

PROBLEM 1 (LAB 1)

Karaoke Room Scheduling System

The management and staff of the Purple Fox Karaoke Pub are currently experiencing a high volume of phone calls to book the karaoke rooms at the pub. They are currently seeking to automate the booking of these rooms and require your expertise.

The pub has 10 designated karaoke rooms. These rooms can be booked Monday thru Thursday 4 pm to 1 am and on Fridays, Saturdays and Sundays 2 pm to 2 am.

Two of the rooms has the capacity to accommodate 2 persons, this room is referred to as the Fox Double. Three of the rooms has the capacity to accommodate 4 persons, this room is referred to as the Fox Quad. Three of the rooms has the capacity to accommodate 8 persons, this room is referred to as the Fox Grande. Two of the rooms has the capacity to accommodate 12 persons, this room is referred to as the Fox Énorme.

These rooms can be booked by any patron and for any duration. However, a party of 2 book can only book a Fox Double. If no Fox Double's are available, they will have the option to book a Fox Quad but they will have to purchase the room at full price. This principle applies for all category of bookings as well.

The Fox Double comes equipped with 1 microphone and 1 Apple iPad. The Fox Quad comes equipped with 2 microphone and 2 Apple iPad. The Fox Grande comes equipped with 4 microphone and 4 Apple iPad. The Fox Énorme comes equipped with 6 microphone and 6 Apple iPad. Each room comes with a limited amount of accessories, however patrons may purchase additional accessories during the time of their booking. The pub has 10 additional microphones and 10 additional iPad's that are booked on a first come basis.

Each user will maintain a profile with their biographic information and their bookings. Booking a room should be simple for each user. The user should be able to login, see a listing of the availability of a rooms for a given day and book the the room.

Any cancellation less than 4 hours prior their appointment, the user will not be able to book another room for the next 12 hours.

These are the core features of the system, the rest is up to you. Marks will be awarded for creativity.

PROBLEM 2 (LAB 1)

Library Study Rooms Scheduling System

The library department at the University of Victoria is currently experiencing a high volume of phone calls to book the study rooms at the library. They are currently seeking to automate the booking of study rooms and require your expertise.

The library has 10 study rooms. They also have 5 portable projectors and 5 laptops to serve all 10 rooms. The projectors and laptops can only be booked when a user books a room, and they are assigned on a first come basis. These resources can be booked Monday thru Friday 8 am to 10pm and on Saturdays and Sundays 11 am to 6pm.

The rooms can be booked by students, faculty and staff. A student can book a maximum of 1 room at a time and the room can only be booked for a maximum of 1 hour per session. Staff and Faculty can book a maximum of 1 room at a time and the room can be booked for up to 3 hours maximum per session. A student can only book back to back sessions in the same room provided that its less than 2 hours to the time they want to book.

Each user will maintain a profile with their biographic information and status (e.g. student, faculty). Booking a room should be simple for each user. The user should be able to login, see a listing of the availability of rooms for a given day and book that room. An administrator should be able to see and edit all bookings.

Any cancellation less than 5 hours prior to appointment, the user will not be able to book another room for the next 24 hours.

These are the core features of the system, the rest is up to you. Marks will be awarded for creativity.

PROBLEM 3 (LAB 2)

Rec Center Facility Online Scheduling

The Oak Bay Rec Center would like to improve their quality of service by providing a more convenient way for members to schedule use of their facilities. To aid them in this new venture, your expertise is required to develop their online facility reservation system.

The Rec Center would like to provide the online reservations for the following facilities:

- 5 Tennis Courts
- 1 Pool
- 4 Squash Courts
- 3 Workout rooms
- 2 Spinning rooms

The Rec Center is open everyday from 8:00 AM to Midnight, except Sundays when they are open from 10:00 AM to 8:00 PM. Each of the above facilities should be bookable during these hours and can be booked for a maximum of 2 hours in increments of 30 minutes.

Each member will maintain a profile with their biographic information. Booking a facility should be simple for each member. The member should be able to login, see a listing of available facilities for a given day and make a reservation. The member should be able to see information about each facility to make sure they are booking the correct facility.

Each member would also be able to see all their bookings and any cancellation should be done 24 hours prior their reservation. Any cancellation less than 24 hours prior their appointment, the member will not be able to book another reservation for the next 48 hours.

An administrator should be able to see and edit all reservations.

These are the core features of the system, the rest is up to you. Marks will be awarded for creativity.

PROBLEM 4 (LAB 2)

Farmers' Market Booth Online Scheduling

The Fernwood Farmers' Market would like to improve their quality of service for vendors by providing a more convenient way for vendors to reserve a booth. To aid them in this new venture, your expertise is required to develop their online booth reservation system.

The Farmers' Market would like to provide online reservations for the following booth types:

- 3 Lunch Booths
- 4 Produce Booths
- 5 Merchandise Booths

The Farmers' Market is open Tuesday through Saturday from 10:00 AM to 8:00 PM. Each day they have two different sessions for vendors with an 2 hour break from 2-4 (one session from 10am-2pm and one from 4pm-8pm). They are also open Sunday from 12:00 PM to 4:00 PM with only one session. Vendors should be able to book available booths for an entire session.

Each vendor will maintain a profile with their biographic information and information about their merchandise. Booking a booth should be simple for each vendor. The vendor should be able to login, see a listing of available booths for a given day and make a reservation. The vendor should be able to see information about each booth to make sure they are booking the correct booth.

Each vendor should also be able to see all their reservations and any cancellation should be done 24 hours prior their reservation. Any cancellation less than 24 hours prior their appointment, the member will not be able to book another reservation for the next 48 hours.

To make sure that all booths are ready for a vendor, an administrator should be able to see and edit all reservations.

These are the core features of the system, the rest is up to you. Marks will be awarded for creativity.