

Night Gaming Café

Project Description

Business Context and Opportunities

The Night Gaming Café (NGC) is a type of internet café which mainly provides a service for people to play online pc games using our up to date Gaming Desktop PCs. It maintains its service by offering a variety of Gaming Desktop PC rooms and a main lobby with a total of 90 Gaming Desktop PCs seats. With the rise and demand for gaming social hubs that is participated by mostly youth, NGC have started its business in Toronto Ontario.

Most revenue would be mainly generated with in the café itself by offering gaming pc services, allowing the members to play online games as well as café events.

Project Result Goals

NGC is confident that there is a high demand for their services. If members of the café could make a booking for a gaming room or seats in the main lobby via an online web application form, sales would exponentially increase. There is also a need for an efficient booking management system, which would help the employee of the café to provide the best and appropriate live service according to the booking day. As well, the seats in the main lobby and other gaming rooms would be track in real-time to check the availability and prepare to be reserve by the members that book on a daily basis.

List of Operations and Capabilities of System

All of the following operations would be available upon first release.

Operations related to Web Application:

- Registration
 - a. Create Online Account
 - b. Create Member Account
- Profile
- Authentication
 - a. Log In
 - b. Log Out
- Booking Management
 - a. Add/Update/Delete Booking

- System Support
 - a. Update Member Account
 - Profile

Operations related to API via Management App:

- Booking Management
 - a. Add/Update/Delete Booking
 - b. Check/Sort Booking
 - c. Count Booking
- Room Management
 - a. Add/Update/Delete Room
 - b. Check Room Availability
- Seat Management
 - a. Add/Update/Delete Seat
 - b. Check Seat Availability
- System Support
 - a. Add/Update Role
 - b. Add/Update Employee
 - c. Add/Update Member

The following main operations that will always have maintenance, improvements and frequent update in the future depending on the current situations of the café may include:

- Booking Management
- Room Management
- Seat Management

Management App Basic UI Prototype

NGC

Booking

Booking Portal

Main Lounge

Booking 1 Info

Main Lounge

2024-01-05

Available Slots:

Day Time Night Time

Section A Seats

Section B Seats

Section C Seats

Section D Seats

Section E Seats

Time Information

Gaming Zones:

