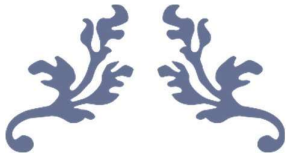

SOFTWARE ENGG. LAB

PROJECT TITLE: STUDENT AUDITORIUM MANAGEMENT SOFTWARE

Group - 17

SRS DOCUMENT

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Introduction

1.1 Purpose

This SRS describes the software's functional and non-functional requirements for the release of Auditorium Management System Software (SAMS) v1.0. This software is a standalone application and is designed to handle various types of social and cultural events conducted in the students' auditorium. Unless otherwise stated, all requirements specified here are of high priority and committed for release v1.0.

1.2 Product Scope

This software consists of the following functions:

1. Adding new events as per availability of the Auditorium, and editing events that are already present.
2. Allocating Balcony and Ordinary Seats for sale or to offer as complementary gifts. Also fixing the price of different seats.
3. Booking and Cancellation of seats for an event.
4. Printing Tickets for booking and cancellation of a seat at an event.
5. Send notifications for booked and canceled seats.
6. Querying the number of available seats of different classes for an event.
7. Querying the percentage of seats booked for various classes of seats and the amount collected in each case.
8. Booking available seats for a particular show.
9. Creating new authorized salesperson's and clerk's login accounts.
10. Recording all the transactions including the salesperson ID.
11. Preparing balance sheets for each event and also for the entire year.

1.3 Definitions, Acronyms, and Abbreviations Used

1. SAMS: SAMS is used for our Auditorium Management System Software.
2. GUI: GUI is used for Graphical User Interface which is a type of interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation, as opposed to text-based interfaces, typed command labels or text navigation.
3. SM: SM is used for Show Manager.
4. SP: SP is used for Sales Person.
5. AC: AC is used for Accountant Clerk
6. GPL: General Public License is a widely used free software license which allows the end-users to use, modify, and share the software along with a set of terms and conditions for use

1.4 Overview

The rest of the SRS examines the specifications of the SAMS in detail. Section 2 of the SRS presents the general factors that affect the SAMS and its requirements, such as user characteristics and project constraints. Section 3 outlines the detailed, specific functional, performance, system, and other related requirements of the software. Section 4 of the SRS presents the functional requirements of SM, SP, and AC.

1.5 References

1. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.
2. SE Lecture SASD (Provided by Prof. Partha Pratim Das)

Overall Description

2.1 Product Perspective

This software is built to add new events as per the availability of the Auditorium and edit events that are already present. Users can also allocate Balcony and Ordinary Seats for sale or offer complementary gifts for an event. Users can also fix the price of different seats for an event. Users can book seats and also cancel already booked seats for an event. Users get printed tickets for booking and cancellations. It also sends notifications on the booking and cancellation of seats. Users can check the number of available and book seats for an event. Users can create new authorized salesperson and clerk's login accounts. It also records all the transactions. It also prepares balance sheets for each event and also for the entire year. Users can also create new authorized salespersons' and clerk's log-in accounts.

2.2 System Environment

The Manager creates new Shows with their timings and the number of seats of different types available for booking, the ticket price according to the popularity and demand of the show is also set by the Manager. This information is added/updated in the show database. The Manager can log in to his/her account and create new authorized accounts for Accountant Clerks and Sales Manager. The Manager also has access to the transaction and expenditure database which is edited and/or maintained by Sales Person and Accountant Clerk respectively.

The Accountant Clerk can log into their account and gain access to the expenditure and show databases can also add the expenditure balance sheet in each show, and maintain a yearly balance sheet regarding the expenditure and income from the shows held in the Auditorium.

The Customer can Query the number of seats of different types available for booking and provide the booking and cancellation details to the salesperson for booking and cancellation respectively.

The Salesperson has access to the transaction and show database. They first log in to their account and make bookings or cancellations depending on the information provided by the customer. The newly added transaction info is updated in the transactions database. On successful booking and/or cancellation by the salesperson, the system generates an automated e-mail or printed handout for the customer.

