ER DIAGRAMA FOR A CINEMA TICKET SCHEDULE SIMULATION

Use cases:

- The user through the email and password enters the website to make your reservation.
- The user search for the movie which can have multiple screenings at different times, or it can be screened simultaneously in a different auditorium.
- The user selects the movie and reserve the seats.
- The user pays a price for the seats reserved to complete the operation.
- The system add the reservation to a reserve book or scheme to control the number of seats available.
- The administrator adds or delete the movies on the web page.

Entities:

The main entities for the diagram identified would be the **user**, the **seats**, the **movie**, the **administrator**, the **room or auditorium**, and the **screen** and two sub-entities like **seat_reserved** and **reservation_book.**

- The user fields have meanings according to their name.

- The movie contains data about movies which will be shown in the theater. All fields have meanings according to their name.

- The auditorium identifies all auditoriums in theater. The seats_no field can be used to calculate percentage of availability of auditorium for the selected screening/movie/auditorium/date range.

- The screening contains data of all screenings. A screening must have a related movie, auditorium and start time. We can't have two showings in same auditorium at the same time.

- The seat contains a list of all seats we have in auditoriums with each seat assigned to strictly one auditorium.

- The administrator is in charge of adding/deleting movies, fields have meanings according to their name.

- The reservation_book is a dictionary of all reservation types. For example, online or physically.

- The reservation and seat_reserved are the main entities and sub-entity of our system. This is why I listed them last. All other entities can exist without reservation but without the reservation we would lose the reason for designing the whole database in the first place. The reservation stores data about a ticket reservation and/or sale. If we have a reservation, the attribute reserved would be set to True, the reservation_type would be set according to the origin of the reservation and the customer_id would contain the id value of the person who reserved.

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