

# Movie Theater Software Design

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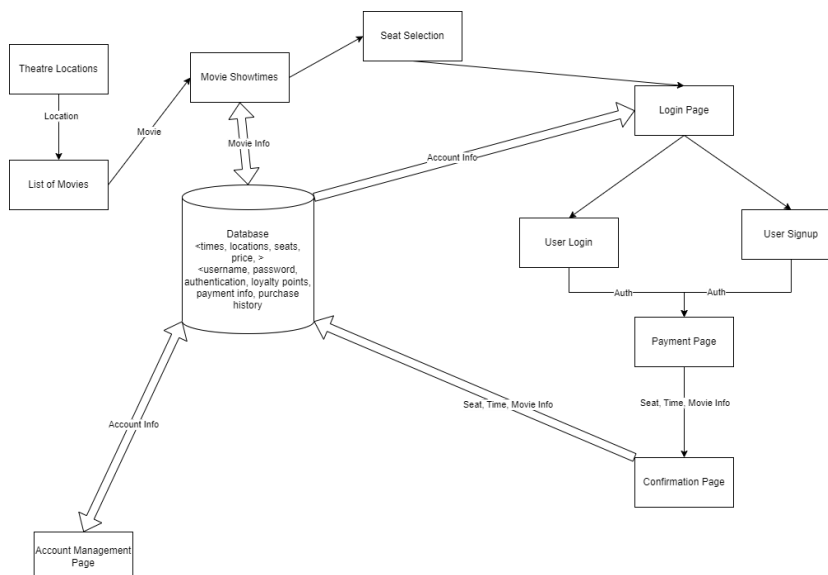
## System Description

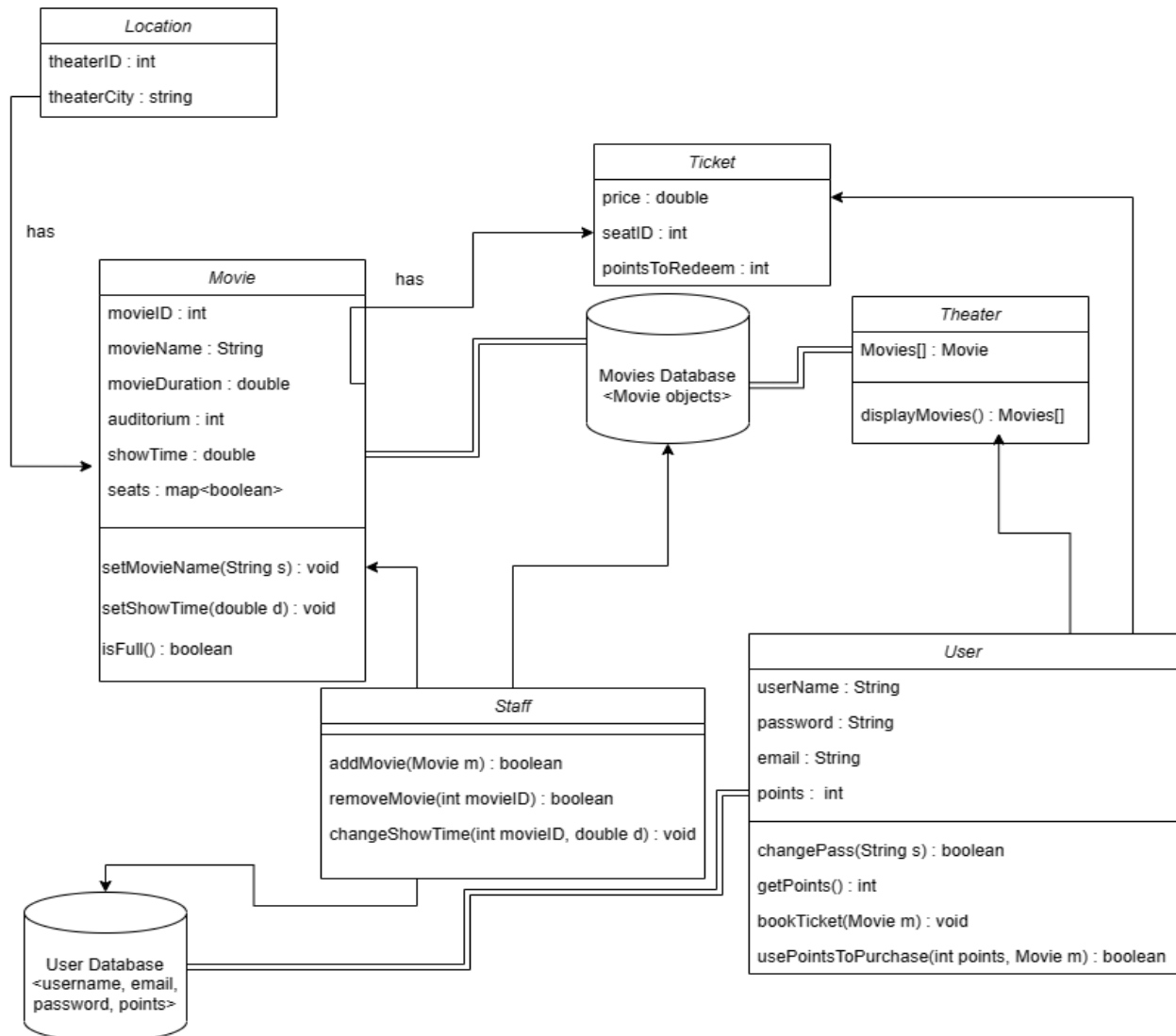
The movie theater software system is a fully integrated platform created to enhance the functioning of the theater. This system facilitates an effective and hassle-free process for customers to access different services. These services include:

