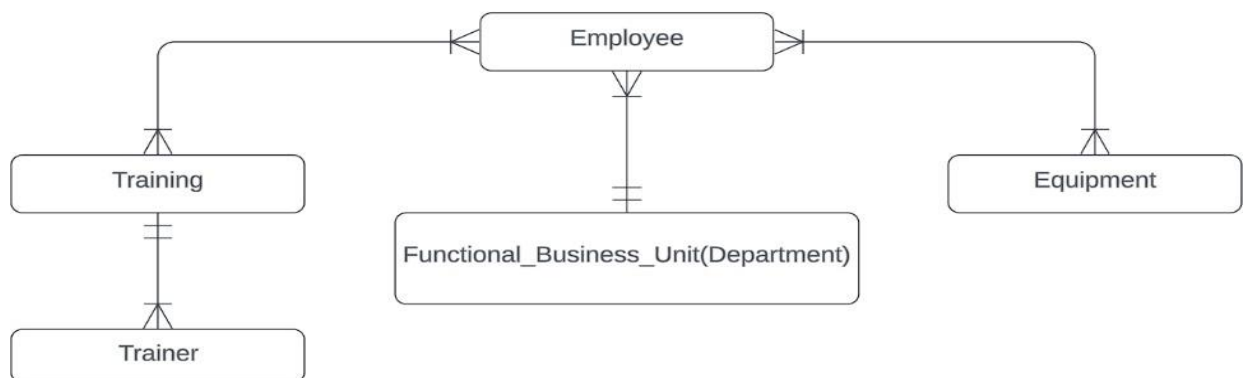# ER Modelling for small businesses

Conceptual Data Modelling

Conceptional Data Modelling consists of all the entities and relationships between those entities. The entities for a small business based on the data given are:

1. Employee
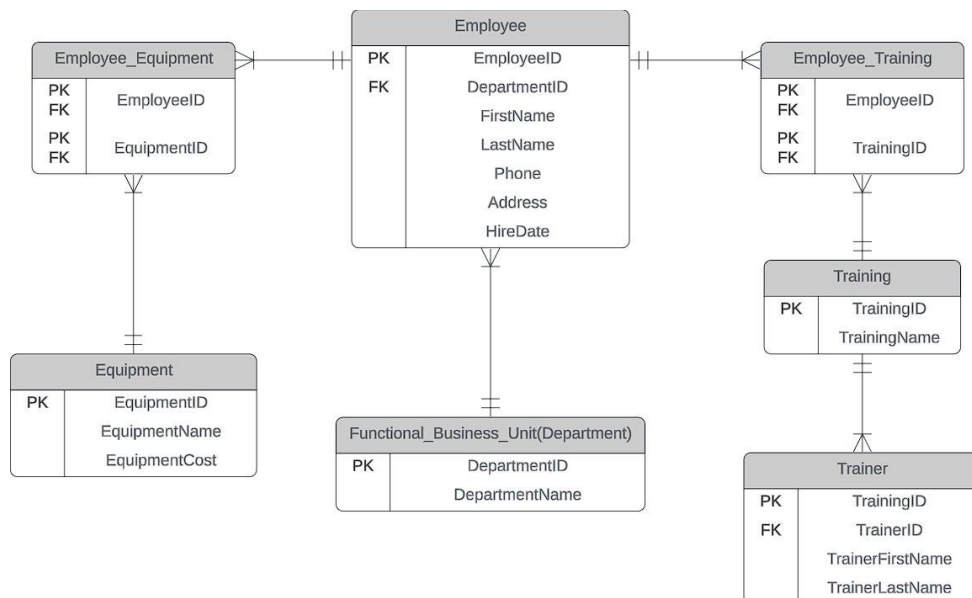2. Equipment
3. Functional_Business_Unit(Department)
4. Training
5. Trainer

Logical Data Modelling

Logical data modelling consists of everything in the Conceptual modelling, and it further includes attributes and the keys. It also emphasizes on normalizations which cannot have many-to-many relationships. Thus 2 more entities have been added:

1. Employee_Equipment
2. Employee_Training

Physical Data Modelling

Physical data modelling consists of everything in logical data modelling, and it also includes the datatypes and constraints.

Employee

PK	EmployeeID	INTEGER NOT NULL
FK	DepartmentID	TINYINT NOT NULL
	FirstName	VARCHAR(20) NOT NULL
	LastName	VARCHAR(20) NOT NULL
	PhoneNo.	VARCHAR(15)
	Address	VARCHAR(50)
	HireDate	DATE NOT NULL

Employee_Equipment

PK FK	EmployeeID	INTEGER NOT NULL
PK FK	EquipmentID	INTEGER NOT NULL

Equipment

PK	EquipmentID	INTEGER NOT NULL
	EquipmentName	VARCHAR(30) NOT NULL
	EquipmentCost	DECIMAL(10,2)

Employee_Training

PK FK	EmployeeID	INTEGER NOT NULL
PK FK	TrainingID	INTEGER NOT NULL

Training

PK	TrainingID	INTEGER NOT NULL
	TrainingName	VARCHAR(50) NOT NULL

Functional_Business_Unit(Department)

PK	DepartmentID	TINYINT NOT NULL
	DepartmentName	VARCHAR(30) NOT NULL

Trainer

PK	TrainingID	INTEGER NOT NULL
FK	TrainerID	INTEGER NOT NULL
	TrainerFirstName	VARCHAR(20) NOT NULL
	TrainerLastName	VARCHAR(20) NOT NULL