Lobby

Available

eSports

In-Use

Stage

Reserved

Booking 2 Info

Current Balance Info

Copy Right, Terms of Service, ETC

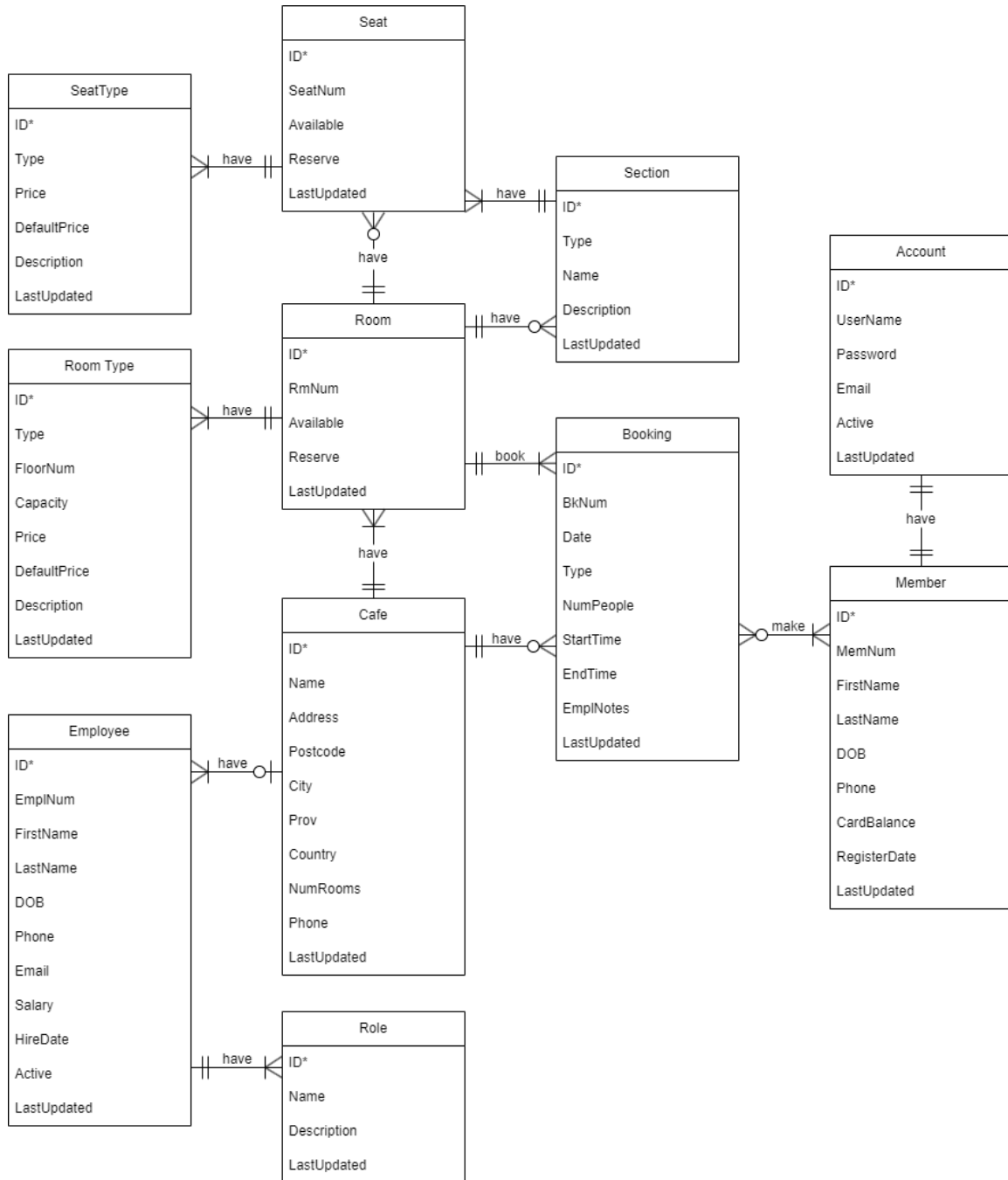
Logical Data Modeling

Entity	Attributes
Member	Member ID, Membership Number, First Name, Last Name, Date of Birth, Phone, Card Balance, Register Date, Last Updated
Member Account	Account ID, Username, Password, Email, Active, Last Updated
Booking	Booking ID, Booking Number, Date, Type, Number of People, Start Time, End Time, Employee Notes, Last Updated
Room	Room ID, Seat Number, Available, Reserve, Last Updated
Room Type	Room Type ID, Type, Floor Number, Capacity, Price, Default Price, Description, Last Updated
Seat	Seat ID, Seat Number, Available, Reserve
Seat Type	Seat Type ID, Type, Price, Default Price, Description, Last Updated
Section	Section ID, Type, Name, Description, Last Updated
Cafe	Café ID, Name, Address, Postcode, City, Province, Country, Number of Rooms, Phone, Last Updated
Employee	Employee ID, Employee Number, First Name, Last Name, Date of Birth, Phone, Email, Salary, Hire Date, Active, Last Updated
Role	Role ID, Name, Description, Last Updated

Entity Relationship Analysis

- a) A member must have one and only one account. An account must have one and only one member.
- b) A member may make one or more bookings. A booking must have one or more members.
- c) A booking must book one and only one room. A room may be booked by one or more bookings.
- d) A booking must reserve at one and only one café. A café may have one or more bookings.
- e) A café must have one or more rooms. A room must belong to one and only one café.
- f) A café must have one or more employees. An employee may work for one and only one café.
- g) An employee may have one or more roles. A role must belong to one and only one employee.
- h) A room must have one or more room types. A room type must belong to one and only one rooms.
- i) A room may have one or more sections. A section must belong to one and only one rooms.
- j) A room may have one or more seats. A seat must belong to one and only one rooms.
- k) A seat must have one or more seat types. A seat type must belong to one and only one seat.
- l) A seat must belong to one and only one section. A section must have one or more seats.

