

Case V, a Hotel booking system

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1 MoonLodges

A number of hotels, specialized in romantic and adventure holidays, have agreed to form a common IT system for rental of hotel rooms, called **MoonLodges**. Access to the system will be through a web service ment for third party solutions, and through a web application ment for employees in travel agencies.

1.1 Accommodation

Hotels in the agreement are identified by an eight letter code, where the two first characters are the ISO-3166¹ country code of the head quarter and the five last characters are a 6 digit number. The iterated digit sum (tvrsummen) should be 7.

Hotels have names, addresses, cities, distance to center in km, and star ratings as well. Each hotel has a number rooms. Rooms are identified by a room number, 1-4 digits followed by an optional letter 'a'-'z'. A room can accommodate a number of guests, and can have one of the following types: 'S' single, 'D' double, 'T' twin², 'F' family, and 'M' meeting room. Rooms have individual prices.

Guests are identified by passport number.

1.2 Bookings

As a starting point, bookings will not distinguish between adult an child guests.

A booking can involve one or more guests, for one or more nights. A booking can include more than one room. The number of guests may not be greater than the total capacity of the rooms. Rooms can be of different type. Meeting rooms can only be booked in connection with a stay, the capacity of the meeting rooms can not be used for accommodation.

When guests arrives later than 20:00, the booking should be marked with "late arrival".

1.3 The service

The following tasks should be handled by the web application.

- Show a list of vacant hotel rooms in a given city for a given number of guests and period of time. The list should include hotel information and type(s) of rooms. If a meetingroom is available in the time period, it should be flagged as well.
- Make a booking for up to 9 persons in one or more rooms for a given period of time on a given day. The booking migh include a meeting room, for one or more days within the period. An error message should be returned if the rooms are not available any more. Bookings are atomic, meaning that all guests and all rooms should be either included or none of them should.
- See a booking, given a passport number from the booking.

¹http://www.iso.org/iso/iso_3166_code_lists

²Twin, and a double room differs in the placing of beds, twin beds are separated

- Cancel a booking, given a passport number from the booking.