company entity?

Represents

Company

Owns

Representer

Owner

Employer

This sub typing is irrelevant for the given context since owns or represents does not make any difference in the given context.

**REFERENCES**