Scenario-PurpleBoxDVD

PurpleBox is a database system which keeps track of the information about Movie Rentals (Blu-ray & DVD format) as well as customers. It will be used in a Movie rental shop on Weber State’s Ogden campus. Without the use of this database system the rental shop will have to maintain scattered inventory records and customer information. A centralized database will help to provide general accessibility to this information as well as ensure the data are preserved more securely.

The Business Logic

The rental shop has users who can either be administrators (Admin) or customers. All users have a unique ID to identify them. The administrators manage the database and have authority to modify the database. The customer can borrow copies of DVDs/Blu-Rays (hereby referred to as Movie Items) from the shop. A person can be both administrator and customer.

For each user, we maintain several pieces of information including first and last name, a password for authentication, two ID verification questions and answers, an email address, and one or more phone numbers. The security questions will come from a list of pre-designed questions. Each user will select a question and then provide an answer for that question.

There are two types of customers: standard and premium. All customers must be designated one of the two types. The difference between the two kinds of customers is that normal customers may rent up to 2 Movie Items using their account, whereas premium customers get to rent up to 4 Movie Items.

Another privilege to premium customers is that they can "reserve" up to 4 Movie titles. That is, even if the Movie Item is not available at the store, the customer can request to reserve that Movie whenever a copy is returned. The Premium customer must designate which movie type (BluRay or DVD) they wish to reserve. When they reserve a movie, they are not reserving a specific movie item, only that they want a particular movie title and movie type. Standard customers do not have the privilege of reserving a movie title and can only rent from what movie items are available in the store at the current time.

Each customer can only rent Movie Items if they haven't exceeded the quota allocated and if they are not currently banned. A customer may be banned by an admin depending on the situation. For example, a customer may be banned for not returning Movie Items for an extended period of time, not paying late fees, or situations may arise when the shop no longer wants to service a particular customer. This ban is a temporary ban and can be changed by admin as situation changes.

Movies have a title, a description, one or more directors, one or more actors, one or more genres (for example, action, comedy, horror, etc.), and a MPAA rating.

The store can have multiple copies of each movie. Each copy of the movie is a Movie Item and is identified with a unique Movie Item ID and has a movie type (DVD or BluRay) and rental fee. When a customer rents a Movie, they actually rent a Movie Item.

Whenever a Movie Item is rented by a customer, we maintain the rental date as well as the return date (when the movie item was returned to the store). If the customer returns the Movie Item after the due date, they are charged with overdue fees depending on how many days the return exceeded the movie item due date. The due date is 3 days after the rental date.

We maintain a table with information related to movie directors. We also maintain a table with information related to movie actors. We may maintain information of actors and directors that do not belong to any Movie in the database.