Students' Auditorium Management Software (SAMS)

Software Requirement Specification (SRS)

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Contents

Chapter 1

Introduction

1.1 Purpose

This SRS describes the software functional and non-functional requirements for 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 conduct 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 following functions:

1. Adding new events as per availability of the Auditorium, and editing events which 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 Ticket for booking and cancellation of a seat of an event.
5. Sending notification for booked and cancelled 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 seat for a particular show.
9. Creating new authorized sales person's and clerk's log in accounts.

10. Recording all the transactions including the sales person 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 requirement 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)

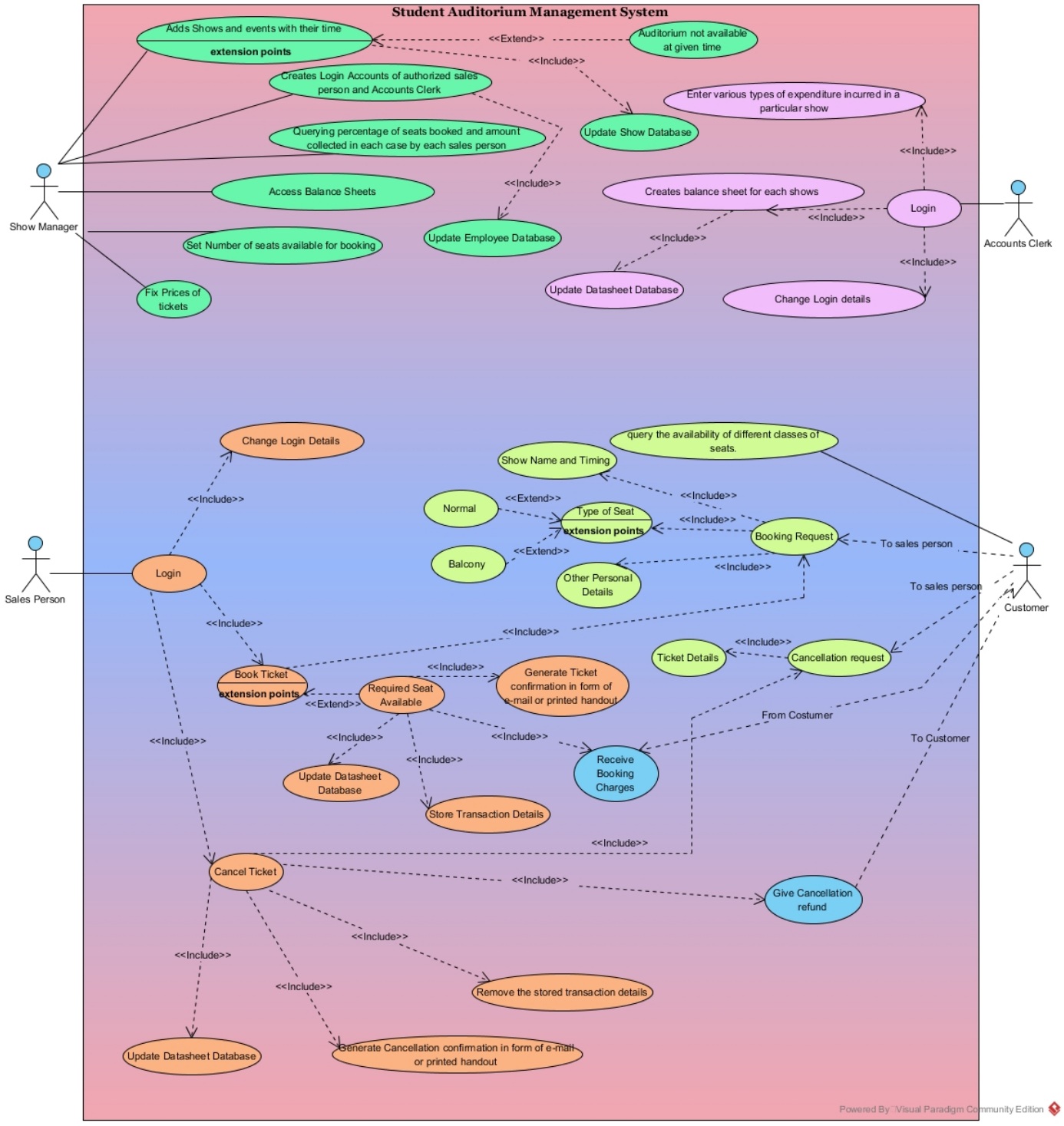
Chapter 2

Overall Description

2.1 Product Perspective

This software is build to add new events as per availability of the Auditorium, and edit events which are already present. User can also allocate Balcony and Ordinary Seats for sale or to offer as complementary gifts for an event. User can also fix the price of different seats for an event. User can book seats and