**Chapter 3 – Team Project: Creating ER Diagrams for Team Project**

Read the sample project steps for this chapter and apply the same techniques to the team project that you are developing.For the team project, do the following:

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

In identifying entities, we examine the data dictionary and the cross-reference table

that we developed in previous steps. Our job is to try to use abstraction to group the attributes into entities for the mini world we are modeling, which covers only a small part of the photography studio’s activities. Besides examining the documents, we have already developed, we think about the enterprise and ask ourselves what the persons, places, events, objects, or concepts are in the mini world that we need to keep information about. The cross-reference table can help here. If several attributes tend to appear together on reports, they may be attributes of the same entity. The original data dictionary may have some items generated for reports that we need not store in the database, such as the date the report was generated. They can be dropped from the list of attributes. By examining the data dictionary and asking ourselves which people are important in the image photography studio, we would certainly identify Clients, Photographer, Event, Package, Contract as entities.

Note that we do not make the Photography studio itself an entity, since it is the enterprise.

The entities appear to be:

Client

Contract

Event

Package

Photographer

In identifying the attributes for an entity, we try to find data items that tell a single fact about an entity instance.For the Client entity, we look for attributes whose value would tell us one piece of information about a client. Grouping the items from the data dictionary, the attributes that seem to describe the client are:

ClientAddress- The mailing address of the client, consisting of ClientStreet, ClientState, ClientCity.

ClientAppointmentDate- The appointment date of the client.

ClientAppointmentTime- The appointment time of the client.

ClientAreaCode- The mailing zip code of the client.

ClientCity- The mailing city of the client.

ClientFirstName- The given first name of the Client.

ClientID- The unique Id for customer identification.

ClientLastName- The given last name of the Client.

ClientPhone- The complete phone number of the client.

**Contract**

When we examine the data dictionary for items that describe the entity contract, we found the candidates for attributes are:

ContractAdditionalPictures- The extra copies requested by the client.

ContractNumber- The unique number for signed contract by the Client.

ContractProofSubmission- Company agreeing to submit proofs(yes/no).

ContractServiceDays- The days in a week when the contract is applicable.

ContractStartDate- The contract start date.

**Event**

The Potential Attributes are:

EventAmountPaid- The amount paid at the time of confirmation.

EventBalanceAmount- The balance due after the amount paid at confirmation.

EventConfirmationDate- The date on which the event was confirmed.

EventConfirmationTime- The time at which the event was confirmed.

EventDate- The date of the event.

EventID- The unique event id for a customer.

EventLocation- The location of the event.

EventMethodPayment- The method of payment with options credit, cash, debit or any other method.

EventTime- the time of the event.

EventTotalPayment- The total amount for the event.

**Package**

Looking through the data dictionary for attributes of Collector the candidates include:

PackageID- The unique Id for packages available.

PackageMode- The mode of package requested by the client online or offline.

PackageNumberProofs- The number of proofs agreed to be submitted.

PackageProofType- The type of proof agreed to be submitted.

PackageServiceRequest- The requested services by the Client.

**Photographer**

PhotgrapherAddress- The mailing address of the photographer, consisting of state, street and city.

PhotgrapherPhone- The complete phone number of the photographer.

PhotographerAreaCode- The zip code of the photographer.

PhotographerCity- The city of the photographer.

PhotographerFullName- The first given name of the photographer.

PhotographerID- The unique id for photographer.

**StudioOwner**

Potential attributes are:

studioownerAddress, studioownerAreaCode, studioownercity, studioownerFirstName, studioownerLastName, studioownerPhone, studioownerSocialSecurityNumber, studioownerState, studioownerStreet, studioownerTelephoneNumber,studioownerZipcode.

**Step 3.2 - Make a list of relationships to be represented, and any descriptive attributes for them.**

Our entities are Photographer, Photograph, Studio, Client, Album, Potential Customer, Contract, Package, Event, Sale, Salesperson. Looking for relationships among them, we find the following:

**Creates** Photographer is related to the Photograph: Every photograph in the studio or event is taken by the Photographer. In fact, photograph does not have any key without the photographer, since the title is not unique. Therefore, we will make the photograph weak entity, dependent on the photographer through the Creates relationship.