2.3 Product Functions

There are four Users (Actors) for this software:

1. Costumer
2. Show Manager
3. Sales Person
4. Clerk

The set of functions supported by this software are as follows:

2.3.1 Customer

Functions perform by Customer:

1. Query Availability of Seats: customer can query about the availability of seats of different types for an event at the auditorium.
2. Booking Request: The customer provides the salesperson with the booking details like the show's name, date and time and the type of seats to be booked.
3. Cancellation Request: The customer provides the salesperson with the booked ticket details like booking ID, after which the salesperson searches the transactions database and creates a cancellation transaction and refunds the appropriate amount depending on the date of cancellation and the show date.
4. Receives notification: The customer on successful booking and cancellation receives an e-mail notification or printed handout as confirmation which contains the transaction ID, show details, salesperson's name, and amount taken or refunded.

2.3.2 Sales Person

Functions perform by Sales Person:

Change Login Details: The clerk after logging in can change the login details like username and password.

Book Seat: SP can book seats if available for a customer after receiving the booking details from the customer. The process is completed by a communication email or printed handout and the updated transactions and shown in the database.

Cancel Booking: SP can cancel the booking for a seat if asked by Costumer after receiving the cancellation request from the customer. The process is completed by a confirmation email or printed handout and the updated transactions and shown database.

2.3.3 Clerk

Functions perform by Clerk:

1. Change Login Details: The clerk after logging in can change the login details like username and password.

2. Prepare Balance Sheet: The clerk makes a yearly balance sheet for every show hosted by the auditorium that includes all the expenditures and income from sales for that show and the show dates. The Datasheet database is updated in the end.

3. Add Expenditure: The Clerk adds expenditures for each show containing the expenditure type and amount for each expenditure type. The shown database is updated in the end.

2.3.4 Show Manager

Functions perform by Show Manager:

1. Add new Show: SM can add a new event if the auditorium is available for that time. It includes allocating Balcony and Ordinary Seats for sale or to offer as complementary gifts for functionaries of the students' society or to VIPs for that event. It also includes fixing the price of different seats for that event.

2. Edit Show: SM can edit existing show's information.

3. Checking Show Status: SM can check the number of available and booked seats for an event and also a balance sheet for each show.

4. Create new Personal: SM can create a new authorized salesperson and clerk's log in accounts.

5. View Transaction Detail: SM can view transactions done by each Sales Person like seat booking or seat cancellation details. This can be later used for determining their promotions, gifts, or fines.

2.3.5 System

Functions perform by System:
1. Store Transaction: The system stores all the transaction info that occurs during booking and cancellation of seats and it also stores the ID of that Sales Person.

2. Print Ticket: System print ticket that has customer ID, event info, cost involved, seat info, time of transaction, and type of ticket booking or cancellation.

3. Send Notification: The system sends a notification to the customer about the successful booking or cancellation of a seat.

4. Prepare Balance Sheet: The system prepares the balance sheet for the whole year and keeps it up-to-date using the balance sheet prepared by the Clerk.

5. Store all the data in an online database if it is connected to the internet and keep data up-to-date.

2.4 User Classes and Characteristics

We have used following classes in our software:
1. Person: It is an abstract class for Show Manager, Sales Person, Accountant, Clerk and Costumer. It contains information like name, address, email, gender, phone number etc.

2. Transaction: Transaction is a class that store features like booked seat type: balcony or ordinary, show details like the show's timing and its name, its cost of booking, its customer, and Customer type guest or ordinary customer. It also contains the salesperson info by which it was booked.

3. Show: Show is the class to handle shows hosted by the auditorium. It stores show ID, show date, show starting time, show duration, seat list, and expenditure that show costs.

4. Sales Person: The sales Person is extended from the base class Person it extra features like id which is unique for every Sales Person object and a transaction list which stores all transactions performed by an object. It also contains several functions like booking a ticket, canceling a booked ticket, etc.

5. Accountant Clerk: Clerk is also extended from Person and has feature ID but does not have any transaction list, rather has expenditure list which contains the expenditure objects.

6. Show Manager: Like Sales Person and Clerk, Show Manager is also extended from Person class has ID but it has different features like it has salesperson, clerk, shows database edit access. It can create other authorized personnel and can view balance sheets and transaction lists.

7. Expenditure: It stores the type of expenditure and the amount in numbers. It also stores the show ID for which expenditure is made.