also cancel already booked seats for an event. User get printed ticket for booking and cancellation. It also send notification on booking and cancellation of seats. User can check number of available and book seats for an event. User can create new authorized sales person's and clerk's log in accounts. It also records all the transactions. It also prepares balance sheets for each event and also for the entire year. User can also create new authorized sales person's and clerk's log in accounts.

2.2 System Environment



1. The Manager creates new Shows with their timings and 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 login in 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.

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

3. The Costumer can Query the number of seats of different types available for booking and provides the booking and cancellation details to the Sales person for booking and cancellation respectively.

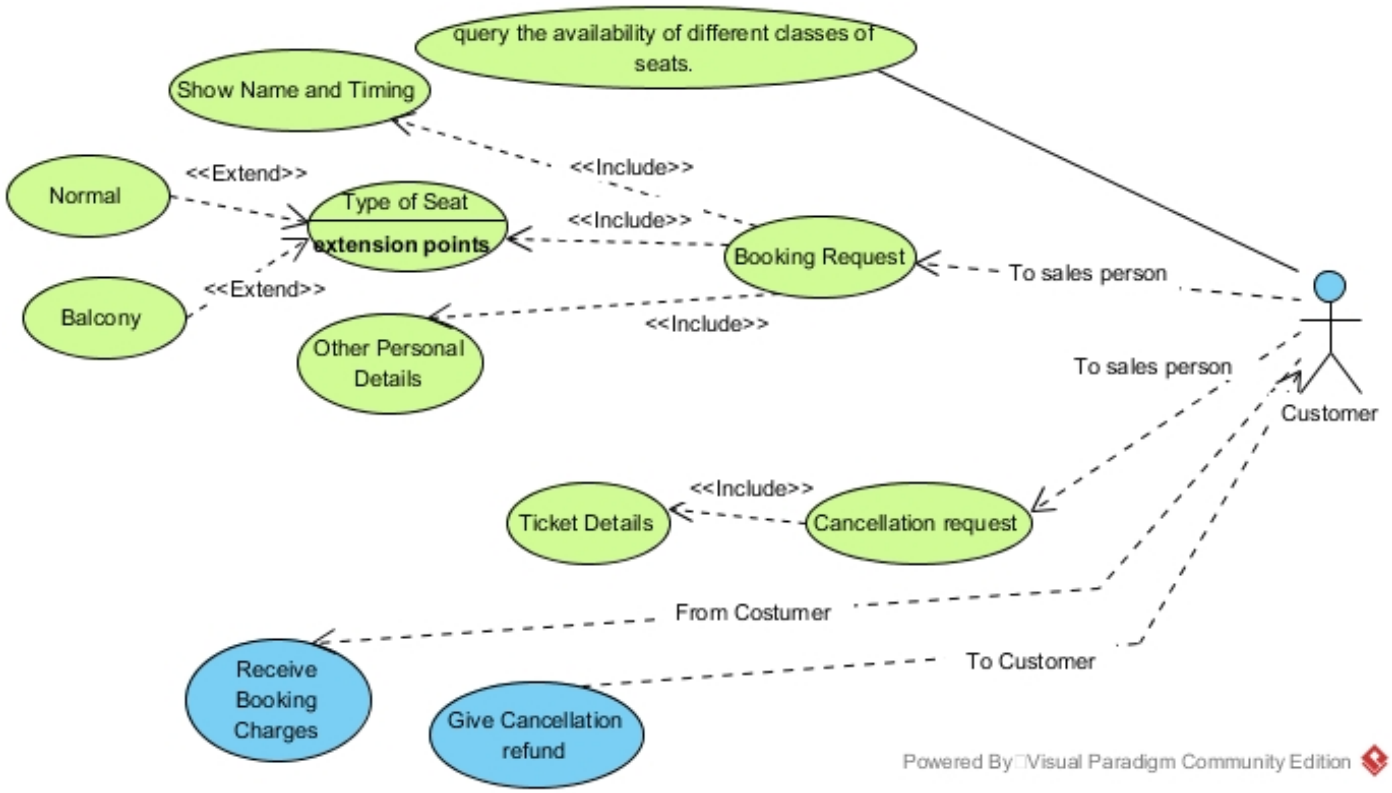
4. The Sales person has access to the transaction and show database. They first login into their account and make bookings or cancellations depending on the information provided by the costumer. The newly added transaction info is updated int the transactions database. On successful booking and/or cancellation by the sales person, the system generates an automated e-mail or printed handout for the costumer.