Entity Relationship Diagram



Physical Data Modeling

Table: Account

Columns:

<u>ID</u>	int AI PK
Username	varchar(50)
Password	varchar(100)
Email	varchar(255)
Active	enum("Y","N")
LastUpdated	datetime

Table: Member

Columns:

<u>ID</u>	int AI PK
MemNum	varchar(8)
FirstName	varchar(50)
LastName	varchar(50)
DOB	date
Phone	varchar(15)
CardBalance	decimal(5,2)
RegisterDate	date
LastUpdated	datetime
AcctID	int

Table: Cafe

Columns:

<u>ID</u>	int AI PK
Name	varchar(255)
Address	varchar(255)
Postcode	varchar(7)
City	varchar(50)
Prov	varchar(50)
Country	varchar(50)
NumRooms	smallint
Phone	varchar(15)
LastUpdated	datetime

Table: Booking

Columns:

<u>ID</u>	int AI PK
BkNum	varchar(11)
Date	date
Type	enum('Gaming Room','VIP Room','eSports Conference Room','Lounge Lobby','Lounge eSports','Lounge Stage')
NumPeople	enum('1','2','3','4','5','6','7','8','9','10')
StartTime	enum('12:00','13:00','14:00','15:00','16:00','17:00','18:0','19:00','20:00','21:00')
EndTime	enum('Not Sure','13:00','14:00','15:00','16:00','17:00','18:0','19:00','20:00','21:00','22:00','23:00','24:00','01:00','02:00')
EmplNotes	varchar(100)
LastUpdated	datetime
MemID	int
RmID	int
CafeID	int

Table: RoomType

Columns:

<u>ID</u>	int AI PK
Type	enum('Lounge','Gaming Room','VIP Room','EC Room','None','Nonexistent')
FloorNum	varchar(7)
Capacity	smallint
Price	decimal(5,2)
DefaultPrice	decimal(5,2)
Description	varchar(100)
LastUpdated	datetime

Table: Room

Columns:

<u>ID</u>	int AI PK
RmNum	varchar(15)
Available	enum("Y","N","None")
Reserve	enum("Y","N")
LastUpdated	datetime
RmTypeID	int
CafeID	int

Table: Section

Columns:

<u>ID</u>	int AI PK
Type	enum('Lobby','eSports','Stage')
Name	varchar(11)
Description	varchar(100)
LastUpdated	datetime
RmID	int

Table: SeatType

Columns:

<u>ID</u>	int AI PK
Type	enum('Lobby','eSports','Stage')
Price	decimal(4,2)
DefaultPrice	decimal(4,2)
Description	varchar(100)
LastUpdated	datetime

Table: Seat

Columns:

<u>ID</u>	int AI PK
SeatNum	varchar(5)
Available	enum("Y","N")
Reserve	enum("Y","N")
LastUpdated	datetime
RmID	int
SeatTypeID	int
SectionID	int

Table: Employee

Columns:

<u>ID</u>	int AI PK
EmplNum	varchar(8)
FirstName	varchar(50)
LastName	varchar(50)
DOB	date
Phone	varchar(15)
Email	varchar(255)
Salary	decimal(10,2)
HireDate	date
Active	enum("Y","N")
LastUpdated	datetime
RoleID	int
CafeID	int

Table: Role

Columns:

<u>ID</u>	int AI PK
Name	varchar(15)
Description	varchar(120)
LastUpdated	datetime

Tables associated with operations

Operations	Supporting Entities
1. Registration a. Create Online Account b. Create Customer Account - Profile	Account Member
2. Authentication a. Log In b. Log Out	Account
3. Booking Management a. Add/Update/Delete Booking b. Check/Sort Booking c. Count Booking	Booking Member Room Cafe
4. Room Management a. Add/Update/Delete Room b. Check Room Availability	Room Room Type Section Cafe
5. Seat Management a. Add/Update/Delete Seat b. Check Seat Availability	Room Room Type Seat Seat Type Section Cafe
6. System Support a. Add/Update Role b. Add/Update Employee c. Add/Update Member	Employee Role Member