**Owns** in some instances the photograph is not owned by the photographer who took it. For those entity instances, Photograph is also related to the Client, through the Owns relationship.

**IsSold** Photograph is related to the Sale. Sale has total participation in this relationship.

**SoldBy** sale is related to the Salesperson. Salesperson has total participation in this relationship as well.

**SoldTo** sale is related to the Client

**ShownIn** photograph is related to the Album

**PreferredBy** PotentialCustomer does not appear to be strongly related to any other entity. However, a potential customer can identify the photographer as a preference, so we could relate **PotentialCustomer** to Photographer Having this relationship means that we no longer need **preferredPhotographer** as an attribute of PotentialCustomer in the E-R diagram.

**PrefferedPhotographer** is an attribute of PotentialCustomer in the E-R diagram.

Client: Since a client may collect photographs predominantly by one Photographer, we can add a relationship between Photographer and Client. Having this relationship means that we no longer need clientPhotographerFirstName or clientPhotographerLastName as attributes of Client in the E-R diagram.

**FeaturedIn** We add this relationship to connect an to the “one-person” shows where that person’s work is featured. Having this relationship means that we no longer need to keep showFeaturedphotgrapher as an attribute of Studio.

Since there were no remaining attributes on the data dictionary, there are no attributes that depend on relationships in this example.

**Step 3.3 - Draw an E-R diagram to represent the enterprise**. Be sure to identify relationship participation and cardinality constraints, any weak entity sets, and role names, if needed.

Diagram

Description automatically generated

**Client:** Need to add Uniq client ID and address (street, city, state, zip), Client name (first, last),

**Contractor:** It working as a attract the clients to studio it has Uniq ID, contact start date and end date and proofs submission with all details

**Event:** Event Location (street, city, state, zip), event booking ID and event date with all details

**Studio**: Every studio has Unique ID and its managed Client pictures, Albums, sales,

Additional pictures or albums

**Photographer:** Photographer address (street, city, state, zip), phone (areaCode, telephoneNumber),full name(firstName, lastName),

An E-R diagram drawn using Visio is shown in *ERDiagram-FigS.3.1*. To construct it, we used the steps described next. We are start the diagram with the Client. we draw a rectangle and diamond er diagrams for client, event, contractor, photographer, studio and packages, diamond for the Creates relationship. Each Photographer may have zero or many networks in the studio. We use a single line to allow for the possibility that a photographer has been interviewed but none of his or her artworks have been selected yet.

Photographer has connection link to studio and the client which is the prior work in imagery studio it represented in the ER diagram with multiple arrows because photographer, clients, studios had a interlinked connection. have many potential customers who prefer him or her? This is a partial relationship on both sides, since a potential customer does not have to state a preference for any artist, and an artist may have no potential customers who have chosen him or her as preferred.

3.4 The list of assumptions are the following:.

1. Clients have unique identifiers such as their first and last name.

2. The database contains the client's contact information as well as payment information from when they signed the contract.

3. Unique identification is required for every photographer in the studio.

4. Method of payment for an event should be either credit/Debit or cash.

5. A single photographer may have covered several events.

6. Events should be recognized by their Event ID.

7. The unique id for the packages available.

7. Each Package is identifiable by an unique identification that is issued to it.

8. At least one lead photographer and one optional helper photographer are required for each event.

9. When signing the contract, the client should pay an initial deposit and then make

further payments.

10. Before signing the contract client should provide proper identification proof.

11. The studio provides a list of photographer’s contact details.

12. The final payment amount may change from the first request.

13. Photographer type values include ordinary photographers and freelance

photographers.

14. The event and seating values are on the list of Event kinds.

15. Event location and time will be informed to the client a week prior to the actual event.

16. The final payment amount may change from the first request.

17. The database does not include file metadata for photos retained by the studio for

six months and then deleted.