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 Costumer

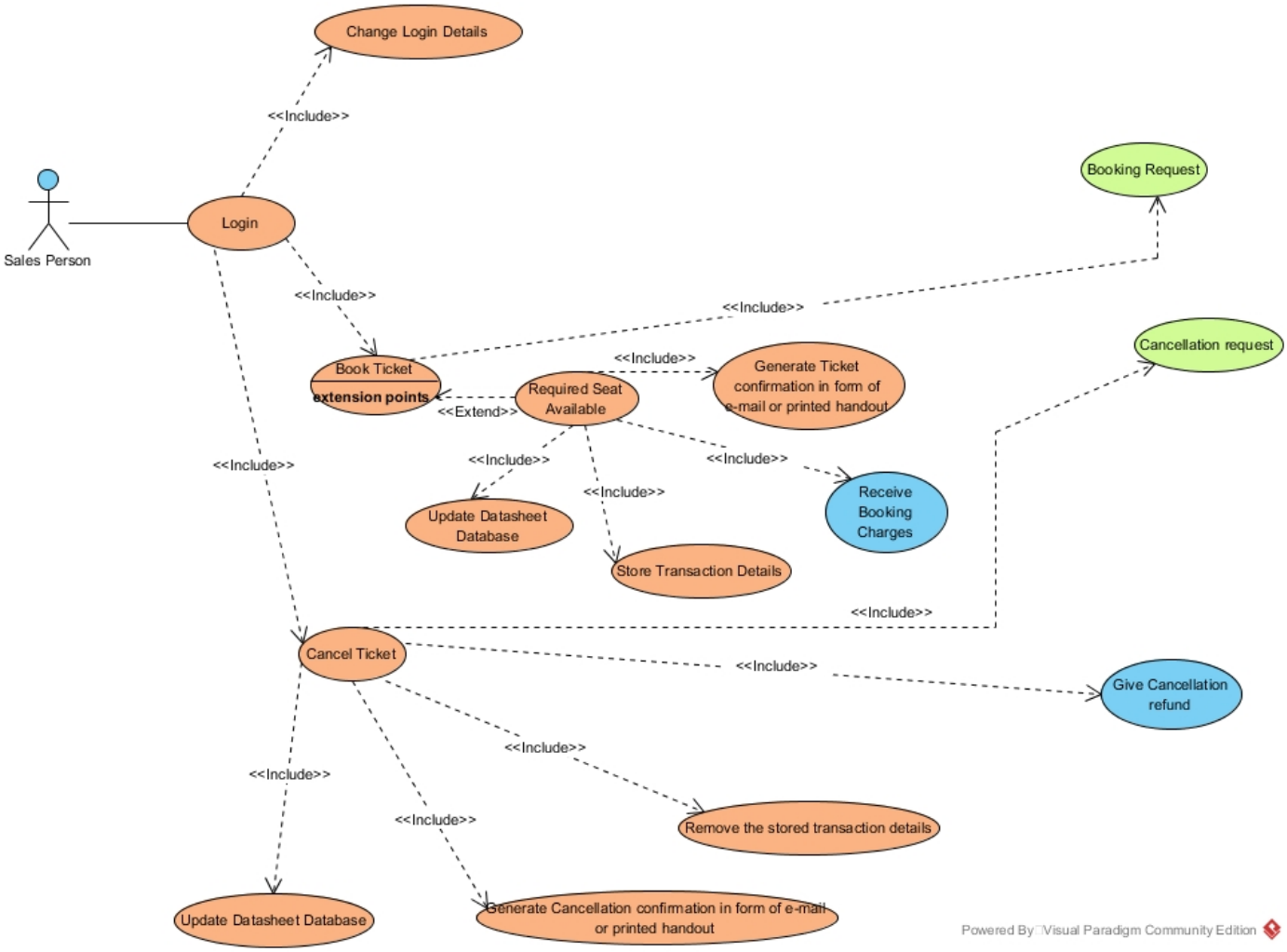
Functions perform by Costumer :