8. Yearly Balance Sheet: It stores all the yearly transactions and expenditures and also the total sales made in that year and total expenditures made in that year. Most importantly it also contains the year for which the transactions and expenditures are stored.

9. Costumer: They have unique IDs and store information like booking and cancellation details for a particular show. Every NEW customer is added to the customer database.

2.5 Operating Environment

This software is developed in C++, running on Windows 10 x64 Architecture. It should also be compatible with 64-bit Operating Systems have C++ installed and connected to the internet.

2.6 Assumption and Dependencies

This software has been targeted at Windows and Linux Operating Systems. It depends on the online database and C++. This software requires an internet connection to use and store data in an online database. Since it is developed using C++, it is platform-independent.

External Interface Requirement

3.1 Hardware Interfaces

A computer with a monitor, a keyboard, and a mouse suffices. A printer must be connected to the computer to print the ticket.

3.2 Software Interfaces

This Software consists of a single-user multitasking system. This software does not depend upon any other software except Java but requires an internet connection for receiving and sending data to the online database. The GUI for the software will be created in Eclipse Marson a Windows 10 x64 64-bit architecture machine.

3.3 Communication Interfaces

An Internet connection is necessary for storing data in an online database so that other users can also share data.

3.4 Memory Constraints

This Software is quite memory efficient as it stores all the data in an online database. All the temporary files that are created by the software while running are erased upon exit.

Functional Requirement

4.1 Customer

Query Availability of Seats: To check the availability of seats for an event just click on the event.

4.2 Sales Person

Sales Person should be logged in to do the following functions:

1. Book New Seat: The person books seats when asked by a customer. To book seats SP has to choose the BOOK SEAT option. If the seat is not available then the software displays a message that the seat is not available. If the seat is available then SP can book a new seat by clicking on the seat. SP has to enter Costumer's general information for notification.

2. Cancel Booking: To cancel a booking SP has to choose the Cancel Booking option. Select which Event and then choose a seat to cancel the booking.

4.3 Clerk

The clerk should be logged in to do the following functions: Prepare Balance Sheet: To make a new Balance Sheet for an event clerk has to choose a new balance sheet and then choose the event. To update the current balance sheets choose update.

4.4 Show Manager

Show Manager should be logged in to do the following functions:

