Student Projects

Chapter 3: Creating ER Diagrams for Student Projects

Read the sample project(The Art Gallery) steps for this chapter and apply the same
techniques to the student project that you are developing.

For the project you have chosen, do the following:

- **Step 3.1: Make a list of all entities and their associated attributes.**

    1. Donor

        a. donorID

        b. Name

        c. DOB

        d. Address

        e. Affiliation

        f. preferedPhone

    2. Pledge

        a. pledgeID

        b. donorID

        c. pledgeAmount

        d. pledgeDate

    3. Payment

        a. paymentID

        b. amountPaid

        c. paymentType

        d. cardNumber

        e. paymentTiming

    4. Event

        a. eventID

        b. eventName

c. eventDate

d. eventCost

5. eventParticpants

    a. donationAtEvent

    b. isDonor

6. matchingGift

    a. matchingGiftId

    b. employerName

    c. employerPhone

    d. Amount

7. donorCircle

    a. circleType(student, alumni, friends of uni..)

- **Step 3.2: Make a list of relationships to be represented, and any descriptive attributes for them.**
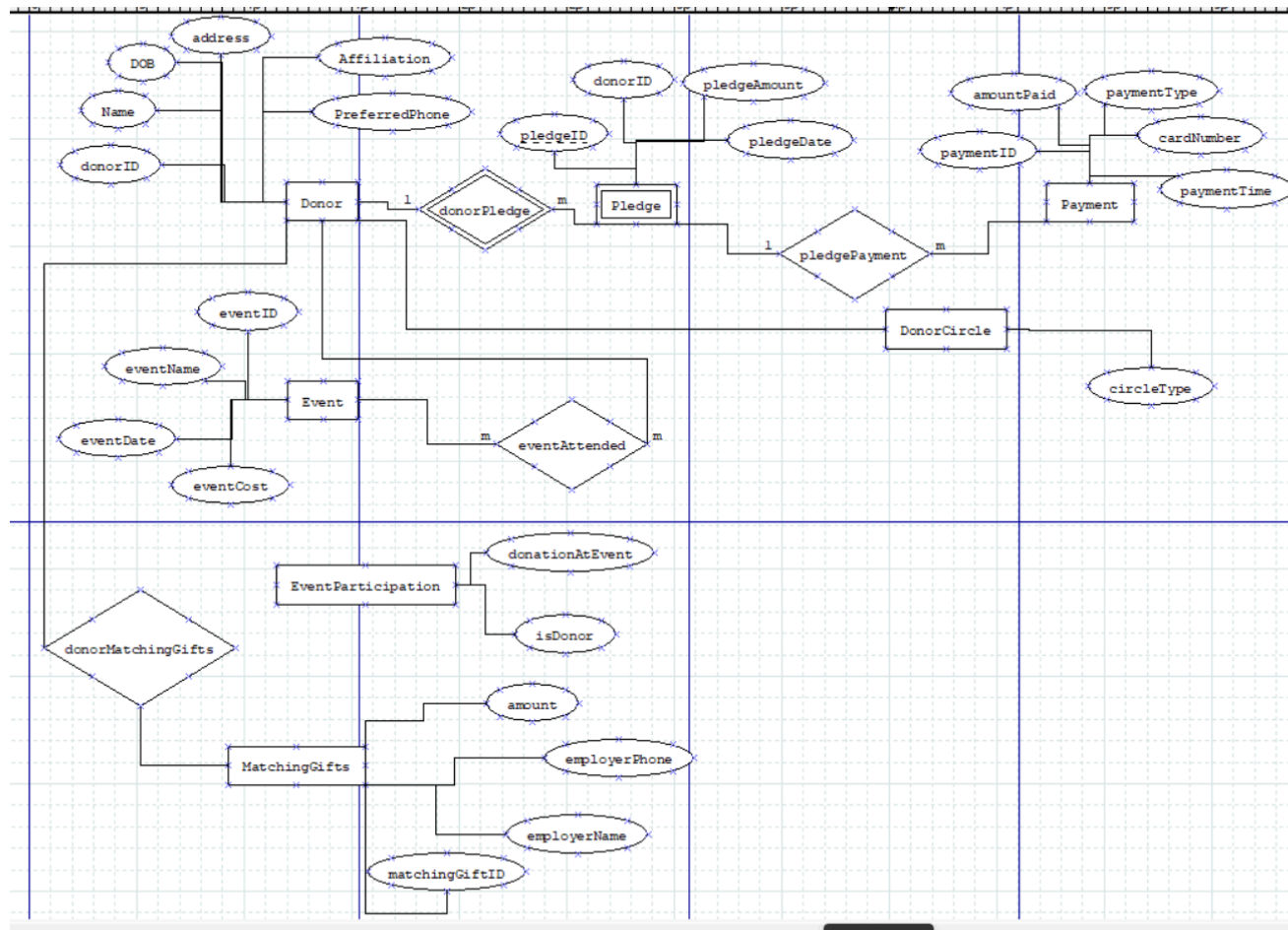
    1. Donor and pledge - donor pledges can be one donor pledging multiple so 1:m

    2. Pledge and payment- they need payment details for every pledge but might have many payment for different pledges so 1:m