1. Query Availability of Seats : Costumer can query about the availability of seats of different types for an event at the auditorium.

2. Booking Request : The Costumer provides the sales person with the booking details like the show's name, date and time and the type of seats to be booked.

3. Cancellation Request : The Costumer provides the sales person with the booked ticket details like booking id, after which the sales person searches the transactions database and creates a cancellation transaction and refunds appropriate amount depending on the date of cancellation and the show date.

4. Receives notification : The Costumer on successful booking and cancellation receives an e-mail notification or printed handout as confirmation which contains the transaction id, show details, sales person's name and amount taken or refunded.



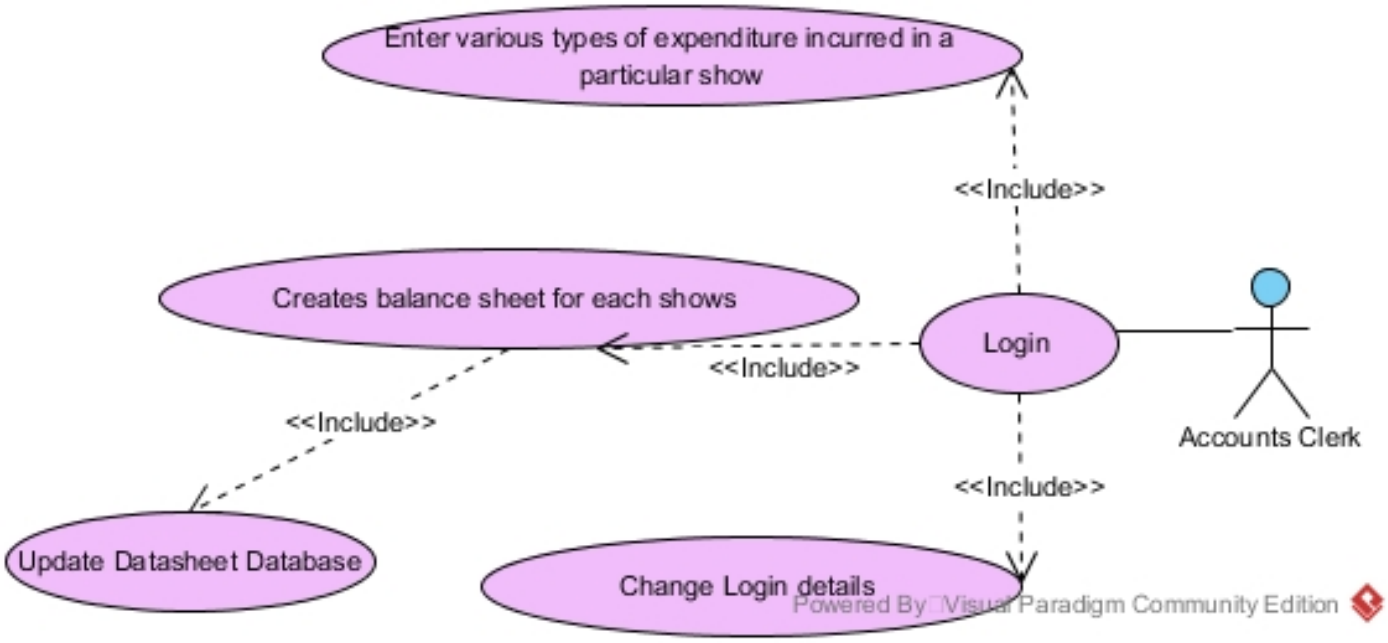
2.3.2 Sales Person

Functions perform by Sales Person :

1. Change Login Details : Clerk after logging in into his/her can change the login details like username and password.

2. Book Seat : SP can book seats if available for a Costumer after receiving the booking details from the costumer. The process is completed by a confirmation email or printed handout and the updated transactions and show database.

