RESOURCE ALLOCATION SYSTEM

Project report

CSC 110 2.0 Object Oriented Programming

Final Assignment – 2023

O.R.D.K.Perera – AS2021563

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1. Introduction

ABC Resource Allocation System is a standalone application to manage the resources(halls) and support customers' needs. System is implemented on MVC architecture (Model, View, Controller architecture). Java is used as programming language and MYSQL is used as the database.

2. Functional Requirements

- Customer can book a hall for a continuous period or a specific day on a selected period.
- Add, search, edit, delete resource halls and bookings.

3. Non – Functional Requirements

Performance

The system should handle concurrent user requests and provide quick response times for searching and booking halls.

Security

User authentication and authorization mechanisms are implemented to ensure data privacy and system integrity.

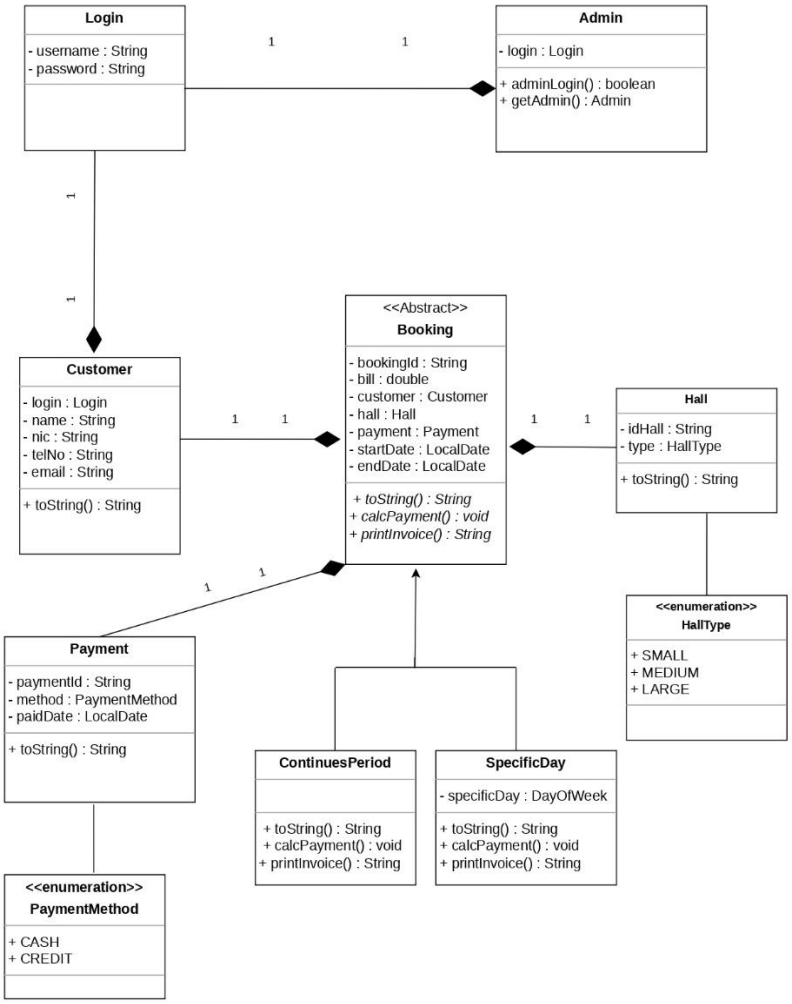
Usability

The system should provide an intuitive user interface with clear instructions, error handling, and feedback mechanisms.

4. Assumptions

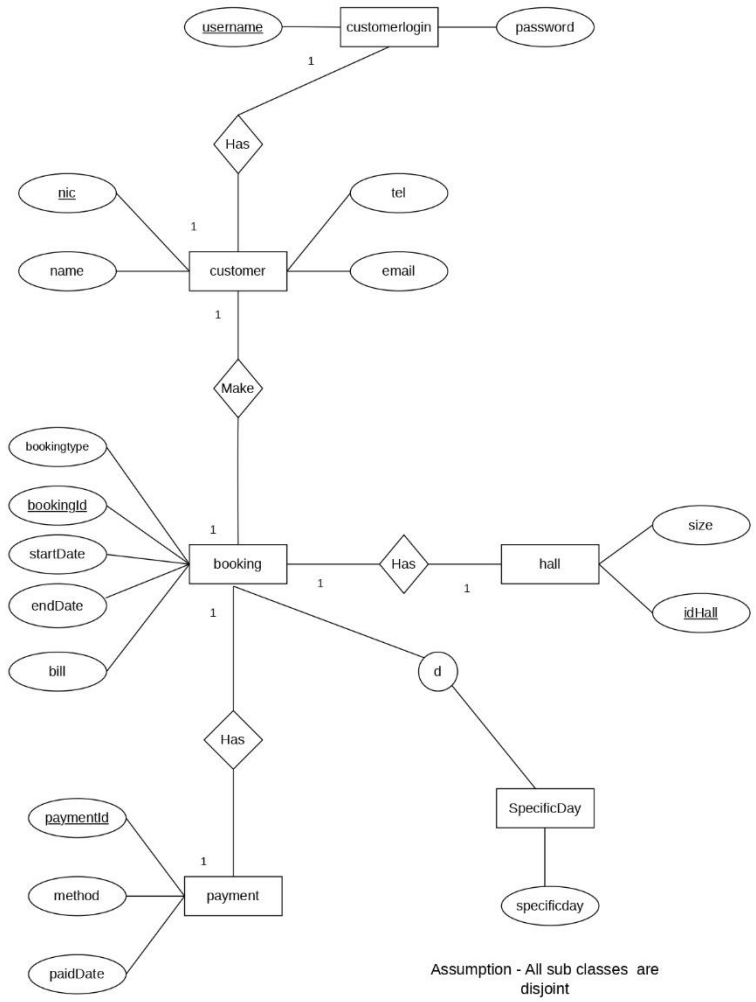
- In the ABC resource allocation system, admin and customer are the actors of the system.
- Customers must create an account before logging in to the system and book a hall.
- There is only one admin for the system.
- Customers must use NIC number as the username to log in to the system.
- One booking has only one hall and only a customer can book a hall.
- Customer can book a hall, edit the booking (extend the end date), cancel the booking and pay for the booking.
- Admin can add a hall, edit hall details, search a hall and delete hall using booking ID.
- Admin can search and delete customer details from the system using customer's NIC number.
- Admin can search and delete booking details using the booking ID. Also, admin can check payment details using both booking ID and payment ID.
- Admin's username is "username", and the password is "12345678".
- There are three sizes of halls. They are small, medium and large. Small halls with a capacity of 200, medium halls with 500 capacity and large halls with 1000 capacity.
- Customers can make their payments after the booking is booked and the customer must make full payment.
- Customer nic has used as the username in customerlogin table.

5. Class diagram



6. Use case diagram

7. Entity relationship diagram



- Database connection class is in resource.allocation.system package as DBConnection.java

8. Database schema

customerlogin (loginId, nic, password)

customer (nic, name, tel, email)

booking (bookingId, startDate, endDate,bill, nic, idHall, bookingtype)

payment (paymentId, method, paidDate, bookingId)

hall (idHall, size)

specificday (specificDayId , bookingId , specificDay)