1. Add New Event: To add a new event choose Create New Event. Choose Date and Slot and enter all the other details.

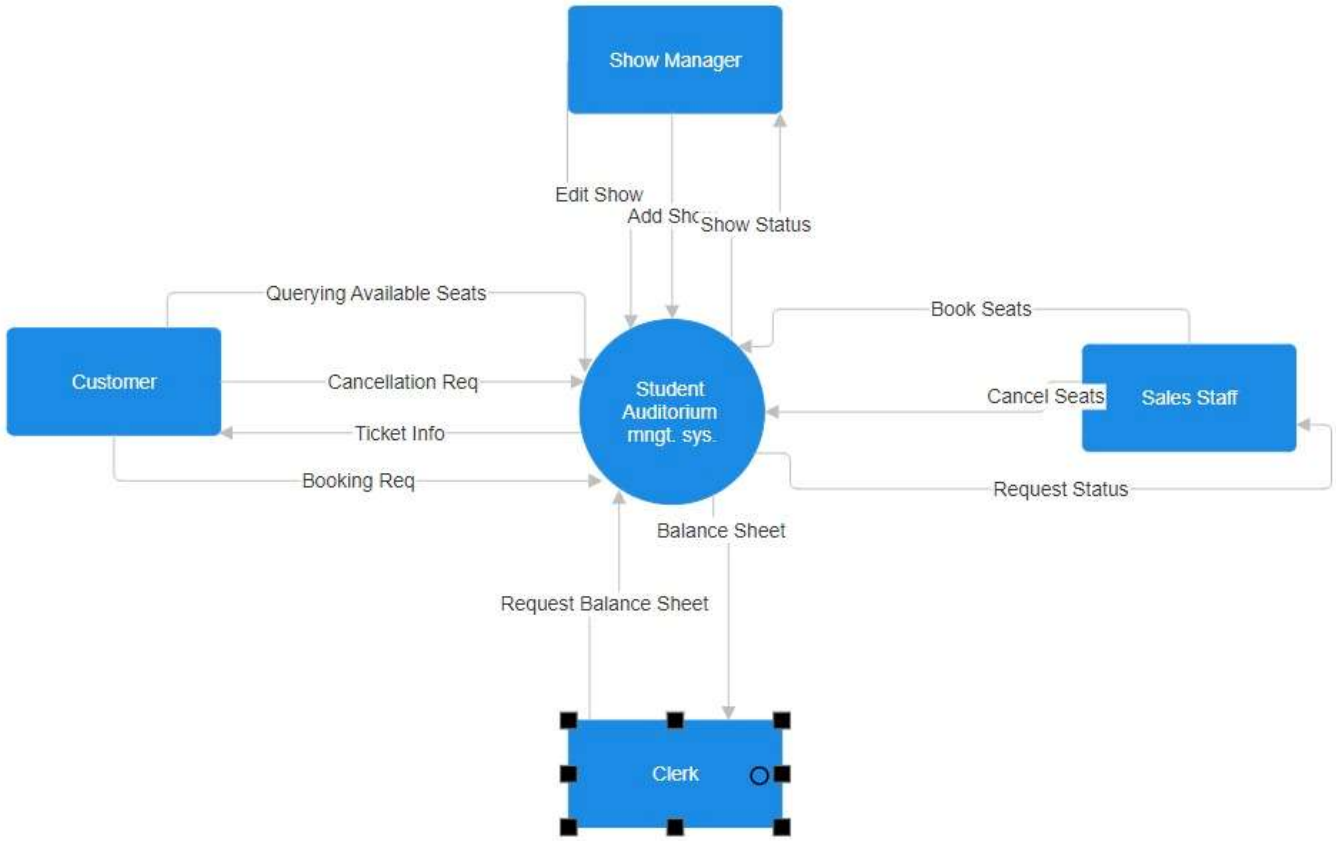
2. Edit Event: Edit an event that includes change date, start time, duration, guest list, etc. To edit choose Edit and then select Event which you want to edit.

3. Check Event Status: To check event status choose Event Status and then choose an event.

4. Create New Personal: To create a new Personal choose Create New Personal, then choose the type of clerk or salesperson, and then enter the information of that person.

5. View Transaction Details: To view transaction details choose Transaction and then choose a specific salesperson or all.

6. View Balance Sheet: To view the balance sheet choose the Balance Sheet and then choose the specific event or full year.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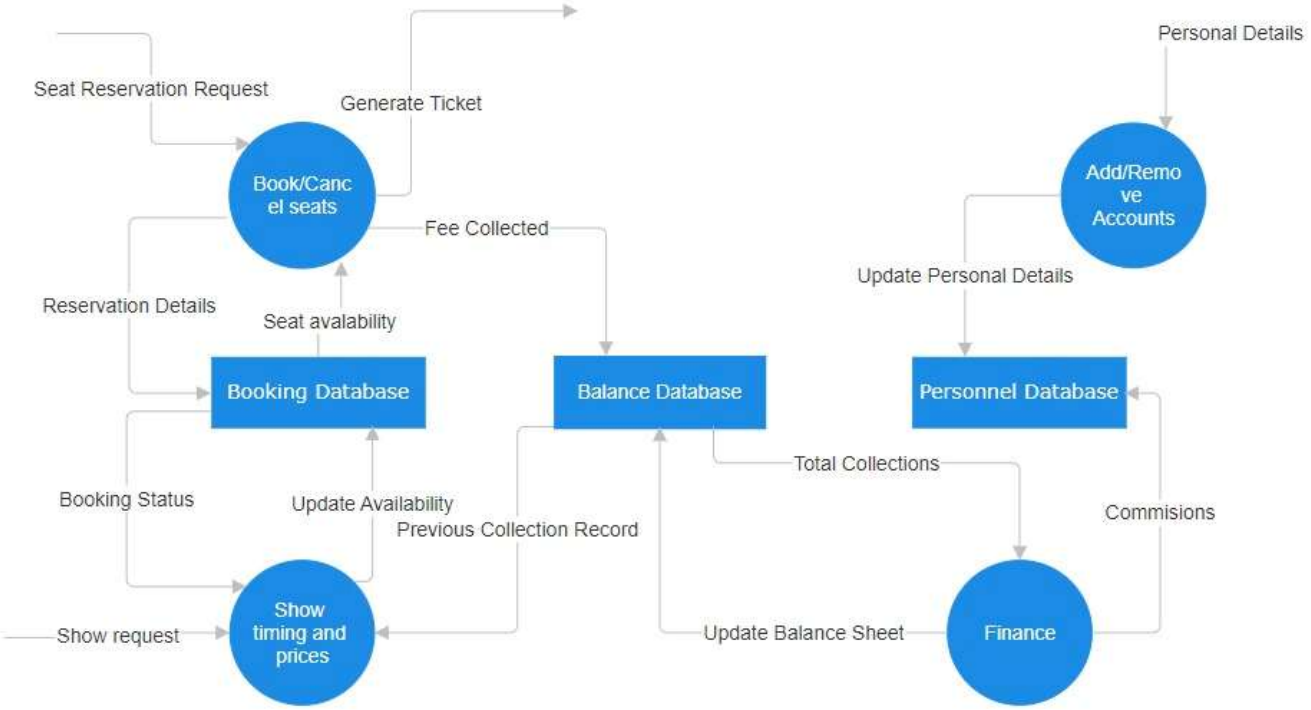