1. Account: Customers can create accounts in order to have an easier experience when using the software as their information such as name, email, and credit card will be saved to their accounts.
2. Ticketing: Customers can purchase tickets online or at the box office using the software.
3. Reservations: Customers can choose to reserve seats for specific showtimes. The reservation system will make sure those seats are held until purchase.
4. Loyalty program: Users that join the loyalty program will have access to special offers and redeemable points on purchases.

## Software Architecture Overview

- Architectural diagram of all major components





#### Data Dictionary

##### User:

userName : used to log in  
 password : used to log in  
 email  
 points : used for redeeming for movie tickets  
 changePass(String s) : method for changing the password  
 getPoints() : return the number of points you account has  
 bookTicket(Movie m) : method used to book a ticket for a specific Movie Object  
 usePointsToPurchase(points, Movie) : return true if your points allow you to get a ticket for the Movie

##### Staff:

addMovie(Movie m) : allows the staff to add a movie object to the Movie Database  
 removeMovie(int movieID) : allows the staff to remove a movie from the Movie database  
 changeShowTime(int movieID, double d) : allows the staff to change the showtime of a movie in the database

##### Location:

theaterID : used to identify theater by exclusive ID  
 theaterCity : used to identify city address of theater

##### Ticket:

price : used to display cost per ticket in USD  
 seatID : used to identify theater seat number for assigned seating  
 pointsToRedeem : used to display the number of points needed to redeem a ticket

##### Theater:

Movies[] : array list with available movies stored as elements  
 displayMovies() : returns all elements of Movies[] in most recent to oldest order

##### Movie:

movieID : used to identify the movie's with its unique ID  
 movieName : used to identify the movie's name  
 movieDuration : used to identify the duration of the movie  
 auditorium : used to display the auditorium number where the movie is held in  
 showTime : used to display the movie's showtime  
 seats : used to get the availability of the movie's seats from the Movies database  
 setMovieName(String s) : allow the staff to set the movie's name  
 setShowTime(Double d) : allow the staff to set the movie's showtime  
 isFull() : returns true if the seats for the movies are full, else returns false

## Development plan and timeline

- Aaron Maryfield
  - Task: Create Landing page and design for web software
    - Timeline: 1-2 days
- Ahmed Hageb
  - Task: Create all classes and interfaces needed for the software.
    - Timeline: 2-3 days
- James Yang
  - Task: Set up and launch Movies and Users Databases and connect them to software.
  - Task: Testing Databases with inputs and outputs to make sure data is being stored correctly
    - Timeline: 3-4 days
- Michael Zalameda
  - Task: Define and implement which data structures and what algorithms are going to be used in the software for maximum efficiency.
    - Timeline: 4-5 days
- Trenton Taylor
  - Task: Define and implement security measures such as authentication mechanisms and encryption techniques
    - Timeline: 1-2 days