Booking System Design Notes

Reservation Workflow

The reservation workflow for this system should follow the following steps: search, book, invoice. Search should begin by asking the user what their search criteria is. Based on that criteria, a set of inventory should be returned which communicates availability and pricing. The user can continue the process by submitting a booking request. If the booking is successful, an invoice should be returned to the user letting them know what will be due at the time of their visit.

System Features

Adding a Room

There needs to be a way to add a room to the system so that it is available to book.

Required Information

- Room number (string) <- must be unique
- Number of beds (integer)
- Handicap accessible (boolean)
- Building level (integer) <- metadata, not used in any backend logic
- Pet friendly (boolean)

Max Pets Rule

There must be a mechanism that limits the number of pets on a reservation to 2.

Required Information

- Maximum number of pets allowed (integer)

Pricing Rules

There needs to be a rule chain for determining pricing. Pricing is based on number of beds and number of pets.

Base Pricing

Base pricing is the base rate for a room based on the number of beds. There needs to be a way to add a base price.

Required Information

- Number of beds (integer)
- Price (money)

Pet Fee

A pet fee is the price per pet.

Required Information

- Fee amount (money)

Availability Search

There needs to a mechanism for searching available rooms for a date range. Specific room numbers do not matter, just how many that fit the criteria. Two rooms with the same criteria are essentially the same to the customer - typically people do not care if they are in room 13 or 14 if they are set up exactly the same.

Required Information

- Start date (local date)
- End date (local date)
- Number of beds (integer)
- Number of pets (integer)
- Handicap accessible (boolean)

Booking

There needs to be a way to book an available room for a period of time. Same as availability search, room number is not important here. The system should choose an available room based on the provided criteria.

Required Information

- Start date (local date)
- End date (local date)
- Number of beds (integer)
- Number of pets (integer)
- Handicap accessible (boolean)