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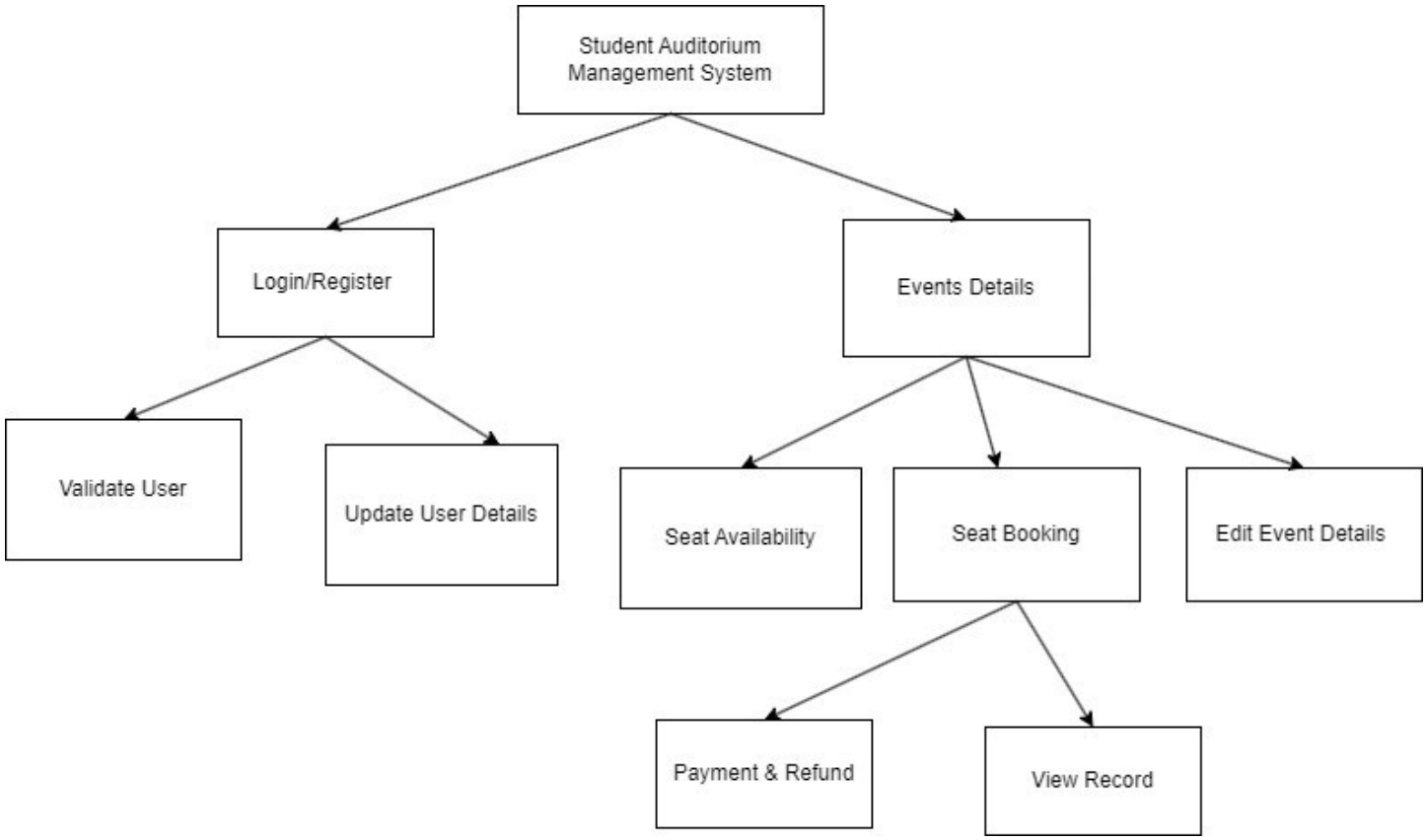

