Theatre Agency Requirements

**Source**: Oriented Systems Development with Jade, 6th Edition, 2016, Chapter 12: Some Challenges in Object Modelling.

# Part 1: Basic Description, Nouns and Verbs

1. A show is performed at a theatre.
2. The agency manages a number of theatres.
3. Each theatre has a number of shows, for any of which bookings may be taken.
4. We will call a date on which a show is performed its show date.
5. Each show has a start date and a finish date. We assume the show is performed only once a day, every day from start date to finish date.
6. Each theatre has many seats
7. For every theatre there exists a plan defining the layout of its own unique seating plan. For a given show date this seating plan is called a booking plan.
8. Each show maintains a collection of booking plans, one for each date from start date to finish date.
9. Customers book/purchase seats for a show. A customer seeking N seats wants N contiguous seats.
10. Each seat in a booking plan is numbered and is either booked or unallocated.
11. Each seat in a booking plan has a price code which determines its price.

We might wish to add further classes or attributes to support management needs. For example, managers want to have quick answers to questions like this: “How many seats remain unsold for a show *Showboat* for March 7th?”

Diagram

Description automatically generated

# Part 2: Key Events, Messages and Actions for Some Scenarios

Let’s examine if the model would support the following scenarios.

1. Booking scenario:
   1. A customer wants to see the seating-plan for a certain show on a certain date.
   2. The customer requests n seats for a show on a certain date.
   3. The seats are marked as booked, if they are available, and all relevant collections are updated.
2. Other miscellaneous scenarios:
   1. A new show is announced. It is loaded into the system.
   2. One customer pays cash for her tickets. Another pays by credit card when booking hers.
   3. The end date for a show has passed.

Diagram

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