

Overview

A company has hired you to develop a booking system for meeting rooms. The system takes user requests, suggests possible bookings, and has the user select the most suitable one. There are two types of participants who can attend a meeting: employees, and guests.

Meeting rooms

There are several meeting rooms in the office building. A meeting room has a seating capacity and, possibly, audio and video equipment associated to it. Equipment cannot be moved between different meeting rooms. Each meeting room can be used to host meetings for employees and guests. Meeting rooms can be informal, semi-formal, and formal. If a guest is attending, the meeting must be held in a formal meeting room.

Users of the booking system

Only employees can book a meeting room; guests do not have access to the booking system. The employee who organizes a meeting is called the organizer of that meeting. The organizer must identify all the participants who will be attending the meeting, including guests. The organizer himself may or may not attend the meeting. An employee can book a room only if he has the right permission. The permission level of a user is determined through the set of roles he can operate in.

Administration

There is a single employee in the company realizing the role of system administrator. The administrator needs to be able to do the following:

- Edit employee records. Each record is made up of a name, an employee id, a phone number, an email address, a title (a short text string), and the roles in which the corresponding employee can appear.
- Edit guest records. Each guest record is made up of a name, a title, and contact information (phone number, email address, and mailing address).
- Add/remove meeting rooms, create/delete permission roles, assign/unassign permission roles, edit seating capacities and available equipment.

Booking

The organizer of a meeting must specify the following:

- Kind of meeting room needed;
- The earliest and the latest possible dates on which the meeting can be held;
- Nominal duration;
- Description of meeting (e.g. “conference”, “budget discussion”, “brown-bag lunch seminar”, etc.);
- Pieces of equipment needed;
- List of participating employees (selected from a list),
- List of participating guests (selected from a list). The organizer also needs to be able to add new guests to the system.

After the organizer enters the above information, the system suggests a set of possible meeting rooms and times. The organizer will then select one suggestion, and will ask the system to send a notification email to all the participants.