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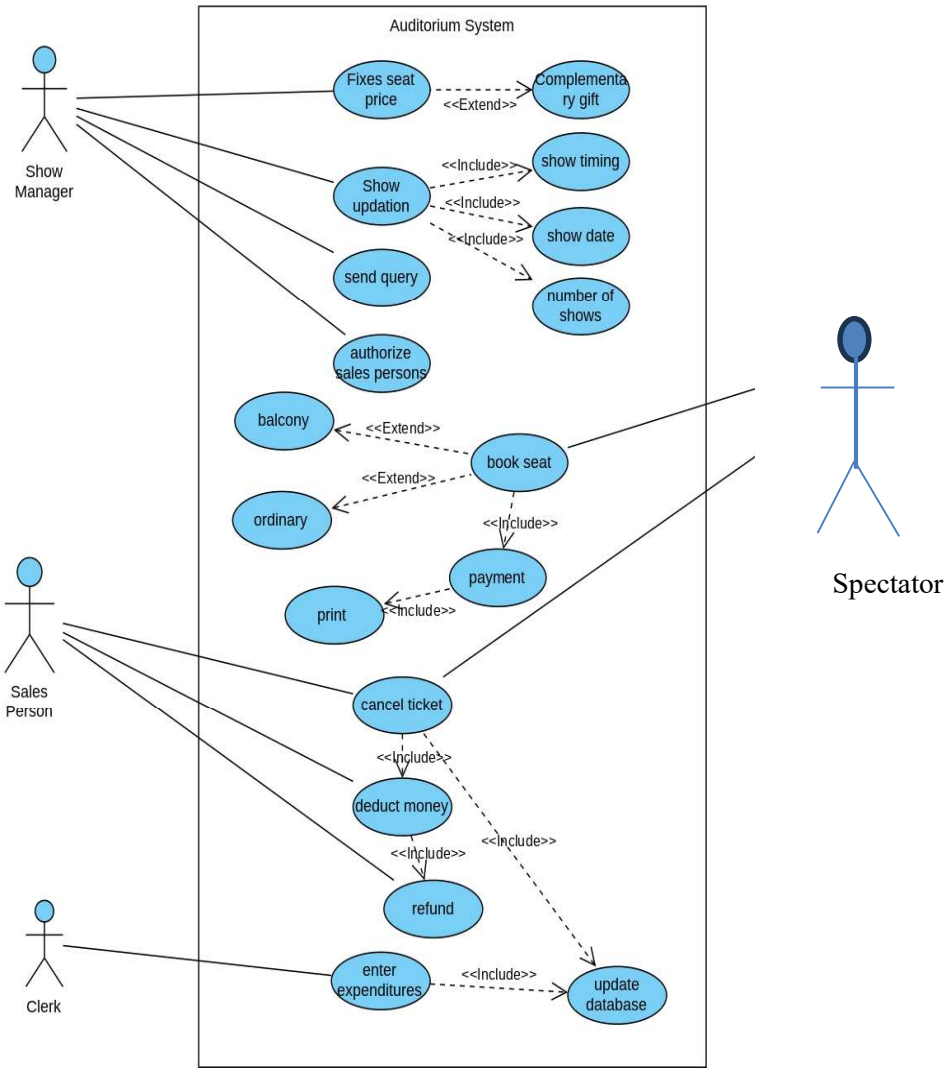

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