

Exercise 7 : Spectatou Entertainment Centre

Spectatou is an entertainment centre with three auditoriums : Hall 1 - Félix Leclerc (75 seats); Hall 2 – Jean Lapointe (300 seats); Hall 3 – Pauline Julien (850 seats).

Different shows have different duration. The number of performances of each show can vary and the nights which each performance is given can vary as well. Some shows even have two performances per day. Each hall has a daily rental fee which varies depending on the season. Two shows can never share the same performance hall, and every show must be shown in one and only one hall.

Below is an example of a show :

Pitachou in celebration (show number ENF010)

Presented from December 1st to December 23rd 1999 (performances: Tuesday to Thursday 1pm, Friday to Saturday 1pm and 3:30pm, Sunday 2pm and 4pm)

Price : \$10 for children 12 and under, \$15 for students and \$20 for adults

Sponsored by Alcan

Director : Mr. Soulanges

Ticket prices vary from show to show. Special prices are offered to children under 12, students, seniors, and groups of 15 or more. The price of all seats is consistent, no matter the location of the seat.

People can buy tickets by phone, or they can buy them at the entertainment centre. After a purchase is made, the ticket clerk places the ticket(s) in an envelope with the client's name written on it. Below is an example of a ticket for a show Spectatou might present. Seating for all shows is first come first served, so tickets should not indicate a seat number.

The centre wants to computerize its ticket sales service **so that the number of remaining available seats for each show is always up to date**. The system they request does not need to report the amount generated by ticket sales.

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| <i>SPECTATOU</i> | SPECTATOU | SPECTATOU |
| | Pitachou in celebration | |
| | Hall Félix Leclerc | |
| | Sunday 26/12/99 2pm | |
| | $\$20,00 + \$2,01 = \$22,01$ | |

- a) Develop a entity-relationship model and normalize it to the third normal form.
- b) Use the entity-relationship from the previous exercise. What changes would you need to make to your model if :
Spectatou entertainment centre is now requesting that seat bookings *be identified by a location code (floor, balcony), section (right, middle, left), row and seat (see the sample ticket below)*. Ticket prices still vary depending on the client category and the price of the show. Spectatou now wants to know the amount generated by ticket sales.

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|----------|---|----------|
| Location | | Location |
| Section | SPECTATOU Pitachou in celebration | Section |
| Row | Hall Félix Leclerc Sunday 25/12/99 2pm | Row |
| Seat | \$63,50+ \$5,10 = \$68,60 | Seat |