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



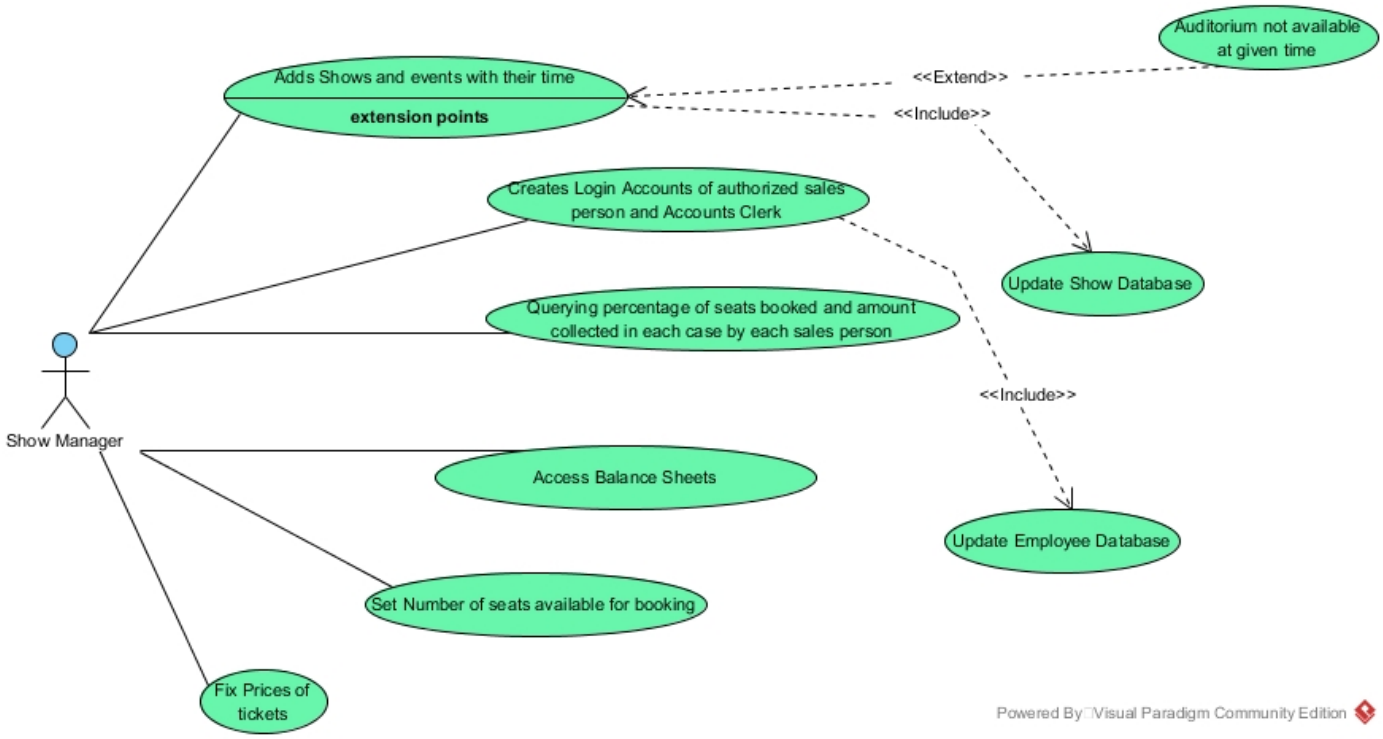
2.3.3 Clerk

Functions perform by Clerk :

1. Change Login Details : Clerk after logging in into his/her can change the login details like username and password.

2. Prepare Balance Sheet : Clerk makes yearly balance sheet for every show hosted by auditorium that includes all the expenditure 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 shows containing the expenditure type and amount for each expenditure type. The show database is updated in the end.



