Library Management System

BlockBuster Video runs a chain of video tape rental shops in the Western Region. Each shop has a Manager and several Counter Staff. The counter staff works shifts so that only one of them is in a shop at a time.

Customers register at any branch of the chain, giving their name, date of birth and address. They are then allocated a membership number and given a membership card that is valid at all branches. Customers pay the rental fee when they borrow a video. The standard loan period is 24 hours though other time periods are possible and customers are liable to a fine if they do not return the tape within the loan period.

Each shop receives multiple copies of films, the exact number depending on how popular the film is expected to be. When video copies of a film are received in the shop they are immediately registered. Videos with a certificate of 15 or 18 may only be rented to customers who are of the appropriate age.

The shop maintains a register of all the films that it has, noting for each copy of the film, whether it is in stock or out on loan. In the latter case the membership number of the customer who has borrowed it and the time and date the video was borrowed are also recorded.

A Customer is required to carry his membership card whenever he visits the shop. The Counter Staff records the loan and collects the fee. Then the video is issued.

Go through with the above case study for the BlockBuster Video example, and identify the various entities/tables required to fulfill the requirement.

Following a test driven approach, you will be responsible for performing the following operations:

1) Shops (Andheri & Bandra)

2) Assign one manager for each shop

3) Adding counter staffs for 2 shifts, for ex: let's say that the shop is open from 9 AM – 9 PM, so counter staffs work in a shift of 6 hours each

4) Adding some movies

5) Assigning movies to shops and maintaining the required details

6) Register customers and generate membership details

7) Issue movies to customers

8) Customer returns the movies he/she rented

9) The following select queries also need to be performed:

   a. Fetch the counter staff details who is current assigned to the shop

   b. Fetch the available movies in a Shop

   c. Fetch customers who have not returned the movies on the due date