Lab 8 - Conception

Part 1 – Conceptual and physical design

We aim at managing a video club that rents Blu-ray to its members. After client interview, here are the obtained requirements:

The club is open once a week and offers to its members a list of available movies. Each member has an account which is charged for each rental. The account must be credited prior to any rental, and there must be enough credit to rent a video (no credit). For each of the movie, the club has one or many copies that are uniquely identified per a barcode. For each copy, we must be able to know its current state: RENTED, AVAILABLE, LOST, OUT_OF_ORDER.

Each member is identified by a unique number. The club must also know the firstname, lastname and address for each of its members. Depending on how long they are in the club, members may get various discounts.

Movies are available solely as Blu-rays. To be consulted via a terminal, the club must know the title of the movie, a short summary and its date of making. Various categories are managed to facilitate search in the terminal.

Members also offered the possibility to book movies in advance for a given date. When the movie is rented, a theoretical return date is computed, and in case of late return, a penalty, proportional to the number of days of delay will be imposed to the member.

To simplify the study, we will not take into the date of return for the booking, i.e. every booking is allowed.

1. Starting from the given requirements, define a E/R model for this video club. This model must show the various entities (and their attributes) and their relationships. Do describe cardinalities, better use the 1..n notation rather the american one with arrows (too unclear).
2. Transform this conceptual model into a physical one by creating tables, their attributes and referential integrity constraints between the tables.
3. Create the table in the MySQL Workbench