2.3.4 Show Manager

Functions perform by Show Manager :

1. Add new Show : SM can add new event if 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 balance sheet for each show.

4. Create new Personal : SM can create new authorized sales person's 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.

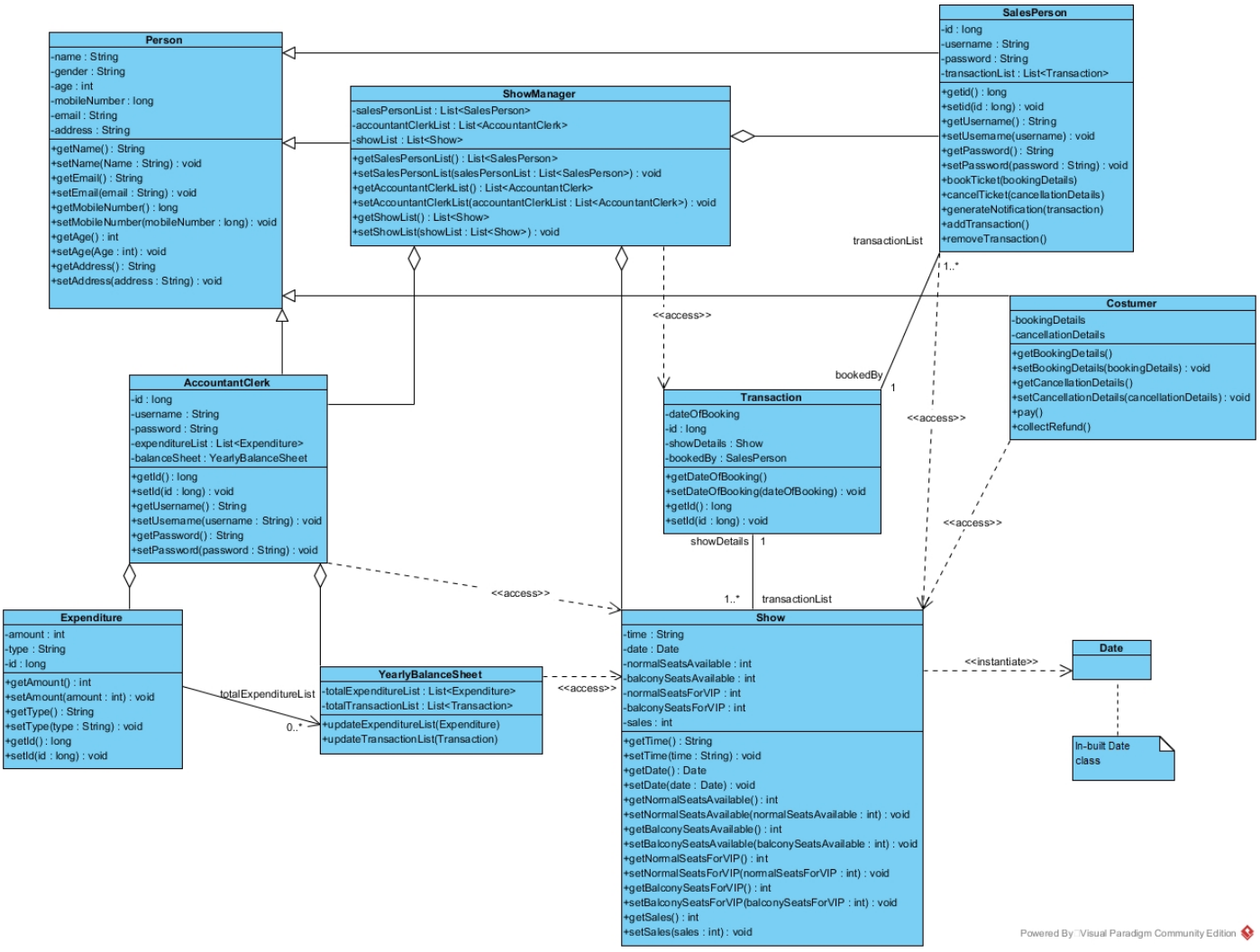
6. View Balance Sheet : SM can view the balance sheet that includes various types of expenditure for each event. It can also view a balance sheet that has all the booking and expenditure data of entire year.