    3. Donor and event - donor attend event m:m cause there might be several events and several donor attendees

    4. Donor and matching gift - donor have matching gift

    5. Each donor also belongs to donor circle it is many to 1 because they might be alumni and friends with the university
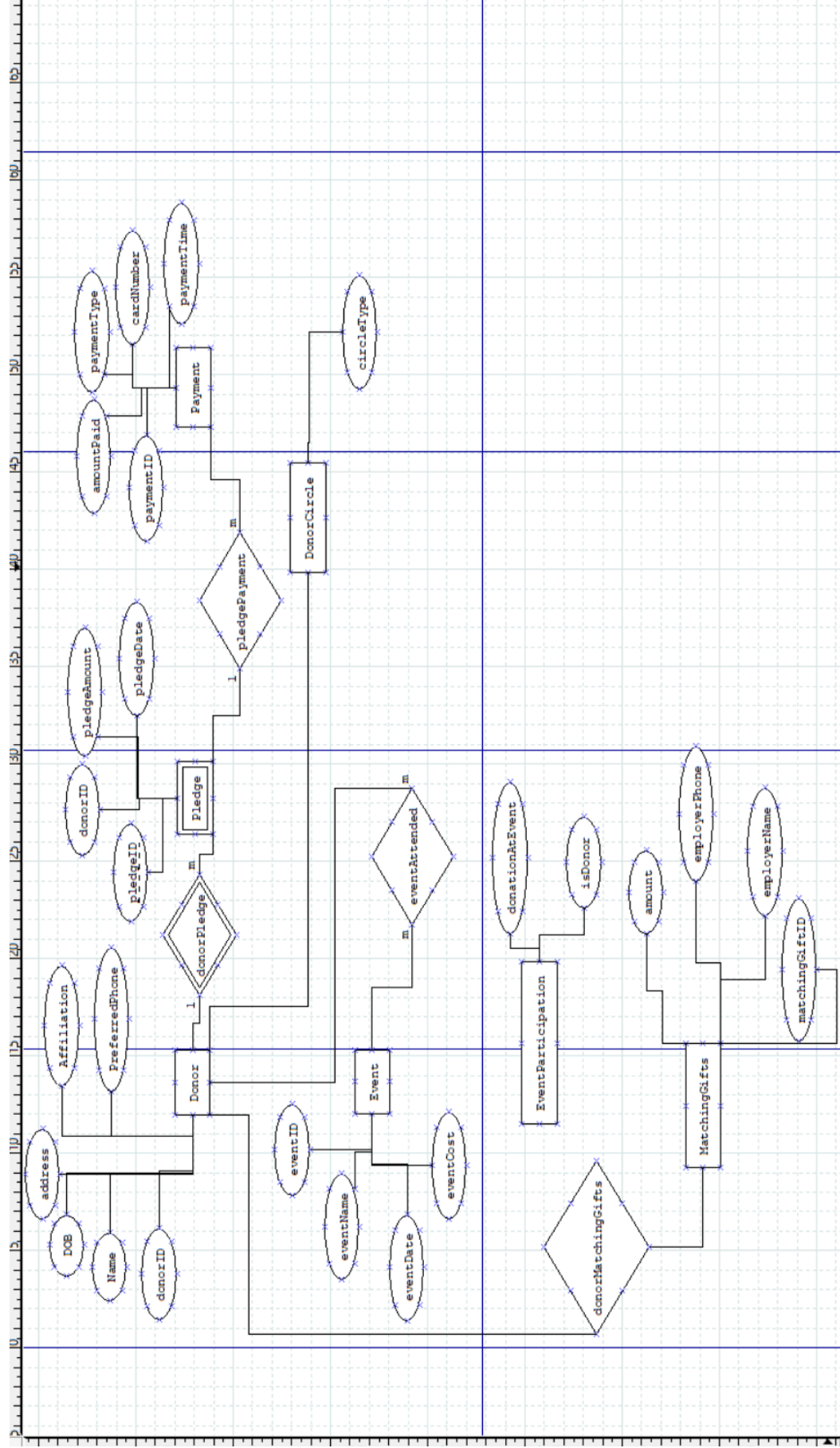
- **Step 3.3: Draw an ER diagram to represent the enterprise. Be sure to identify relationship participation and cardinality constraints, any weak entity sets, and rolenames, if needed.**

    Use Figure S.3.1 in the sample project as a model for your diagram.

An Entity-Relationship (ER) diagram for a donation management system.

Entities and their attributes:

Donor: donorID, Name, DOB, address, Affiliation, PreferredPhone

Pledge: pledgeID, donorID, pledgeAmount, pledgeDate

Payment: paymentID, amountPaid, paymentType, cardNumber, paymentTime

DonorCircle: circleType

Event: eventID, eventName, eventDate, eventCost

EventParticipation: isDonor, donationAtEvent

MatchingGifts: matchingGiftID, amount, employerName, employerPhone

Relationships:
- donorPledge (1 : m) between Donor and Pledge
- pledgePayment (1 : m) between Pledge and Payment, with DonorCircle
- eventAttended (m : m) between Donor and Event
- donorMatchingGifts between Donor and MatchingGifts

- **Step 3.4 Update the data dictionary and list of assumptions as needed.**

  60. Donorpledge : relation between the donor and pledge every pledge has a donor.

  61. eventAttende: relation between event and donor. Have m:m relation because a donor might attend many events and events have many donors attend them

  62. pledgePayments: relation between pledge and payments. Every pledge is paid by some kind of payment type and payment type can be used for different pledges over time if saved.

  63. donorMatchingGifts: relation between donor and matching gifts. Since every matching gift is given to donors and their employers there should be at least one donor.

- **Step 3.5: Modify the ER diagram and draw an EER diagram to represent the enterprise. Use generalization and union as necessary to express entity set relationships, adding appropriate constraint notation. Identify relationship participation and cardinality constraints using (min,max) notation. Use Figure S.3.2 in the sample project as a model for your diagram.**