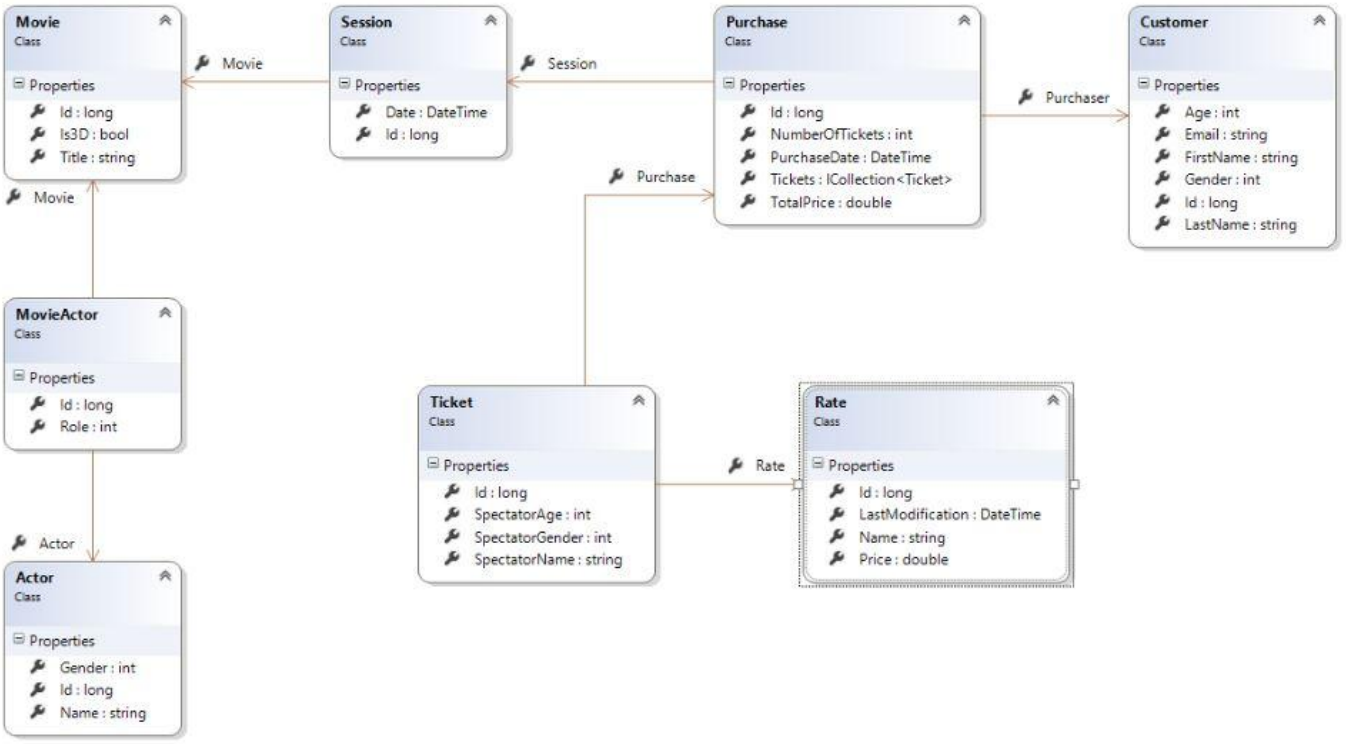
MovieHD

Database architecture of a movie theater MovieHD :

Conceptual Data Model :



I have created 8 tables that I see as essential for good data management:

- Movie: Contains all the information needed to identify a movie.
- Actor: Contains all the information needed to identify an actor.
- MovieActor: A simple (n,n) binding table between Movie and Actor.
- Session: This table makes the link between the film and its broadcast times.
- Purchase: Contains important information about a purchase and serves as an indispensable source for stats.
- Ticket: Contains information about the spectator (We can have several spectators and only one buyer. This is why we find the 'NumberOfTickets' field in the Purchase table)

- Rate: Contains all the types of rates that can be had. These prices are also identified by a ‘modification’ date. This field makes it possible to differentiate the tariffs which bear the same name but not the same price in order not to lose the old tariffs.
- Customer: Contains all information about the buyer, this buyer may or may not be part of the viewers.

Database Structure :

I have chosen to arrange the entities in this manner for the following reasons:

-> The main entry is a purchase. The purchase is linked to one or more tickets.
-> These tickets are linked to a price table to deduce the price at the time of purchase
-> The purchase is also linked to a schedule, so we have a session table containing the schedule of the film (this table could also contain other information such as the number of the room, or the number of seats purchased/remaining in relation to this film/schedule).
-> A purchase is made by buyers, we just need to know how many viewers per purchase (hence the NumberOfTickets field on the Purchase entity). So we have our purchase date directly in the purchase table and we calculate the price of a purchase before the insert to facilitate the calculation of the set of X purchases.
-> For the actors, we have a table listing the actors, and a many-to-many table linking actors to movies according to their role.