2.3.5 System

Functions perform by System :

1. Store Transaction : System stores all the transaction's info occur during booking and cancellation of seats and it also store the id of that Sales Person.
2. Print Ticket : System print ticket that has Costumer id, event info, cost involved, seat info, time of transaction and type of ticket booking or cancellation.
3. Send Notification : System sends notification to the Costumer about the successful booking or cancellation of seat.
4. Prepare Balance Sheet : System prepares the balance sheet for the whole year and keep it up-to-date using balance sheet prepare by Clerk.
5. Store all the data in an online database if it is connected to 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 ShowManager, SalesPerson, AccountantClerk and Costumer. It contains information like name, address, email, gender, phone number etc.

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

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

4. Sales Person : Sales Person is extended from base class Person it extra features like id which is unique for every Sales Person object and transaction list which stores all transactions performed by an object. It also contains several functions like for booking ticket, cancelling 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 and has id but it has different features like it has sales person, clerk, show database edit access. It can create other authorized personals and can view balance sheet and transaction list.

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 ID and stores information like booking and cancellation details for a particular show. Every NEW costumer is added to the costumer database.

2.5 Operating Environment

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

2.6 Assumption and Dependencies

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

Chapter 3

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 require internet connection for receiving and sending data to online database.The GUI for the software will be created in eclipse Marson a windows 10 x64 bit architecture machine.

3.3 Communication Interfaces

Internet connection is necessary for storing data in 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 which create by the software while running are erased upon exit.

Chapter 4

Functional Requirement

4.1 Costumer

Query Availability of Seats : To check 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 : Sales Person books seats when ask by a Costumer. To book seats SP has to choose BOOK SEAT option. If seat is not available then software display a message that seat is not available. If seat is available then SP can book 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 Cancel Booking option. Select which Event and then choose seat to cancel the booking.

4.3 Clerk

Clerk should be logged in to do the following functions : Prepare Balance Sheet : To make new Balance Sheet for an event clerk has to choose new balance sheet and then choose 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 new event choose create new event. Choose Date and Slot and enter all the other details.

2. Edit Event : Edit an event 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 new Personal choose create new personal, then choose type clerk or sales person and then enter information of that personal.

5. View Transaction Details : To view transactions details choose Transaction and then choose specific sales person or all.

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